ENVIRONMENTAL ASSESSMENT
PROPOSED 340-FOOT
SELF-SUPPORT COMMUNICATIONS TOWER

351 FAIRGROUND ROAD
SPINDALE, NC
(RUTHERFORD COUNTY)

DATE ISSUED: APRIL 26, 2010

Prepared for:

North Carolina Highway Patrol – Department of Crime and Public Safety
3318 Garner Road
Raleigh, NC 27610

Prepared by:

George T. Swearingen, III

Of

TOWER ENGINEERING PROFESSIONALS

3703 Junction Boulevard
Raleigh, NC 27603-5263

April 26, 2010

Ms. Tanya Luter
VIPER Project Manager
North Carolina State Highway Patrol
3318 Garner Road
Raleigh, NC 27610

Re: PSIC NEPA - Environmental Assessment
Fairground Road 340-ft AGL Emergency Services Communications Tower Facility
351 Fairground Road Spindale, NC 28160 (Rutherford County)
NCHP Site # 1336

Dear Ms. Luter,

Tower Engineering Professionals, Inc., (TEP) has completed a National Environmental Policy Act (NEPA)-Environmental Assessment (EA) for the proposed Fairground Road Communications Tower facility. The NEPA study was required due to the potential for Federal funding of the proposed facility from grant funds issued by the Public Safety Interoperable Communications (PSIC) Grant Program, administered by the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. The NEPA-EA was completed for the purpose of addressing the potential environmental impacts associated with the proposed facility. As a condition of the PSIC Grant Program, PSIC grantees must comply with all relevant Federal legislation.

In addition to the PSIC screening, any new tower construction is required to undergo FCC NEPA Land Use screening in accordance with 47 CFR Section 1.1307 (a) (1) through (8), to determine whether any of the listed FCC special interest items would be significantly affected if a tower structure and/or antenna and associated equipment control cabinets were constructed at the proposed site location.

The findings of this PSIC NEPA - Environmental Assessment and FCC NEPA Compliance Checklist are based on the project location, project type and construction plans provided by the North Carolina Highway Patrol – Department of Crime Control and Public Safety. Should the project location, project type and/or construction plans be altered, reevaluation of this project will be required. If there are any questions regarding the information presented in this report, please contact the TEP office at 919-661-6351.

Sincerely,

Tower Engineering Professionals, Inc.
George T. Swearingen, III
Environmental Manager

TOWER ENGINEERING PROFESSIONALS

EXECUTIVE SUMMARY

This executive summary is provided for convenience only and should not substitute review of the complete report, including all figures and appendices.

The Proposed Action is identified as the Fairground Road Emergency Services Communication Tower facility. The Fairground Road tower is classified as a "New" Transmission and Receiving Site, which consists of the proposed construction of a 340-ft Self-support lattice tower that will be enclosed within a 60-ft x 45-ft fenced compound. The total area of ground-disturbance is anticipated to be approximately 0.083-acres. The area surrounding the proposed Fairground Road Communications Tower facility consists of light industrial, commercial, agricultural and municipal land uses. The proposed facility is located southeast of the Town of Spindale in central Rutherford County. The parent property is primarily occupied by the North Carolina National Guard Armory. Figure 1 depicts a vicinity map of the area and Appendix A depicts photographs of the site and surrounding area.

The proposed Fairground Road Tower site is located at N 35º 20' 45.902" Latitude and W 81º 54' 32.215" Longitude (NAD83), south of a portion of Fairground Road, southeast of the Town of Spindale, within central Rutherford County, NC as shown on the USGS Rutherfordton South, NC 7.5 Minute Topographic Map depicted in Figure 2. The proposed Communications Tower compound will include: one 12-ft x 24-ft equipment shelter and a stand alone 40-kW Diesel powered emergency generator mounted on a 5.5-ft x 9.5-ft concrete foundation pad, as shown in Figure 3.

The proposed Fairground Road Tower site will be located on an approximately 5.89-acre property, reportedly owned by the State of North Carolina. The proposed 12-ft wide access drive will proceed south from Fairground Road for approximately 55-ft before reaching the proposed 60-ft x 45-ft fenced tower compound located within an undeveloped forested portion of the parent property, northwest of the existing National Guard Armory. Figure 4 shows the aerial photograph of the project site location.

The proposed Fairground Road VIPER Tower site will allow for the following:

- Increased RF coverage area for Federal, State, and local emergency first responders connected through the VIPER network
- Updated equipment to support new frequencies to improve and expand voice and data coverage
- Facilitate reliable interoperable communications among first responder organizations
- Enhanced security and facility control

The Proposed Action will not involve any of the unusual risks or impacts to sensitive areas identified in Section 4. Therefore, the Proposed Action warrants the issuance of a Finding of No

Significant Impact (FONSI) to address those actions for which no significant impact has been determined.

In addition to the required PSIC NEPA Screening, an FCC NEPA Checklist is also required for any proposed FCC licensed facility. The FCC NEPA Screening Checklist for the proposed tower facility was completed on June 11, 2009. Based on the results of the FCC NEPA Screening Checklist, no further environmental investigation (NEPA-Environmental Assessment) was warranted. The Public Safety Interoperable Communications (PSIC) Grant Program screening any new tower construction is required to undergo FCC NEPA Land Use screening in accordance with 47 CFR Section 1.1307(a)(1) through (8), to determine whether any of the listed FCC special interest items would be significantly affected if a tower structure and/or antenna and associated equipment control cabinets were constructed at the proposed site location.

Based on the information obtained for this PSIC-Environmental Assessment (EA) and the FCC NEPA Screening Checklist, the proposed Fairground Road Communication Tower Facility does not appear to pose an adverse effect on any of the NEPA environmental categories. No evidence that would suggest National Environmental Policy Act (NEPA) environmental concerns exist for the Proposed Action. No FCC special interest items were identified that would require a site-specific EA to be prepared.

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SECTION 1 – INTRODUCTION

This Environmental Assessment provides a review of the expected environmental impacts associated with the proposed construction of the Fairground Road VIPER Communications Tower that will be constructed with grant funds provided by the Public Safety Interoperable Communications (PSIC) Grant Program, administered by the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. (The PSIC Grant Program is to assist state, local, tribal and nongovernmental agencies in developing communications as they leverage newly available spectrum in the 800 megahertz (MHz) band.) As a condition of the PSIC Grant Program, PSIC grantees must comply with all relevant Federal legislation, including the National Environmental Policy Act (NEPA).

The NTIA specified that PSIC-funding must be used for projects that would improve communications in areas at high risk for natural disasters and in urban and metropolitan areas at high risk for threats of terrorism, and should include pre-positioning or securing of interoperable communications for immediate deployment during emergencies or major disasters. Investments that receive PSIC funding range from large-scale infrastructure build-outs, such as tower construction, to governance-related initiatives.

Rutherford County is located in the southwestern portion of North Carolina. According to the 2000 census, the population of Rutherford County was 62,899. The county has a total area of 566 square miles.

The Town of Spindale, NC has a population estimated at 4,022 according to the 2000 census. Spindale is located southeast of the Town of Rutherfordton, the county seat of Rutherford County, and northwest of the Town of Forest City. The Towns of Rutherfordton, Spindale, and Forest City are all located within a 3-mile radius of the proposed Fairground Road tower site. The Fairground Road tower site is located in the central portion of Rutherford County, in the Cool Spring Township, approximately 11-miles north of the South Carolina border. The proposed Fairground Road Tower site is located at N 35º 20’ 45.902” Latitude and W 81º 54’ 32.215” Longitude (NAD83) at an elevation of 1054.4-ft AMSL (NAVD 88) as shown on the USGS Rutherfordton South, NC 7.5 Minute Topographic Map which is depicted in Figure 2. The Fairground Road tower site will consist of a proposed 340-ft AGL Self-support Communications tower, enclosed within a 60-ft x 45-ft fenced tower compound. The proposed fenced compound will include: one 12-ft x 24-ft equipment shelter and a stand alone 40-kW Diesel emergency generator mounted on a 5.5-ft x 9.5-ft concrete foundation pad, as shown in Figure 3.

