

Draft Environmental Assessment

Emergency Communications Tower Project, East Regional
Emergency Operations Center, City of Knoxville, Knox County,
Tennessee

Homeland Security Grant Project # 2005-GE-T5-0008

June 2007



FEMA

U.S. Department of Homeland Security/
Federal Emergency Management Agency, Region IV
3003 Chamblee Tucker Road
Atlanta, Georgia 30341-4112

Draft Environmental Assessment of the
Proposed Emergency Communications Tower Project
for the East Regional Emergency Operations Center
in the City of Knoxville, Knox County, Tennessee

Homeland Security Grant Project # 2005-GE-T5-0008

May 30, 2007

Prepared by
U.S. Department of Homeland Security/
Federal Emergency Management Agency, Region IV
3003 Chamblee Tucker Road
Atlanta, Georgia 30341-4112

Acronyms and Abbreviations Used

<i>CAA</i>	<i>Clean Air Act</i>
<i>CFR</i>	<i>U.S. Code of Federal Regulations</i>
<i>DHS</i>	<i>U.S. Department of Homeland Security</i>
<i>EA</i>	<i>Environmental Assessment</i>
<i>EHP</i>	<i>Environmental and Historic Preservation</i>
<i>EO</i>	<i>U.S. Presidential Executive Order</i>
<i>EOC</i>	<i>Emergency Operations Center</i>
<i>FAA</i>	<i>U.S. Federal Aviation Administration</i>
<i>FEMA</i>	<i>DHS/Federal Emergency Management Agency</i>
<i>FIRM</i>	<i>FEMA Flood Insurance Rate Map</i>
<i>FPPA</i>	<i>Farmland Protection Policy Act</i>
<i>HS</i>	<i>Homeland Security</i>
<i>NEPA</i>	<i>National Environmental Policy Act</i>
<i>NG</i>	<i>National Guard</i>
<i>NHPA</i>	<i>National Historic Preservation Act</i>
<i>NRCS</i>	<i>USDA Natural Resources Conservation Service</i>
<i>PD</i>	<i>Preparedness Division</i>
<i>SHPO</i>	<i>State Historic Preservation Officer</i>
<i>TDOT</i>	<i>Tennessee Department of Transportation</i>
<i>TEMA</i>	<i>Tennessee Emergency Management Agency</i>
<i>TN</i>	<i>Tennessee</i>
<i>U.S.</i>	<i>United States</i>
<i>USACE</i>	<i>U.S. Army Corps of Engineers</i>
<i>USDA</i>	<i>U.S. Department of Agriculture</i>
<i>USFWS</i>	<i>U.S. Fish and Wildlife Service</i>
<i>USGS</i>	<i>U.S. Geological Survey</i>

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1.0 Introduction

This draft Environmental Assessment (EA) reports the U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA, part of DHS) assessment of the likely environmental and historic preservation (EHP) effects of the proposed project and its alternatives. The Tennessee Emergency Management Agency (TEMA or Applicant) proposes to build an emergency communications tower at their East Regional Emergency Operations Center (EOC) in Knoxville, Tennessee (Figures 1, 2, and 3). The project purpose is to improve state emergency communications in Knox County and 37 other eastern Tennessee counties (East Regional Area). The project need is to meet increased state and federal emergency communications requirements for further improved homeland security and local, tribal, state, and federal emergency and disaster preparedness, response, and recovery for all hazards, emergencies, and disasters. TEMA applied to the DHS Preparedness Division (PD) Homeland Security (HS) Grant Program in 2005 for project funding. Since this involves Federal money, and since DHS PD joined FEMA in April 2007, the National Environmental Policy Act (NEPA) requires FEMA to assess the potential EHP effects of the proposed project and its practical action alternatives. Public notice of the proposed project was published twice in the Knoxville News-Sentinel (Knoxville's daily newspaper), first on Wednesday, 30 May 2007, and again on Sunday, 03 June 2007.

2.0 Project Purpose and Need

The project purpose is primarily to improve state emergency communications in Knox County and 37 other eastern Tennessee counties. The project need is to meet increased state and federal emergency communications requirements for further improved homeland security and local, tribal, state, and federal emergency and disaster preparedness, response, and recovery for all hazards, emergencies, and disasters.

3.0 Project Alternatives

3.1 No Action Alternative. No changes from present conditions. This would not meet increased state and federal emergency communications requirements since 11 September 2001. Furthermore, this would not improve local, tribal, state, and federal emergency and disaster preparedness, response, and recover for all hazards, emergencies, and disasters.