The proposed Fairground Road tower site will be located on an approximately 5.89-acre property, identified by the Rutherford County Tax Assessors Office as PIN Number 1615900. The property is reportedly owned by the State of North Carolina. The proposed access drive will proceed south from Fairground Road, through the existing undeveloped forested portion of the parent property, for approximately 55-ft until reaching the proposed 60-ft x 45-ft fenced tower

compound, located within the undeveloped forested portion of the parent property. Figure 4 is comprised of an aerial photograph depicted the project site location.

Purpose and Need

The purpose of the proposed action is to meet current radio frequency coverage needs of the North Carolina Highway Patrol in Rutherford County and surrounding areas. The PSIC Grant Program will be utilized to improve interoperability and reliability in the nation's communications and information systems infrastructure by assisting public safety agencies in performing the following:

- Conducting Statewide or regional planning and coordination
- Supporting the design and engineering of interoperable emergency communications systems
- Supporting the acquisition or deployment of interoperable communications equipment or systems
- Establishing and implementing a strategic technology reserve to pre-position or secure interoperable communications in advance so they may be immediately deployed in an emergency or major disaster

SECTION 2 – PROPOSED ACTION

The Proposed Action is to construct a new transmitting and receiving Communications tower facility to accomplish the following goals:

- Increased coverage area for federal, state, and local emergency first responders connected through the VIPER Network
- Facilitate reliable interoperable communications among first responders
- Enhanced security and facility control
- Use cost-effective measures

Project Information

The Proposed Action is identified as the Fairground Road Communications tower. The Fairground Road tower is a proposed communications tower facility which consists of the construction of a 340-ft AGL Self-support lattice Communications tower, enclosed within a 60-ft x 45-ft fenced compound, and associated equipment. The total proposed area of construction including the access drive is anticipated to be approximately 0.083-acres. The area surrounding the proposed Fairground Road Communications tower facility consists of light industrial, commercial, agricultural and municipal land uses in central Rutherford County, North Carolina. The parent property is primarily occupied by the North Carolina National Guard Armory. Figure 1 includes a vicinity map of the area. Photographs of the site are also included in Appendix A.

The proposed Fairground Road tower site is located at N 35º 20' 45.902" Latitude and W 81º 54' 32.215" Longitude (NAD83), south of a portion of Fairground Road, southeast of the Town of Spindale, within Rutherford County, NC as shown on the USGS Rutherfordton South, NC 7.5 Minute Topographic Map depicted in Figure 2. The proposed Communications tower compound will include: one 12-ft x 24-ft equipment shelter and a stand alone 40-kW Diesel powered emergency generator which will be mounted on a 5.5-ft x 9.5-ft concrete pad, as shown in Figure 3.

The proposed Fairground Road tower site will be located on an approximately 5.89-acre property, reportedly owned by the State of North Carolina. The proposed access drive will proceed south from Fairground Road for approximately 55-ft until reaching the proposed 60-ft x 45-ft fenced tower compound, located within an undeveloped forested portion of the parent property, to the northwest of the existing National Guard Armory. Figure 4 depicts the Aerial photograph of the project site location.

The proposed Fairground Road Tower site will allow for the following:

- Increased Radio Frequency coverage area for Federal, State, and local emergency first responders connected through the VIPER Network
- Facilitate reliable interoperable communications among first responders
- Enhanced security and facility control

Alternatives

Several project alternatives, including the Proposed Action, were investigated during the facility selection process as discussed below:

Proposed Action – Fairground Road Tower Site (Preferred Action)

Due to the elevation of the proposed Fairground Road Tower site, and the topographic features of the surrounding area, the proposed site would provide radio frequency coverage for central Rutherford County as well as increased interoperability network opportunities for similar sites in the region. This proposed Communications tower site will provide reliable interoperable communications and a significantly increased coverage area for emergency first responders.

The elevation and topography of the proposed tower site provides a natural height advantage, resulting in enhanced coverage with the proposed 340-ft Self-support tower. This site is strategically located, expanding the coverage radius for Rutherford County as well as portions of the surrounding counties within North Carolina.

No Action

Under the No Action Alternative, the current emergency services radio system coverage requirements will not be met, causing serious limitation on emergency response, funding for interoperable communications and information systems infrastructure would not be released, and infrastructure would neither be developed nor enhanced. Ongoing maintenance activities would continue using the current funding sources; however, no new activities would be funded with PSIC grant funding. It is assumed that the project proposed for PSIC grant funding would not go forward with any alternate funding sources.

The No Action Alternative will serve as the baseline for assessing the impacts of the other alternatives. The No Action Alternative would not address the needs for the North Carolina Highway Patrol.

Alternatives Considered But Not Carried Forward

One alternative site was examined to determine the range of reasonable alternatives to implement the Proposed Action. The alternative site examined was located within a 24.82-acre property, reportedly owned by the Rutherford County Board of Education. The property was partially occupied by Rutherfordton-Spindale Middle School and was located at 382 West Main Street, in Rutherfordton, NC. The alternative site was located within an undeveloped forested portion of the western portion of the property, west of the existing Middle School. The Proposed Action was initially approved by the Rutherford County Board of Education, however, due to the existing ground elevation (~1088-ft AMSL), topography, and proximity to the Rutherford County Airport (~3.85-miles), the tower height was restricted by the FAA to a point that the Proposed Action tower height requirements could not be met, leading to the site being abandoned as a reasonable alternative.

Additionally, existing towers in the vicinity of the Rutherfordton-Spindale-Forest City area were examined to determine the collocation potential for the VIPER System antennas, microwave dishes and associated equipment. However, analyses of the existing towers determined that they were structurally incapable of accommodating the proposed antenna and microwave dish load for the Proposed Action. Additionally, the potential collocation towers did not meet the Proposed Action tower height requirements for VIPER.

SECTION 3 – EXISTING ENVIRONMENT

This section describes the existing environment that may be affected by implementing the Proposed Action and serves as a baseline from which to identify and evaluate potential impacts. The description of the affected environment focuses on those resource areas that are potentially subject to impacts resulting from the Proposed Action. Aspects of the existing environment

described in this section focus on eleven major resource areas that encompass the natural, human and built environments.

The eleven resource areas are noise, air quality, geology and soils, water resources, biological resources, historic and cultural, land use, aesthetic and visual, infrastructure, socioeconomic resources, and human health and safety.

Resource 1 – Noise

The traditional definition of noise is "unwanted or disturbing sound." Under the Clean Air Act, the EPA administrator established the Office of Noise Abatement and Control (ONAC) to carry out investigations and studies on noise and its effect on the public health and welfare. Noise pollution adversely affects the lives of millions of people. Studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity.

Existing Conditions

The EPA has determined that noise levels in excess of a 24-hour average maximum exposure level of 70 decibels will cause measurable hearing loss over a lifetime. Likewise, levels of 55 decibels outdoors and 45 decibels indoors have been determined not to cause activity interference and annoyance. These levels of noise are considered those which will permit spoken conversation and other activities such as sleeping, working and recreation, which are part of the daily human condition (US EPA, 1974).