3.2 Proposed Action Alternative. The proposed project site is located at 803 North Concord Street, in the City of Knoxville, Knox County, in eastern Tennessee; at latitude 35 degrees, 57 minutes, 37.50 seconds North, and longitude 83 degrees, 57 minutes, 16.27 seconds West (Figures 1, 2, and 3).



Figure 1. Location Map (Microsoft, 2007). Knoxville is near map center.

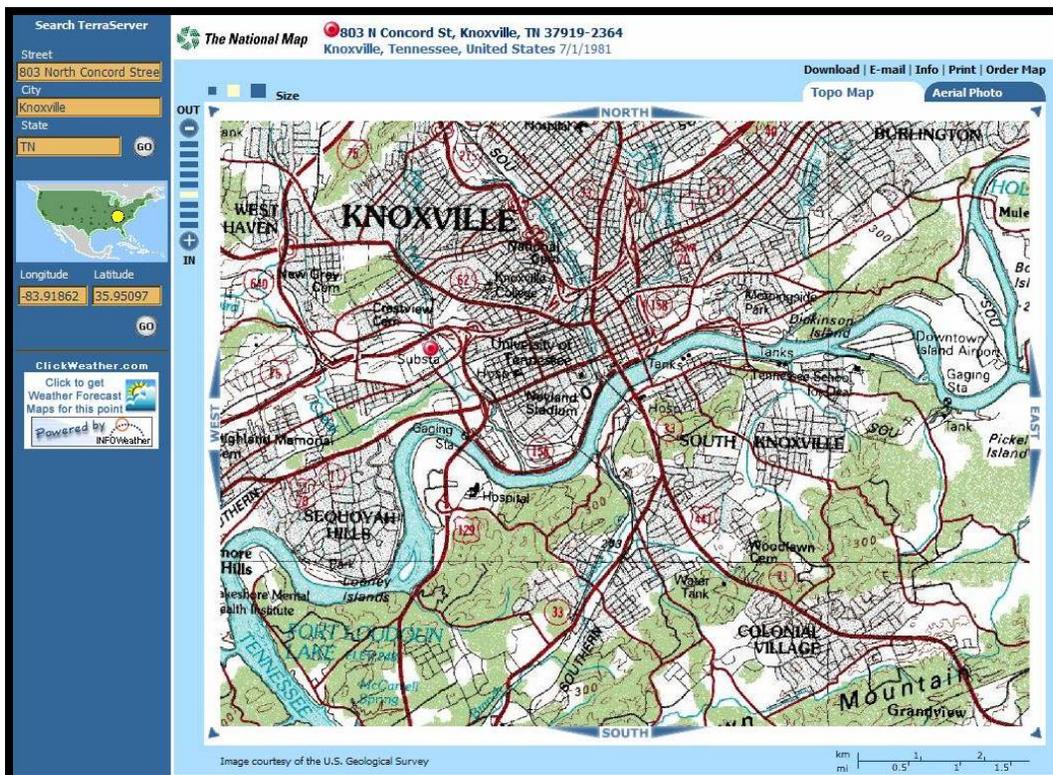


Figure 2. Project Area Map (Microsoft and USGS, 1981). The Proposed Action site is under the large red dot, left of map center.