The project site exhibits typical traffic patterns associated with an industrial and commercial setting. Daytime commercial area ambient sound levels area anticipated to reach a level near 62 dBA. Additionally, the ambient noise levels associated with proximity to an industrial area are anticipated to reach 67 dBA (Outdoor Ambient Noise Levels, 2005).

Resource 2 – Air Quality

The Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. The six criteria air pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$),

and lead (Pb). PM_{10} and $PM_{2.5}$ are acronyms for particulate matter consisting of particles smaller than 10 and 2.5 micrometers, respectively.

Existing Conditions

Air Quality Index is a numeric score, from 1 to 100, based on annual reports by the Environmental Protection Agency (EPA). A higher score indicates a healthier Air Quality Index. The number of ozone alert days is used as an indicator of air quality, as are the amounts of seven pollutants including particulates, carbon monoxide, sulfur dioxide, lead and volatile organic chemicals. According to the U.S. EPA, updated October 2007, the Air Quality Index for Rutherford County, NC is 64. The United States National Average Air Quality Index is 48.

When compared to the North Carolina average emissions for criteria pollutants, Rutherford County is in the 40^{th} to 50^{th} percentile for Carbon Monoxide, Nitrogen Oxides, PM_{10}, $PM_{2.5}$, Ozone, and Sulfur Dioxide emissions (Scorecard, 2005).

Resource 3 – Geology and Soils

Geological resources are described as geology, soils, and topography that characterize an area. The geology of an area refers specifically to the surface and near-surface materials of the earth and to how those materials were formed. Those resources are typically described in terms of regional or local geology, including mineral resources, earth materials, soil resources and topography.

Descriptions of these resource areas include bedrock or sediment type and structure, unique geologic features, depositional or erosion environment, and age or history. Mineral resources include usable geological materials that have some economic or academic value. Soil resources include the unconsolidated, terrestrial materials overlying the bedrock or parent material and are typically described by their complex type, slope and physical characteristics. Topography consists of the geomorphic characteristics of the land, including the change in vertical elevation of the earth's surface across a given area, the relationship with adjacent land features and geographic location (USCG, 2006).

The soil resources of an area, which include prime and unique farmlands, are Federally protected and regulated. The Farmland Protection Policy Act (FPPA) (P.L.97-98, 7 U.S.C. §4201) of 1981 is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that, to the extent possible, Federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland.

Farmland subject to FPPA requirements does not have to be currently used for cropland and can include forested land, pastureland, cropland, or other land, but not water or urban built-up land. In order for land to be converted to nonagricultural uses under a federally funded project, a

Farmland Conversion Impact Rating form must be completed and reviewed by the local county Natural Resources Conservation Service (NRCS).

Existing Conditions

The Proposed Action is located on the geologic formation identified as Inequigranular Biotite Gneiss, which is described as weakly foliated to massive, containing plagioclase megacrysts and, rarely, larger megacrysts of quartz and feldspar, as shown in Figure 6. Soils at the Fairground Road tower site are listed as Cecil Sandy Loam (CeB2), 2 to 8 percent slopes, which consists of: eroded, well drained soils formed at summits and interfluves, as shown in Figure 7 (Department of Agriculture).

The central portion of Rutherford County lies in the Southern Outer Piedmont, within the Piedmont Physiographic Province of North Carolina. The northeast-southwest trending Piedmont ecoregion comprises a transitional area between the mostly mountainous ecoregions of the Appalachians to the northwest and the relatively flat coastal plain to the southeast. It is a complex mosaic of Precambrian and Paleozoic metamorphic and igneous rocks with moderately dissected irregular plains and some hills. Once largely cultivated, much of this region is in planted pine or has reverted to successional pine and hardwood woodlands. The soils tend to be finer-textured than in coastal plain regions (Griffith, 2009).

Resource 4 – Water Resources

Water resources are streams, lakes, rivers and other aquatic habitats in an area and include surface water, groundwater, wetlands, floodplains, coastal resources and wild and scenic rivers. Water resources such as lakes, rivers, streams, creeks, canals, and drainage ditches make up the surface hydrology of a given watershed. The term “waters of the United States” applies only to surface waters (including rivers, lakes, estuaries, coastal waters and wetlands) used for commerce, recreation, industry, fishing and other purposes.

The Safe Drinking Water Act (SDWA) provides for the protection of public health by regulating the U.S. public drinking water supply (P.L. 93-23, 42 U.S.C. §300f). The SDWA aims to protect drinking water and its sources (rivers, lakes, reservoirs, springs and groundwater wells) and authorizes the EPA to establish national health-based standards for drinking water to protect against naturally occurring and man-made contaminants. Every public water system in the United States is protected by the SDWA. Under Section 1424(e) the SDWA prohibits Federal agencies from funding actions that would contaminate a sole-source aquifer or its recharge area. Any federally funded project with the potential to contaminate a designated sole-source aquifer is subject to review by EPA. EPA’s regulations implementing the SDWA requirements are found in 40 CFR 141-149. Federal SDWA groundwater protection programs are generally implemented at the State level.

The Clean Water Act (CWA), as amended, is the primary Federal law in the United States regulating water pollution (P.L. 92-500, 33 U.S.C.§1251). The CWA regulates water quality of all discharges into "waters of the United States." Both wetlands and "dry washes" (channels that carry intermittent or seasonal flow) are considered "waters of the United States." Administered by EPA, the CWA protects and restores water quality using both water quality standards and technology-based effluent limitations. The EPA publishes surface water quality standards and toxic pollutant criteria at 40 Code of Federal Regulations (CFR) Part 131. The CWA also established the National Pollution Discharge Elimination System (NPDES) permitting program (Section 402) to regulate and enforce discharges into waters of the United States. The NPDES permit program focuses on point-source outfalls associated with industrial wastewater and municipal sewage discharges. Congress has delegated to many States the responsibility to protect and manage water quality within their legal boundaries by establishing water quality standards and identifying waters not meeting these standards. States also manage the NPDES system.

The Coastal Zone Management Act of 1972 (CZMA) (16 U.S.C. §1451) provides States with the authority to determine whether activities of governmental agencies are consistent with federally approved State Coastal Zone Management Plans (CZMP). The intent of the CZMA is to prevent any additional loss of living marine resources, wildlife, and nutrient-enriched areas; alterations in ecological systems; and decreases in undeveloped areas available for public use.

Federal statutes, executive orders (EO), State statutes, and State agency regulations and directives protect water quality and the beneficial uses of water resources. EO 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands) mandate the control of activities that indirectly influence water quality.

EO 11988 (Floodplain Management) requires Federal agencies to determine whether a Proposed Action would occur within a floodplain and to take action to minimize occupancy and modification of floodplains. A floodplain is defined as the lowland and flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands. At a minimum, areas designated as floodplains are susceptible to 100-year floods.

Existing Conditions

Water resources are inherently site-specific resources. According to the USGS Rutherfordton South, NC 7.5 Minute Topographic Map dated 2002, EPA Region 4 Map of Sole Source Aquifers, and the Federal Emergency Management Agency (FEMA), the Proposed Action is located at approximately 1,054.4-feet above mean sea level with no indications of wetlands, floodplains, coastal management zones and wild or scenic rivers noted in the reviewed databases, maps and site reconnaissance. Figures 2, 5, and 6 include the USGS Topographic Map, FEMA Map, and National Wetlands Inventory Map, respectively.

The annual rainfall average in Rutherford County is approximately 49.91-inches (Rutherford County Chamber of Commerce, 2006). The nearest water body is located approximately 0.35-miles to the northeast of the proposed tower site and is an intermittent unnamed tributary of Bracketts Creek.

Since the facility is less than one acre, NPDES permits are not required. Based upon the topography of the area and the distance to the nearest surface water, it is not likely that the Proposed Action has potential to adversely affect this water body.

Resource 5 – Biological Resources

Biological resources are Flora, Fauna, and their habitats that are native to an area, including threatened or endangered species. In general, biological resources can include native and introduced flora that comprise the various habitats, fauna present in such habitats, and natural areas that help support these flora and fauna populations. Protected or sensitive biological resources include flora and fauna species listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or a State and local entity. The following section describes categories of biological resources such as vegetation and associated habitats, wildlife, threatened and endangered species, and wetlands.

The Endangered Species Act (ESA) (16 U.S.C. §1531) requires Federal agencies to conserve endangered species by listing endangered and threatened species of flora and fauna and designating the critical habitat for fauna species. The ESA defines an endangered species as any species in danger of extinction throughout all or a significant area of its range and a threatened species as any species likely to become endangered in the near future. Under Section 7 of the ESA, Federal agencies, in consultation with USFWS, must determine if their proposed actions is likely to jeopardize the continued existence of any threatened or endangered species. In addition, they must also determine if the proposed action will result in the destruction or adverse modification of critical habitat, defined as a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection (USFWS, 2007). The USFWS is responsible for compiling official lists of threatened and endangered species. If a Proposed Action may adversely affect a listed species or critical habitat, the Federal agency must prepare a Biological Assessment (BA) and initial a formal consultation with USFWS. After reviewing the BA, USFWS prepares a Biological Opinion stating whether the Proposed Action is likely to jeopardize the continued existence of a listed species or cause the destruction or adverse modification of critical habitat. The purpose of the consultation process is to ensure avoidance and minimization of potential adverse impacts on listed species or critical habitats. Formal consultation is not required if the Federal agency determines, and USFWS concurs in writing, that the Proposed Action is not likely to adversely affect listed species. In addition, the ESA prohibits all persons subject to U.S. jurisdiction, including Federal agencies, from "taking" endangered or threatened species.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703) was first enacted to implement the 1916 convention between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada, offering protection to many bird species. The statute makes it unlawful to pursue, hunt, take, capture, kill or sell birds listed in the statute as "migratory birds," and does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs and nests. The MBTA is the primary law that affirms or implements the nation's commitment to four international conventions (with Canada, Japan, Mexico and Russia) for the protection of a shared migratory bird resource. Each convention protects selected species of birds that are common to both countries. The potential impact to property owners can exist when migratory birds seek respite within trees or on structures considered private property.

EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) strengthens the protection of migratory birds and their habitats by directing Federal agencies to take certain actions that implement the MBTA. Specifically, Federal agency actions that have, or are likely to have, a measurable negative effect on migratory bird populations are required to develop and implement of a Memorandum of Understanding (MOU) with the USFWS that promotes the conservation of migratory bird populations. The EO and MOUs are the regulatory basis for conservation actions or renewal of contracts, permits, delegations or other third-party agreements associated with migratory birds. MOUs established under EO 13186 are published in the *Federal Register*.

USFWS's Division of Migratory Bird Management established several initiatives in the past decade to research collisions of birds with communications towers. In 1999, USFWS established the Communication Tower Working Group, composed of government, industry and academic groups to study and determine tower construction approaches that prevent bird strikes.

EO11990 (Protection of Wetlands) requires Federal agencies to provide leadership and take action to minimize the destruction, loss or degradation of wetland habitat and to preserve and enhance the natural and beneficial values of wetland habitats in carrying out the agency's responsibilities. Wetland habitats generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats and natural ponds.

Existing Conditions

The Proposed Action is located on a 5.89-acre parcel that is primarily occupied by a North Carolina National Guard Armory. The proposed project site is occupied by undeveloped forested land, primarily consisting of Virginia Pine (*Pinus virginiana*) trees. No burrows, nests, wetlands, coastal areas, or other signs of threatened and endangered species and/or critical habitat were readily observable at the time of TEP's site reconnaissance.

The U.S. Fish and Wildlife Service (USFWS) has listed five endangered species in Rutherford County, NC, including the Indiana Bat (*Myotis sodalis*), Dwarf-flowered Heartleaf (*Hexastylis*

naniflora), Small Whorled Pogonia (*Isotria medeoloides*), White Irisette (*Sisyrinchium dichotomum)* and Rock Gnome Lichen (*Gymnoderma lineare*).

It is anticipated that the proposed tower and equipment compound should not have an adverse impact to the listed or proposed protected species or their critical habitats. Coordination of this analysis with the USFWS – Asheville, NC Field Office, resulted in their concurrence with the determination that the proposed action is not likely to adversely affect any federally listed species. See USFWS response dated 4/23/2009 in Appendix B.

Resource 6 – Historic and Cultural Resources

Historic and cultural resources are sites, structures, buildings, districts, or objects associated with important historic events or people, demonstrating design or construction associated with a historically significant movement, or with the potential to yield historic or prehistoric data, that are considered important to a culture, subculture or a community for scientific, traditional, religious, or any other reason (NPS, 2008). Typically, historic and cultural resources are subdivided into the following categories:

- **Archaeological resources**: This includes prehistoric or historic sites where human activity has left physical evidence of that activity but few aboveground structures remain standing.

- **Architectural resources**: This includes buildings or other structures or groups of structures that are of historic or aesthetic significance.

- **Native resources**: These include resources of traditional, cultural or religious significance to a Native American Tribe, Native Hawaiian, or Native Alaskan organization.

There are multiple Federal regulations that protect historic and cultural resources. The National Historic Preservation Act of 1966 (NHPA) (P.L. 89-665, 16 U.S.C. §470) directs the Federal Government to consider the effects of its actions on historic and cultural resources under Section 106 through a four-step compliance process. The four steps of the Section 106 compliance process are the following:

1. **Establish whether the Proposed Action constitutes an undertaking.** Per 36 CFR 800.16, an undertaking is an action funded in whole or in part under the direct or indirect jurisdiction of a Federal agency. If the Proposed Action is an undertaking, the appropriate State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO) and other consulting parties are identified.

2. **Identify National Register-listed or eligible properties.** Historic resources located within the Proposed Action Area of Potential Effect (APE) are identified and evaluated

for significance, including properties potentially eligible or listed in the National Register of Historic Places (NRHP) that may be affected by the Proposed Action.

3. **Assess affects of Proposed Action on eligible historic properties.** If the assessment determines no historic properties or no adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are informed, and the compliance process stops at this step. If the assessment determines actual or potential adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are notified though a submission process deemed appropriate by the jurisdictional SHPO/THPO.

4. **Resolve adverse effects to eligible historic properties through consultation with the SHPO/THPO and Advisory Council on Historic Preservation (ACHP), as necessary**.