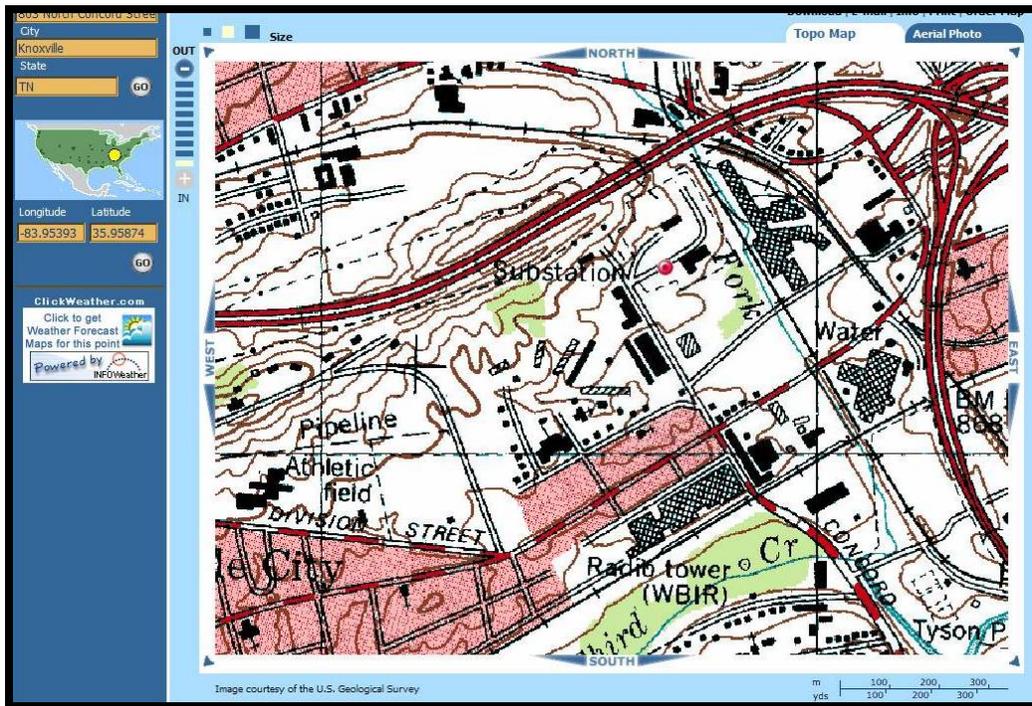


Figure 3. Project Site Map (USGS, 1981). The Proposed Action site is under the large red dot, near map center.

The proposed emergency communications tower would be between about 250 and 300 feet high (range allows minor tower design changes), and self-supporting (larger, deeper, heavier piers; no guy wires). This height is needed for point-to-point (line of sight) contact with other emergency communications towers within the 38-county East Regional Area. TEMA would provide long-term maintenance of their East Regional EOC tower and related equipment. The Tennessee National Guard (TN NG) would use TN NG generators to provide emergency power for the collocated TEMA East Regional EOC communications facility.

3.3 Other Action Alternatives. The Other Action Alternative sites are also in the Knoxville, Tennessee area. They are also on or near the top of higher hills in the Knoxville area. However, TEMA does not own these sites, so they would require property acquisition, have higher project capital costs; and the tower would not be collocated with TEMA's East Regional EOC, which would reduce tower security and increase project operation and maintenance costs. The Proposed Action is inherently more practical and cost effective than the Other Action Alternatives, and the Proposed Action is within the Applicant's discretion under congressionally mandated HS Grant Program rules. Since the Other Alternative Actions would have environmental and historic preservation (EHP) effects similar to those of the Proposed Action, the various Other Action Alternatives' EHP effects are more briefly discussed in this document. If the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, and reopen public participation.

Although this condition will not be repeated everywhere applicable in this document, for the sake of brevity, this condition nevertheless applies to all EHP topics and sub-topics throughout this document.

4.0 Environmental Conditions and Consequences

EHP ↓ Topics ↓	Project Alternatives		
	No Action	Proposed Action	Other Action Alternatives
Soils	N/A	Temporary, minor construction dust.	Temporary, minor construction dust.
Atmosphere	No Change	Temporary, minor construction exhaust; and occasional, temporary, minor emergency generator exhaust.	Temporary, minor construction exhaust; and occasional, temporary, minor emergency generator exhaust.
Hydrology	No Change	Negligible runoff change.	Negligible runoff change.
Fish & Wildlife; Protected Species & Habitat	N/A	Negligible effects on migratory birds. Effects reduced by tower design without guyed wires.	Negligible effects on migratory birds. Effects reduced by tower design without guyed wires.
Archeological Resources	N/A	Low probability of archeological artifacts, very low probability of archeological site. Applicant will follow incidental find requirements if applicable.	Low probability of archeological artifacts, very low probability of archeological site. Applicant will follow incidental find requirements if applicable.
Historic Preservation	N/A	Tower would not be visible from any historic districts listed on the national register of historic places.	Tower would not be visible from any historic districts listed on the national register of historic places.
Public & Children's Health & Safety	No Change	Moderately improved emergency communications capability; more timely local, tribal, state, and federal emergency and disaster preparedness, response, and recovery for 38 eastern Tennessee counties.	Moderately improved emergency communications capability; more timely local, tribal, state, and federal emergency and disaster preparedness, response, and recovery for 38 eastern Tennessee counties.
Environmental Justice	No Change	Improved emergency and disaster response and recovery.	Improved emergency and disaster response and recovery.
Solid Waste	No Change	Clean soil excavated would be used as fill material, landfill caps, or other suitable uses. Contaminated soil, if found, would be properly transported and disposed in appropriately licensed facility.	Clean soil excavated would be used as fill material, landfill caps, or other suitable uses. Contaminated soil, if found, would be properly transported and disposed in appropriately licensed facility.
Hazardous Materials	No Change	Little or no risk. Applicant and their representatives will use due diligence and protective measure, properly handle, transport, and dispose any contaminated soil.	Little or no risk. Applicant and their representatives will use due diligence and protective measure, properly handle, transport, and dispose any contaminated soil.
Other(s)	No Change	Other EHP topics/subtopics are not applicable for any project alternative, are briefly discussed in this EA, but excluded from this summary table. If any noteworthy changes are found during public review, then these will be evaluated further, and further appropriate action taken if needed.	Other EHP topics/subtopics are not applicable for any project alternative, are briefly discussed in this EA, but excluded from this summary table. If any noteworthy changes are found during public review, then these will be evaluated further, and further appropriate action taken if needed.