Existing Conditions

TEP visited the NC State Historic Preservation Office (NC SHPO) and the NC Office of State Archeology to view the pertinent USGS 7.5-minute topographic map (Rutherfordton South) to make an assessment of the potential significant impacts to architectural, historic, or archeological sites in the vicinity of the tower site. In addition, TEP contracted R.S. Webb & Associates, a cultural resources consulting firm, to perform an Archaeological Evaluation, to make an assessment of the potential direct effects the proposed action may have on archaeological resources. The Archaeological Evaluation concluded that no archaeological resources eligible for inclusion in the National Register of Historic Places will be affected by the proposed Fairground Road tower undertaking. In addition, the evaluation concluded that no additional archaeological investigation is recommended for this project. Further, TEP received concurrence from Ms. Renee Gledhill-Earley of NC Dept. of Cultural Resources-Environmental Review Coordinator and Ms. Susan G. Myers of NC Dept. of Cultural Resources: Office of State Archaeology-Project Registrar, regarding the proposed project on 3-19-2009 for FCC requirements that included a 0.75 mile APE. The PSIC APE was determined to be a 2.0 mile radius around the proposed action tower centerline. TEP received an additional concurrence for the PSIC 2.0 mile APE from Ms. Renee Gledhill-Earley and Ms. Susan G. Myers on 2-25-10. Additionally, TEP contracted CIRCA, Inc., a cultural resources firm, to provide an assessment on the impact to historic properties from the PSIC APE extension to 2.0 miles. On 2-25-10, CIRCA, Inc. determined that the two additional historic properties that fall within the 2.0 mile APE "will not be adversely affected by the proposed tower." The North Carolina SHPO concurrence form and letter from CIRCA, Inc. are shown in Figure 9 and Appendix C.

Resource 7 – Aesthetic and Visual Resources

Effects to aesthetic and visual resources deal broadly with the extent to which development contrasts with the existing environment, architecture, historic or cultural setting, or land use, and the determination of effects is a judgment that must be made by a qualified professional. Visual resources are the natural and man-made features that give an area its visual character. Visual

resources generally refer to the urban environment, whereas aesthetic resources typically include impacts to natural and scenic areas.

Visual resources are inherently difficult to assess because they involve subjectivity. Often communities, historical societies and their corresponding jurisdictional agencies are the arbiters of visual effects resulting from Proposed Action.

There are no Federal statutory or regulatory requirements for visual resources and aesthetics. State, regional or local requirements may apply. If the landscape were cultural or historic, or part of a National Historic Landmark, the impacts would need to be reviewed under the NHPA Section 106. Similarly, potential visual impacts on scenic byways would need to be assessed under the National Scenic Byways Program (P.L. 105-178, 23 U.S.C. §162) and laws concerning State-designated scenic byways. Consultation with the National Park Service may be required for potential impacts on the visual resources in State and National parks. Potential visual impacts for outdoor recreation sites and facilities covered by Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) (P.L. 88-578, 16 U.S.C. §460) may need to be reviewed.

Existing Conditions

No unique viewsheds related to National or State designated Scenic Byways, National Natural Landmarks, National Scenic Trials, or National Historic Landmarks were identified within 2 miles of the Proposed Action. One potentially eligible property, designated as a "study listed" (SL) property, one National Register property, and one National Register district were identified while reviewing the pertinent USGS 7.5-minute topographic map during consultation with the offices of the NC State Historic Preservation (NC SHPO) and the NC Office of State Archeology. Further, a determination of "no adverse effect on historic properties" was received from Mrs. Renee Gledhill-Early, Environmental Review Coordinator, regarding the Proposed Action, most recently on 2-25-2010, as shown in Figure 9 and Appendix C. Additionally, CIRCA, Inc. provided a determination of the effect of the PSIC APE extension stating that the two National Register properties within the APE "will not be adversely affected by the proposed tower."

Resource 8 – Land Use

The term "land use" refers to real property classifications that indicate either natural conditions or the types of human activity that occur, or are permitted, on a parcel. There is no nationally recognized convention or uniform terminology for describing land use categories; definitions are typically addressed at the local level in the form of zoning ordinances. As a result, the meanings of land use descriptions and definitions vary among jurisdictions.

Land use plans are usually established to ensure that development proceeds in an orderly fashion, encouraging compatible uses for adjacent land. There are many tools used in the planning process, including master plans, geospatial databases and zoning ordinances. A master plan is

generally written by a county or municipality to provide a long-term strategy for growth and development. The foremost factor affecting land use is compliance and compatibility with master plans and zoning regulations. Other relevant factors include existing land use and project sites, the types of land uses on adjacent properties and their proximity to a Proposed Action, the duration of a proposed activity, and project permanence as a charge in land use.

The following general land use categories will be used when discussing potential impacts to land use for this document: low, medium, and high density residential, commercial, industrial, municipal and institutional, agricultural, and vacant. Areas of particular concern include Coastal Zone Management (CZM) areas and coastal barrier islands.

Residential land use classifications are divided into low, medium, and high, depending on the density of dwellings per acre. Low density residential land is defined as two or fewer single-family homes per acre. Medium density residential land is characterized by three to five residential dwellings per acre. High density residential land includes row houses, apartments, and condominiums with a density of six or more dwellings per acre (Dublin, 2008).

Commercial land uses are characterized by businesses, offices, retail sales and services, restaurants, entertainment venues and other service industry related operations. Commercial land uses are compatible with residential and industrial land uses; however, they have been known to cause adverse impacts on the environment from sources such as commercial dry cleaners, gas stations, automobile repair shops, etc.

Industrial land uses include land occupied by businesses that produce or manufacture a product on-site, including warehousing, manufacturing, industrial processing, and resource and energy production (Dublin, 2008). Industrial land uses are most commonly associated with adverse impacts to the surrounding environment. Proximity to nearby residential and commercial land uses is highly considered in the assessment of adverse impacts to the environment and health and safety.

Municipal and institutional land uses are defined as public buildings and institutions that are owned and operated by governmental or other public agencies. These buildings include, but are not limited to: schools, government offices, fire and police stations, cemeteries, religious institutions, airports and seaports (Dublin, 2008). Excluding airports and seaports, municipal and institutional land uses are compatible with residential and commercial land uses.

Agricultural land uses include “all ecosystems modified or created by man specifically to grow or raise biological products for human consumption or use,” including “cropland, pasture, orchards, groves, vineyards, nurseries, ornamental horticultural areas and confined feeding areas” (IWGSDI, 1996).

Vacant land includes undeveloped forested land, fallow land, and other land that has not been developed, cultivated or significantly altered from its original state. Land is described as vacant land when the aforementioned land uses are not apparent or defined.

Existing Conditions

Based on general land use compatibility, the Proposed Action is to be located adjacent to a North Carolina National Guard Armory. The parent property is located within the jurisdiction of Rutherford County and is not a zoned parcel; therefore, the property has no zoning restrictions. The adjoining properties consist of light industrial, commercial, agricultural and municipal land uses.

Resource 9 – Infrastructure

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure by definition includes a broad array of facilities including: utility systems, streets, highways, railroads, airports, buildings and structures, and other manmade facilities. Individuals, businesses, governmental entities, and virtually all relationships between these groups depend upon this infrastructure for their most basic needs, as well as for critical and advanced needs such as emergency response and health care.

Infrastructure is entirely man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as "developed." An essential component of economic growth to an area is the availability of infrastructure and its capacity to support growth. The infrastructure components to be discussed in this section include utilities (electricity and communications), solid waste, and the transportation network.

Public utilities can be privately or publicly owned. Public utilities are often governed by a Public Utilities Commission that regulates the rates and services of a public utility. In recent years, several laws have been passed focusing on energy conservation and production. The Energy Policy Act of 2005 (P.L. 109-158) provides tax incentives and loan guarantees for energy production of various types. The Energy Independence and Security Act of 2007 (P.L. 110-140) expanded the production of renewable fuels and contains provisions for energy efficiency, smart grid technology, and carbon dioxide reduction and incentives for plug-in hybrid electric vehicles to assist the electric power industry's efforts to reduce greenhouse gas emissions.