Table 1. EHP Effects Summary

4.1 Geology

4.11 Physiology and Topography. The project area is in the U.S. Ridge and Valley physiographic region. The Proposed Action site is on a hilltop, at about 1215 feet above mean sea level (Figure 3). The Other Action Alternative sites are also on or near Knoxville area hilltops.

4.12 Bedrock. The No Action Alternative would not affect bedrock. The Proposed Action and Other Action Alternatives would excavate to a depth of about six feet, mostly to entirely through residual and previous disturbed soils, so little or no bedrock would be affected. Hilltop bedrock is more erosion resistant, has low risk of subsidence or collapse. The Action Alternatives would not significantly change bedrock weathering rates, which would not change the risk of subsidence or collapse.

4.13 Seismic Risk. The project area has low seismic risk (Figure 4). The No Action, Proposed Action, and Other Action Alternatives would not change seismic risk. The emergency communications tower would be similar to existing communications towers in the Knoxville, Tennessee area. None of these towers have fallen during past earthquakes. The Applicant's engineers have evaluated the new tower's seismic risk, and determined that its design meets applicable requirements.

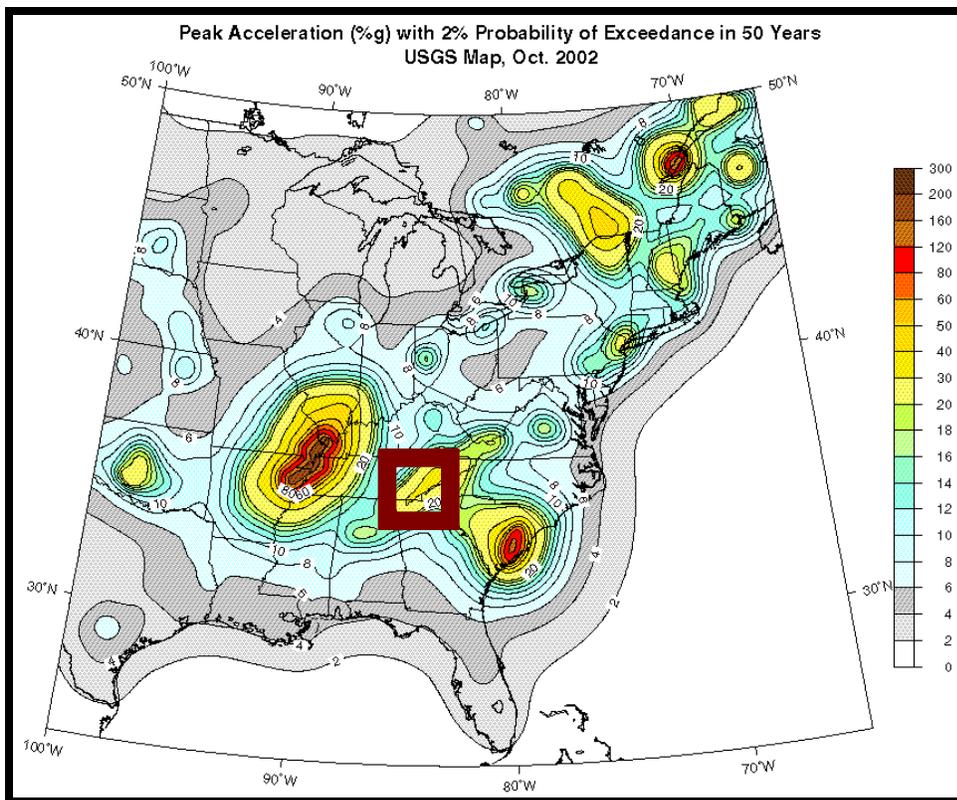


Figure 4. Project Area Seismic Risk Map (USGS, 2002). The project area is inside the red square, near map middle.

4.2 Soils

The project site soils are “Urban Land”, according to the Natural Resources Conservation Service “Web Soil Survey” (NRCS, 2007). The No Action Alternative would not affect soils. These soils are suitable for tower construction. The Proposed Action and Other Action Alternatives would excavate previously disturbed soils and any underlying residual soils (mostly loams) to a depth of about six feet, to build five tower leg piers. Clean excess soil would be used as fill material, landfill caps, and/or other suitable uses. Contaminated soil, if present, would be properly handled, transported, and disposed in an appropriately licensed facility (Friedmann, TEMA, personal communication, 21 May 2007).

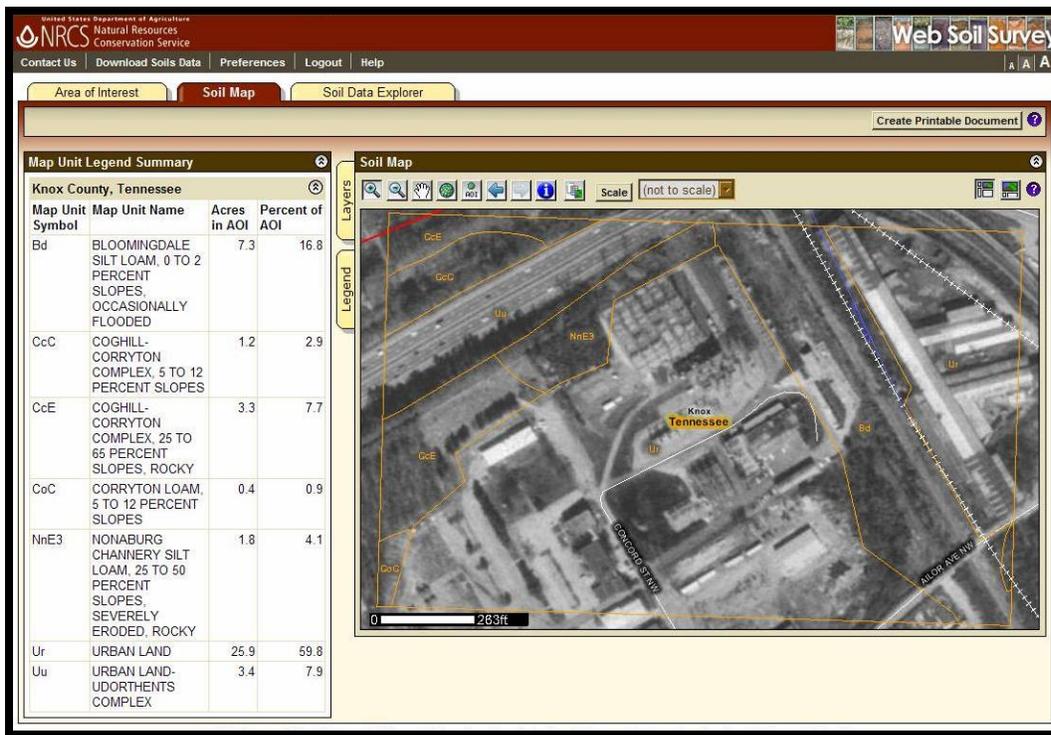


Figure 5. Project Site Soils (NRCS, 2007)

4.21 Protected Farmland

The Proposed Action site is entirely within the City of Knoxville corporate boundaries, so its soils are not prime, unique, or other important farmland as defined by the Farmland Protection Policy Act (FPPA).

4.3 Atmosphere

4.31 Air Quality

The No Action Alternative would not change project area air quality. The Proposed Action and Other Action Alternatives would not create permanent emissions. The Proposed Action and the Other Action Alternatives would create temporary emissions from vehicle exhaust during construction, and temporary power generator emissions during testing and, when needed, during emergencies and disasters.

4.4 Hydrology

4.41 Groundwater. The No Action, Proposed Action, and Other Action Alternatives, by design, would not notably affect aquifer recharge. Therefore, they also would not notably affect groundwater quantity and quality.

4.42 Wetlands are not present on or within 500 feet of the Proposed Action site (Figure 6). Presidential Executive Order (EO) 11990 (Wetland Protection) regulates federal actions that will or may affect or be affected by wetlands. Since no wetlands are present on or near the Proposed Action site, the Proposed Action would neither affect nor be affected by any wetlands. Therefore, the Proposed Action would comply with EO 11990. Wetlands are also unlikely to be on or near the Other Action Alternative sites. If the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, and reopen public participation. This also applies to all other EHP review topics and subtopics in this document.