Regulations governing communications infrastructure include Part 17 Construction, Marking, and Lighting of Antenna Structures of the FCC regulations (47 CFR Chapter 1), which prescribes procedures for antenna structure registration and requires the Federal Aviation Administration (FAA) to conduct an aeronautical study of the navigation air space to determine appropriate tower marking and lighting requirements to achieve safe air space. Before the FCC authorizes the construction of new antenna structures or alteration in the height of existing antenna structures, an FAA determination of "no hazard" may be required. FAA notification is

required for any new construction greater than 200 feet above ground level, and near any airport runway (taller than 100:1 for a horizontal distance of 20,000 feet, 50:1 for a horizontal distance of 10,000 feet, and 25:1 for a horizontal distance of 5,000 feet of a heliport). By checking the heights of proposed antennae and their proximity to airports, the FCC's TOWAIR software system assists in determining if FAA notification is required. The FAA can vary marking and lighting recommendations when requested, provided that aviation safety is not compromised. In all cases, safe aviation conditions around the tower are the FCC's primary concern, and safety concerns dictate the marking and lighting requirements. Navigation air space starts at 200 feet above ground level and decreases in elevation in close proximity to airports. The minimum height for required marking or lighting in these areas decreases.

Existing Conditions

The Proposed Action area has a combination of utilities (electricity, water and telecommunications) along Fairground Road, along with an adequate transportation network of roads available in the area. No airports are located within 0.5-miles of the Proposed Action. Further, according to the FAA Aeronautical Study Number 2009-ASO-2330-OE, a determination of "no hazard to air navigation" was received, regarding the Fairground Road tower associated with the Proposed Action.

Resource 10 – Socioeconomic Resources

Socioeconomics comprise the basic attributes and resources associated with the human environment, including demographic, economic and social assets of a community. Demographics focus on population trends and age. Economic metrics provide information on employment trends and industries. Housing, infrastructure and services are also influenced by socioeconomic factors.

EO12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) directs agencies to address environmental and human health conditions in minority and low-income communities. Environmental justice addresses the disproportionate and adverse effects of a Federal action on low-income or minority populations. The intent of EO 12898 and related directives and regulations is to ensure that low-income and minority populations do not bear a disproportionate burden of negative effects resulting from Federal actions. The general purposes of EO 12898 are the following:

- To focus the attention of Federal agencies on human health and environmental conditions in minority communities and low-income communities, with the goal of achieving environmental justice

- To foster nondiscrimination in Federal programs that substantially affect human health or the environment

- To give minority communities and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment

Existing Conditions

The Proposed Action is located in a portion of Rutherford County where the surrounding area is occupied by light industrial, municipal, agricultural and commercial land uses. With regard to socioeconomic conditions, the Proposed Action area is not located in a low-income or minority area.

Resource 11 – Human Health and Safety

A safe environment is one in which there is no danger, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Human health and safety addresses workers' health and safety, and public safety during demolition and construction activities and during subsequent operations of those facilities. Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of onsite military and civilian workers are safeguarded by numerous regulations designed to comply with standards issued by Occupational Safety and Health Administration (OSHA), EPA and State agencies. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls and maximum exposure limits for workplace stressors.

Existing Conditions

Safety and accident hazards can often be identified and reduced or eliminated. Elements for an accident-prone situation or environment include the presence of the hazard itself together with the exposed and possibly susceptible population. The degree of exposure depends primarily on the proximity of the hazard to the population. PSIC-funded activities that can be hazardous include transportation, maintenance and repair, radiation exposure and the creation of highly noisy environments.

The proper operation, maintenance and repair of vehicles and equipment carry important safety implications. Any facility or human-use area with a potentially explosive or other rapid oxidation process creates unsafe environments for nearby populations. Extremely noisy environments can also mask verbal or mechanical warning signals such as sirens, bells or horns.

For construction operations associated with any PSIC-funded projects, any waste contaminated with hazardous waste, asbestos-containing material, lead-based paint, or other undesirable components would be disposed of following hazardous waste management procedures.

The Proposed Action would require construction activities within an undeveloped forested portion of an approximately 5.89-acre parcel, adjacent to the North Carolina National Guard Armory. Based on the specified elevation of the proposed antennas (>10 meters AGL) and because the site will be located within a restricted area, no threat to human health and safety is anticipated concerning radio frequency emissions.

SECTION 4 – ENVIRONMENTAL CONSEQUENCES

Resource 1 – Noise

Noise analyses typically evaluate potential changes to the existing noise environment that would result from implementation of a Proposed Action.

Proposed Action

Construction-Related Impacts – The construction activities on-site during the tower and tower compound construction will cause a temporary increase in localized noise. The noise generated during construction of the Fairground Road tower and compound will vary, depending on the distance from the construction site and source of noise. The amount and type of noise disturbance will vary, depending on the type of machinery used, schedule and duration of construction, and site specific conditions. The use of heavy machinery during specific stages of construction may result in temporary, minor adverse impacts on nearby low-density residences. The nearest residence to the proposed tower location and source of noise is located approximately 0.16-miles to the southeast. This residence is separated from the proposed tower location by approximately 160-ft of a densely forested area and a portion of Withrow Road. Construction-related noise will typically occur during normal working hours (7:00 a.m. to 5:00 p.m.), when this noise will be better masked by the ambient noise levels of the project area, caused by the proximity to Fairground Road, Withrow Road, NC Highway 74, and the northern adjoining property containing the Rutherford County School Transportation Maintenance Facility. Noise levels prior to and after construction activities will likely drop to the ambient noise levels of the project area.

It is projected that noise levels occurring from the Proposed Action construction activities will be temporary (lasting no more than a 6-8 hours during the weekdays, and for no longer than a 35 day period). Noise levels at a distance from 50-ft or greater from the proposed construction area should be no greater than 85 dBA. These levels will also be masked by the existing forested area that occupies the central portion of the parent property. The ambient noise levels caused by traffic from Withrow Road, Fairground Road, NC Highway 74, and the noise levels from the Rutherford County School Transportation Maintenance Facility should also mask the noise levels associated with the proposed construction. Daytime commercial area ambient sound levels area anticipated to reach a level near 62 dBA. Additionally, the ambient noise levels associated with proximity to an industrial area are anticipated to reach 67 dBA (Outdoor

Ambient Noise Levels, 2005). Construction-related noise levels from the Fairground Road tower and compound construction will not be significant.

Operations-Related Impacts – The ambient noise level of the project area will return to normal levels after construction-related activities have concluded. Temporary operations-related noise increases will be caused by the two air conditioning (A/C) and heating units and the emergency generator associated with the tower facility. The climate control units regulate the internal temperature of the equipment shelter and the emergency diesel powered generator provides electric power to the facility, as needed in emergency situations when the normal supply of electrical power has been interrupted.

The proposed Fairground Road tower facility action will include the use of a 40kW Diesel fuel emergency generator. The 40kW generator produces noise levels of 80 dBA measured at 23-ft from the source. The emergency generator at the Fairground Road tower site is not anticipated to increase the ambient noise levels on-site due to the nature of the generator use, being only used intermittently during power outages and routine equipment maintenance and testing. The EPA does not have regulatory authority governing noise in local communities. Additionally, federal regulations limit the use of emergency generators to 500-hours per year. Therefore, the emergency generator will not cause long-term adverse impacts to the ambient noise levels, nor cause the ambient noise levels of the Proposed Action to measurably increase. The Proposed Action would not cause any significant long-term noise impacts.

No Action Alternative

Under the No Action Alternative, there would be no new construction in the proposed project area. No adverse impacts on the ambient noise environment would occur under the No Action Alternative.

Resource 2 – Air Quality

Air quality impacts at Communications tower sites can come from sources such as construction and ground-disturbing activities, which release dust and particulate matter, as well as operations-related sources such as emergency Diesel fuel powered generators.