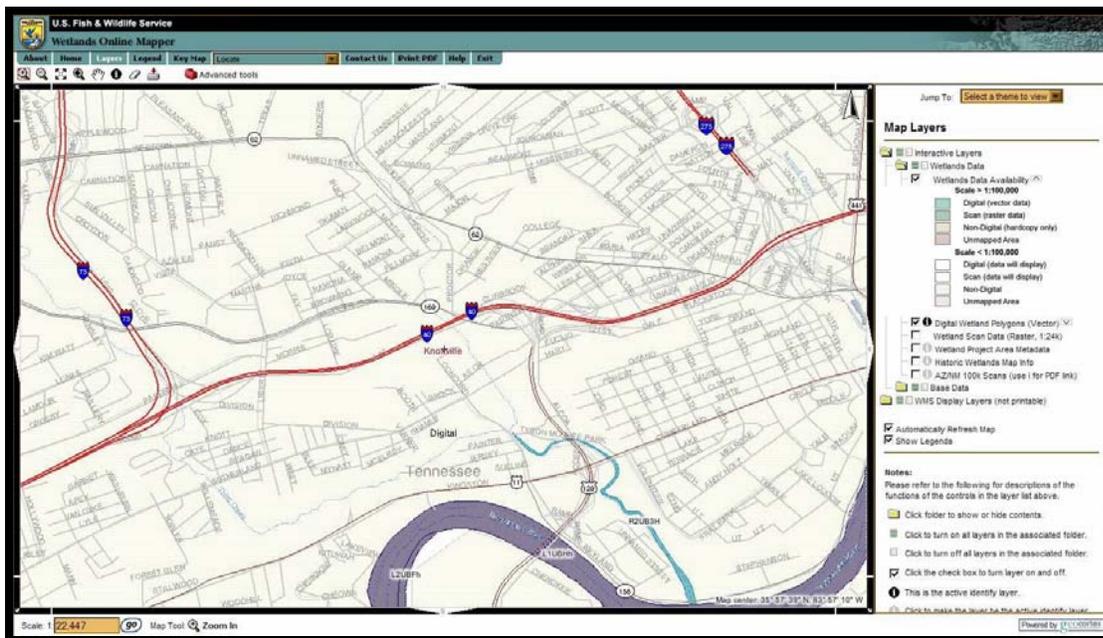


Figure 6. Project Area Wetlands (USFWS, 2007)

4.43 Floodplains. The No Action Alternative would not change floodplain conditions, flood hydrology, or flood risks. The Proposed Action and Other Action Alternative sites are on or near hilltops, outside the 500-year floodplain (FEMA Flood Insurance Rate Map [FIRM] number 4754340025B). EO 11988 (Floodplain Management) regulates federal actions that will or may affect or be affected by floodplains. Since the Proposed Action and all Other Action Alternative sites are outside the 500-year floodplain, they would comply EO 11988 requirements. They would also comply with 44 CFR (U.S. Code of Federal Regulations) requirements to locate “critical facilities,” such as this EOC communications facility, outside of the 500-year floodplain when practicable.

4.44 Water Quality The No Action, Proposed Action, and Other Action Alternatives, by design, would not notably affect surface runoff (as well as groundwater recharge). Therefore, they also would not notably affect surface water quantity and quality.

4.5 Biology

4.51 Vegetation. The No Action Alternative would not affect vegetation. The Proposed Action would be on paved ground (Figure 5), and therefore, it would not affect vegetation elsewhere on the site, nor managed and ornamental (cultivar [breed plant varieties]) vegetation around the site. The Other Action Alternative sites were not evaluated for vegetation. However, if the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, and reopen public participation.

4.52 Fish and Wildlife. The project area was originally temperate, humid deciduous forest. The last few centuries of land uses, including agriculture and residential and other development, have created extensive areas of managed and cultivar vegetation habitats, so the project area's fish and wildlife species composition is typical of that in most of the region. This includes the more common species of birds and mammals.

The No Action Alternative would not change fish or wildlife habitat characteristics, carrying capacity, or species populations. The Proposed Action and all Other Action Alternatives would not notably change surface waters, and therefore, would not notably affect fish or other aquatic species.

Although the Proposed Action would not notably affect vegetation, it would create a tower that poses a minor risk to a few birds on rare occasions (e.g., fog, sudden gusts, and poor vision). These few birds could fly into the tower and be injured or die. However, the tower would provide nesting sites for some birds, the tower would usually be highly visible for most birds, and the tower would not have much less visible guy wires (reduces risks to birds).

4.53 Protected Species and Habitat. The No Action Alternative would not change conditions for migratory birds or any threatened or endangered species (*USFWS county list, 200_*). The Proposed Action or any Action Alternative tower would be self supporting, without guy wires. Therefore, FEMA has determined that the tower would pose a relatively inconsequential risk to protected migratory birds. FEMA consulted with the U.S. Fish and Wildlife Service on 04 June 2007, regarding the proposed tower's potential adverse affects. The results of this consultation will be included in the final EA, and the public will be notified of any significant changes from this draft EA.

4.6 Cultural Resources

4.61 Archeological Resources. The No Action Alternative would not adversely affect any archeological resources. The Proposed Action and all Other Action Alternative sites are on or near hilltops. Considering pre-historic settlement patterns and land uses, FEMA has determined that the Proposed Action site has a low to moderate probability of having any significant archeological artifacts, and a low probability of having any archeological sites. The Proposed Action site may have some insignificant historic debris (mostly refuse) from its existing facility's construction. FEMA consulted with the Tennessee State Historic Preservation Officer on 04 June 2007, on the Proposed Action tower's potential adverse affects on any known or possible archeological resources. The results of this consultation will be included in the final EA, and the public will be notified of any significant changes from the draft EA.

As required by the National Historic Preservation Act (NHPA), the Applicant has agreed that if any archeological artifacts or human remains are found (incidental find or discovery) during project work, that all work would immediately stop within 100 feet of the find; that TEMA would contact FEMA and the TN SHPO within one working day; and that work would resume only after all applicable NHPA Section 106 legal requirements are met.

If the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, resume consultation with the TN SHPO, and reopen public participation.

4.62 Historic Resources. The No Action Alternative and the Proposed Action would not affect any structures listed or eligible for listing on the National Register of Historic Places. The Proposed Action tower would be near the top of a relatively high hill. However, it is not known to be with the view (viewshed) of any listed historic districts. Therefore, FEMA has determined that the Proposed Action would not have the potential to adversely affect any historic properties or districts. FEMA also consulted with the Tennessee State Historic Preservation Officer on 04 June 2007, on the Proposed Action tower's potential adverse affects on any historic structures or districts. The results of this consultation will also be included in the final EA, and the public will be notified of any significant changes.

If the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, resume consultation with the TN SHPO, and reopen public participation.

4.63 Other Cultural Resources. No libraries, archives, museums, or other cultural resources would be affected by No Action, Proposed Action, or Other Action Alternatives.

4.7 Socioeconomics

4.71 Land Uses and Zoning. The greater project area is highly urbanized (Figure 2). The Proposed Action site and surrounding area land uses are mostly commercial, industrial, and heavy ground transportation (Figures 3 and 5). The No Action Alternative and Proposed Action would be compatible with and would not change project site or project area land use or zoning. The Proposed Action site was developed by the Tennessee Department of Transport (TDOT) during the 1930s. TDOT used this site until the 1990s, when they turned ownership and control over to the TN NG. If the Applicant selects an Other Action Alternative site, then FEMA would reopen this EHP review, evaluate that site accordingly, resume consultation with the TN SHPO, and reopen public participation. As previously mentioned, this also applies to all other EHP review topics and subtopics in this document.

4.72 Communities. The No Action Alternative and Proposed Action would be compatible with and would not change the community's socioeconomic, ethnic, or cultural characteristics.

4.73 Traffic. The No Action Alternative would not change traffic conditions. The Proposed Action and Other Action Alternatives daily operations would not change project area traffic conditions, but they would improve traffic flow during and after emergencies and disasters in parts of the East Regional Area, by facilitating better traffic planning and management for detours, road and bridge repairs, etc.

4.74 Housing. The No Action, Proposed Action, and Other Action Alternatives, by design, would not affect housing.

4.75 Business. The No Action Alternative would not change business conditions. The Proposed Action and Other Action Alternatives would generally benefit businesses through improved preparedness, response, and recovery that would help reduce business and work related personal injuries and deaths, property damages and losses, temporary and permanent closures, furloughs and layoffs, unemployment costs, and other business and work related problems.

4.76 Revenues. The No Action Alternative would not change local, state, or federal revenue conditions. The Proposed Action and Other Action Alternatives would increase revenues through reduced disaster-related business disruptions and unemployment.