Proposed Action

Construction-Related Impacts – Construction-related air quality impacts can originate from construction vehicle and equipment emissions, as well as dust and particulate matter from ground disturbing activities. These impacts, being temporary and limited in duration, are dependent on the type of construction activity, the location of the activity and the proximity to the source of emissions.

The use of construction equipment and activities, during the normal working hours of 7:00 a.m. to 5:00 p.m., are anticipated to cause short-term negligible adverse impacts on air quality at and around the proposed project site. However, due to the limited duration of construction equipment use and activities, it is anticipated that there will not be increases in the criteria air pollutants to above accepted levels, resulting in no significant impact to air quality from the Proposed Action.

The aforementioned emissions from construction activities and equipment can be reduced at the proposed project site by the use of best management practices (BMPs). Dust and particulate matter emissions can be mitigated in various ways, including the use of water to spray on uncovered soil, the use of soil stabilizers, the use of mulch and gravel to cover exposed areas, and limiting the speed and amount of traffic on uncovered areas. Construction equipment emissions can be mitigated in the following ways: using electric powered rather than fossil fuel powered tools, limiting vehicle idling time, using local materials and products to reduce transportation time, and using more emissions friendly fuels such as low or ultra low sulfur fuel. The Fairground Road tower site will utilize the aforementioned BMPs at and around the proposed tower site in order to reduce construction related criteria pollutant emissions.

Additionally, the Proposed Action will require approximately 0.083-acres or less of construction-related ground disturbance, which is unlikely to exceed the emissions limits for criteria pollutants or Hazardous Air Pollutants (HAP). The Proposed Action would have no significant impact to air quality from construction-related activities.

Operations-Related Impacts – After the conclusion of the proposed tower and compound construction activities, ambient air quality at the proposed site will likely return to its previous, normal levels. The Proposed Action will not result in the long-term operation of significant emission-generating sources, nor will it significantly alter the existing ambient air quality. The proposed 40-kW emergency Diesel powered generator, located within the proposed tower compound, will be an intermittent source of emissions from the Proposed Action. The duration and frequency of emissions from the generator will be limited due to the nature of the generator, only being utilized during power outages and during routine inspections. In addition, Federal regulations limit the use of backup generators to 500-hours per year. The generators used at communication tower sites by the North Carolina Department of Crime Control and Public Safety are between 40-kW to 80-kW Generac® Industrial Diesel Generators. According to the product specification sheets, provided by Generac®, the generators are classified under Tier III of the EPA Emissions Compliance with an EPA Emissions Engine Reference of JDXL03.0113. Tier III of the EPA Emissions Compliance refers to Non-road diesel engine standards that are met through advanced engine design, with no or only limited use of exhaust gas after treatment (oxidation catalysts). Tier 3 standards for NO_x and hydrocarbons (HC) are similar in stringency to the 2004 standards for highway engines, however Tier 3 standards for Particulate Matter (PM) were never adopted.

Additionally, Brendan Davey of the North Carolina Department of Environment and Natural Resources (NC DENR) was contacted regarding emergency use generators regulated under Title II of the Federal Clean Air Act. Mr. Davey's response indicated that there are no Federal Regulations under the Clean Air Act for emergency use generators that have a rated capacity of less than 590-kW for Diesel fired engines. The NC DENR response can be found in Appendix F.

The use of an emergency generator is not expected to cause ambient air quality levels to increase at the proposed tower site, nor any adverse long term impacts on air quality, due to the limited duration and frequency of use of the generator. Therefore, there would be no significant impact to air quality from operations-related activities.

No Action Alternative

Under the No Action Alternative, there would be no new construction to the proposed tower facility. There would be no increase in air quality impacts from the No Action Alternative.

Resource 3 – Geology and Soils

Impacts to geology and soils from transmitting and receiving sites would result from ground disturbing activities, such as excavation, grading, backfilling, trenching and other activities.

Proposed Action

Construction-Related Impacts – Soil erosion and runoff may occur from the Fairground Road tower construction site as a result of ground-disturbing activities, such as vegetation clearing, grading and excavation. However, according to the North Carolina Department of Environment and Natural Resources, construction related activities with an area of disturbance less than 1-acre are not required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit.

The Proposed Action is located on the geologic formation identified as Inequigranular Biotite Gneiss, which is described as weakly foliated to massive, containing plagioclase megacrysts and, rarely, larger megacrysts of quartz and feldspar, as shown in Figure 6. Soils at the Fairground Road tower site are listed as Cecil Sandy Loam (CeB2), 2 to 8 percent slopes, which consists of: eroded, well drained soils formed at summits and interfluves, as shown in Figure 7 (Department of Agriculture).

Based on the review from the USDA soil classification for the Proposed Action, the soil types at the project site are defined as prime. The Proposed Action is not located on a unique geologic formation. Consultation with Kent Clary, USDA North Carolina Area Research Soil Scientist, was initiated to determine whether mitigation and regulatory requirements would be obligatory. The proposed project site received a total land evaluation score of 102 based upon the Farmland Protection Policy Act (FPPA), Farmland Impact Rating form. The Farmland Impact Rating form

uses a land evaluation and site assessment criterion including but not limited to: NRCS land evaluation, relative value of farmland, area of non-urban use, percent of site being farmed, distance to urban support services, effects of conversion, and compatibility with existing agricultural uses, to formulate a farmland impact rating form score for proposed projects. Sites receiving less than 160 points on the Farmland Conversion Impact Rating form are not given further consideration for protection due to the lack of potential adverse impacts on the existing land use activities. Due to the proposed area of disturbance being less than 1-acre and the Farmland Impact Rating Form score of 102, there would be no significant impact to geology or soil from the construction related activities.

Operations-Related Impacts – The operation of the Fairground Road tower site would not involve any ground-disturbing activities that would adversely affect geology and soils. There would be no significant impacts to geology and soils, including prime and unique farmlands associated with the operations of the proposed facility.

No Action Alternative

Under the No Action Alternative, there would be no new construction at the proposed site. There would be no impact to geology and soils as a result of the No Action Alternative.

Resource 4 – Water Resources

Impacts to water resources can result from several types of activities and procedures that would be in use at transmitting and receiving sites. Impacts would typically result form erosion caused by site runoff, direct contamination by chemicals used in the surrounding area that would be washed into a water body or absorbed into the water table, and building directly in or adjacent to a water resource such as a wetland. The use of erosion-control BMPs to reduce impacts is common practice and may improve water quality at a site. Development in floodplains poses a hazard both to human safety from flood events and to natural resources form the disruption of natural hydrologic patterns. Impacts to water resources resulting form the Proposed Action have been evaluated qualitatively.

Proposed Action

Surface Water and Groundwater

Construction-Related Impacts – Water quality impacts during the Fairground Road tower and compound construction would come from erosion and runoff resulting from soil disturbance for material storage, site access, site preparation or road and driveway construction. Vehicle and equipment refueling has the potential for spills of petroleum products. All of these activities would be temporary and of limited scope.

Water quality impacts from the Fairground Road tower and compound construction activities would vary depending on the construction equipment used, soils where the construction would occur, and the distance between the proposed project site and the receiving waters. Considering the relatively limited size of the Fairground Road tower footprint, being 0.083 acres of disturbance, construction of the facility is unlikely to result in a significant amount of erosion. The headwaters of Bracketts Creek is located approximately 2,112-ft. to northeast of the proposed Fairground Road tower facility.

The minor erosion and runoff from the Fairground Road tower and compound construction can be further reduced or mitigated through the use of BMPs. BMPs for erosion control include silt fencing or straw bales to control erosion, limiting the area of uncovered soil to the minimum needed for each activity, siting of staging areas to minimize erosion, replanting as soon as practicable, mulching, using temporary gravel covers, and limiting the number and speed of vehicles on the site.