4.77 Public Health and Safety. The No Action Alternative would not change public health and safety conditions. The Proposed Action and Other Action Alternative would improve public health and safety through improve local, tribal, state, and federal emergency and disaster preparedness, response, and recovery for all hazards, emergencies, and disasters in the 38-county East Regional area. The U.S. Federal Aviation Administration has approved the Proposed Action tower (FAA study, 21 Nov 2006).

4.78. Children's Environmental Health and Safety (EO 13045). The No Action Alternative would not change children's environmental health and safety conditions. The Proposed Action would be in a high security area with limited and controlled access, so it would not affect children's environmental health and safety. Therefore, the Proposed Action would comply with EO 13045.

4.78 Environmental Justice (EO 12898). Project costs would be state and federally funded. Based upon this and all other factors above, the proposed action would not have a highly disproportionate and adverse effect upon any minority or low-income populations in the project area.

4.8 Waste and Pollution

4.81 Solid Waste. The Applicant will ensure that all project-related solid waste is properly handled, transported, and disposed in one or more appropriated licensed facilities in accordance with all applicable federal, state, and other laws and regulations.

4.82 Hazardous Waste. The Proposed Action site soils have been partly contaminated by past fuel and oil leaks and spills. The Applicant and their representatives (i.e., contractors, TN NG, and others) will practice due diligence to detect and properly respond to any project-related contaminated soils. This includes applicable OSHA standards and properly handling, transport, and disposal of any contaminated soils in appropriately licensed facilities in accordance with all applicable federal, state, and other laws and regulations.

4.9 Aesthetics

4.91 Visual (Viewshed). The Proposed Action site previously had a communications tower. The nearby urbanized project area has a major U.S. interstate, railroads, an electric transform station, and many businesses (Figures 2, 3 and 5). The nearest existing communication tower (Figure 2, “WBIR”) is less than half a mile away and at least twice the height of the proposed tower. The Proposed Action tower would be a minor addition the Knoxville skyline.

4.92 Sound. The No Action Alternative would not change ambient noise levels. The Proposed Action would have minor, temporary noise impacts on and near the site during construction; and minor noise impacts during emergency generator testing, maintenance, and emergency and disaster operations.

5.0 Cumulative Effects of Related Projects

The cumulative EHP effects of the Proposed Action, when combined with those of other projects in the past, present, and foreseeable future (next 20 years) were previously addressed in this draft EA. In summary: the Proposed Action would be on a site that previously had a communications tower; there is a much taller communications tower less than half a mile away; and the Proposed Action tower would not notably change project area EHP conditions, except that the Proposed Action would notably improve TEMA emergency communications capabilities, which would further improve local, Tribal, state, and federal emergency and disaster preparedness, response, and recovery in the 38-county East Regional Area.

6.0 Public Participation

Public notice of the proposed project was published twice in the Knoxville News-Sentinel (Knoxville’s daily newspaper): first on Wednesday, 30 May 2007, and again on Sunday, 03 June 2007. Any public comments sent to FEMA and TEMA will be given due consideration as part of this project’s EHP review, and further appropriate action will be taken if needed.

7.0 Documents

7.1 Figures

Figure 1. Location Map (Microsoft Virtual Earth, 2007).

Figure 2. Project Area Map (USGS, 1981; through Microsoft TerraServ).

Figure 3. Project Site Map (USGS, 1981; through Microsoft TerraServ)

Figure 4. Project Area Seismic Risk Map (USGS, 2002)

Figure 5. Project Site Soil Map (NRCS, 2007).

Figure 6. Project Area Wetland Map (USFWS, 2007).

7.2 Tables

Table 1. EHP Effects Summary

7.3 References

FAA, 21 Nov 2006, Aeronautical Study 2006-ASO-4568-OE.

7.4 Agencies and Persons Consulted

Friedmann, L., Tennessee Emergency Management Agency, Nashville, TN, verbal communications, 11 May – 02 June 2007. Verified by his review of the applicable communications content in this document)

_____, Tennessee State Historic Preservation Office, Nashville, TN, verbal communications and letter, 04 June 2007. (Additional details to be added to final EA)

_____, U.S. Fish and Wildlife Service, Cookeville, TN, verbal communications and letter, 04 June 2007. (Additional details to be added to final EA)

7.5 Agency Coordination Letters

DHS/FEMA coordination letter to the TN SHPO, 02 June 2007. (Additional details to be added to final EA)

DHS/FEMA coordination letter to the USFWS, 02 June 2007. (Additional details to be added to final EA)