Chemical, physical, or biological effects to water resources are not expected to result in the violation of water quality standards and criteria. There would be no significant impact to water quality from construction activities of the Fairground Road tower site.

Operations-Related Impacts – Operations related impacts would be limited to erosion that occurs before the site is fully re-vegetated or during refueling of the emergency generator. The use of herbicides also has the potential to contaminate nearby waters when applied to the gravel access road or fenced compound to prevent weed growth.

BMPs from the construction stage would be continued until the site is fully re-vegetated. A spill plan will be developed and followed to guide the required response in the event of a spill, if required. However, under the authority of Section 311 (j)(l)(C) of the Federal Water Pollution Act (Clean Water Act) found at Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) a facility is not regulated under the SPCC Spill Prevention Plan if the aggregate aboveground storage tank capacity does not exceed 1,320-gallons. Chemical, physical, or biological effects to water resources are not expected to result in the violation of water quality standards and criteria. There would be no significant impact to water quality from operations activities.

Floodplains

Rutherford County participates in the National Flood Insurance Program (NFIP) and according to the Flood Insurance Rate Map (FIRM), Map #3710153900J, dated July 2, 2008; the proposed site is not located within the limits of a floodplain (See Figure 5).

No Action Alternative

Under the No Action Alternative, there would be no new construction at the proposed tower site. There would be no risk of soil erosion or runoff from construction-related activities, or a risk of

hazardous spills or other consequences from herbicides used to prevent weed growth within the limits of the gravel access road or the graveled fenced compound. Therefore, there would be no increase in impacts to either water resources or floodplains from the No Action Alternative.

Resource 5 – Biological Resources

Impacts to biological resources can result from several activities, including construction activities such as demolition, grading, excavation, and construction that could alter or destroy habitat, either temporarily or permanently. In addition, the continued presence of human activity on a smaller scale could result in behavioral impacts to certain animal species that could affect feeding and reproductive patterns and habits.

Proposed Action

Wildlife, Wildlife Habitat, and Vegetation

Construction-Related Impacts – Short and long-term minor impacts on wildlife, habitats, and vegetation would be expected as a result of construction-related activities for the Fairground Road tower under the Proposed Action. Construction activities for new infrastructure result in the disturbance of habitats and wildlife.

Construction-related activities may impact flora and fauna at the Fairground Road tower project site due to the clearing and grading of vegetated areas in preparation of new infrastructure construction. Short or long term minor impacts would largely be localized to the immediate project area. The introduction of invasive vegetation into disturbed areas and surrounding areas may result in long-term impacts to the native plant community at the project site and surrounding area. Generally, the extent of vegetation loss associated with the Fairground Road project would be less than 0.083-acres and is not considered to be significant. Construction-related activities may reduce, alter, or fragment habitat; introduce invasive species; disrupt natural behavior; and injure or cause mortality to wildlife. The overall impact of construction-related activities on wildlife populations would depend on the type and amount of wildlife habitat that would be disturbed, the nature of the disturbance such as permanent or temporary and the wildlife that occupy the project site and surrounding area. Construction-related activities may result in mortality of some less mobile species such as reptiles, amphibian, and small mammals. Construction-related activities may affect local wildlife by disturbing normal behavioral activities such as foraging, mating, and nesting. Wildlife will usually not forage, mate, or nest in areas where construction related activities are occurring. These impacts are temporary, as wildlife avoid construction areas and may re-colonize the site when work ends.

The proposed Fairground Road tower will be a Self-support lattice tower approximately 340-ft in height that will be contained within a 60-ft x 45-ft fenced tower compound. The area surrounding the proposed Fairground Road tower compound and access easement was evaluated for potential occurrences of federally listed threatened or endangered species. TEP completed an

informal biological assessment and conducted a preliminary review on March 31, 2009, using the US Fish and Wildlife Service Division of Endangered Species website to identify listed and proposed threatened and endangered species, as well as critical habitats that may be located on or near the proposed site. Based on a review of the website, the Indiana Bat (*Myotis sodalis*), Dwarf-flowered Heartleaf (*Hexastylis naniflora*), Small Whorled Pogonia (*Isotria medeoloides*), White Irisette (*Sisyrinchium dichotomum)* and Rock Gnome Lichen (*Gymnoderma lineare*) were listed.

Habitats for the species identified in the threatened and endangered species database were compared to the habitat at the proposed site; none of the habitats were identified or considered to potentially occur at the Fairground Road tower site.

Correspondence with the USFWS determined that the Proposed Action may affect but is not likely to adversely affect biological resources and will not have a significant impact on threatened or endangered species or their critical habitat (See Appendix B-USFWS Concurrence).

Operations-Related Impacts – Routine maintenance activities at the Fairground Road tower site would include mowing the existing lawn around the proposed fenced compound and possibly along the access drive. Mowing in these areas would maintain the plants vegetation in early successional stages of community development and may prevent reestablishment of some plant species. Similarly, operations practices at the Fairground Road tower site may lead to habitat degradation and mortality of some wildlife species such as amphibians and small mammals.

Following the completion of site development, potentially adverse impacts on wildlife species sensitive to disturbance could result from temporary noise generated by climate control such as heating and air condition equipment or the emergency generator at the project site. This temporary and low level, but recurring, disturbance might exclude wildlife species or promote colonization by tolerant species.

Operations-related activities would be expected to have no significant impact on wildlife, wildlife habitat, and vegetation. Correspondence with the USFWS determined that the Proposed Action may affect but is not likely to adversely affect biological resources and will not have a significant impact (See Appendix B - USFWS Response).

Migratory Birds

Construction-Related Impacts – Short and long term minor impacts on migratory birds would be expected as a result of construction-related activities from the Fairground Road tower site. Impacts to migratory birds could occur during erection of towers, antennae, ventilation, and air conditioning (HVAC) equipment installed utilizing portable cranes. Construction-related

activities occurring along migratory bird pathways would be expected to have more potential for adverse impacts on migratory birds than activities in non-migratory areas.

Construction-related impacts would be expected to have no significant impact on migratory birds as the use of equipment such as cranes to erect towers, install HVAC equipment, and antennae would be used during limited periods and are short-term impacts. Correspondence with the USFWS determined that the Proposed Action may affect but is not likely to adversely affect biological resources and will not have a significant impact (See Appendix B - USFWS Response).

Operations-Related Impacts – Long-term minor impacts on migratory birds may occur as a result of the Fairground Road tower site. Impacts on migratory birds may occur as a result of collision with operating towers, antennae, and other tall structures, particularly during periods of low visibility and as a result of tower lightning that might be distracting to some species. The probability of collision is difficult to determine programmatically because of the range of variables that affect the potential for collision and the lack of conclusive data on the causes of collision. However, a study conducted by Joelle Gehring of the Central Michigan University-Biology Department entitled Avian Collision Study Plan for the Michigan Public Safety Communications System (MPSCS), concluded: "Though there are fewer tall towers than towers in the 116-146 m AGL height range, towers >305 m AGL are responsible for several times the number of fatalities than shorter towers" (Gehring, 2003).

Adverse impacts on birds resulting from collision generally occur during foggy or low cloud conditions at lighted towers supported by guy wires and present greater collision risk than freestanding towers or buildings. The Fairground Road tower is a proposed freestanding Self-support tower approximately 340-ft. in height. Variables such as structure height above surrounding trees, design, lighting, seasons, adjacent land features, and migratory patterns, would affect the potential and degree of adverse impacts on migratory birds.

According to correspondence with the USFWS the Proposed Action would not be expected to minimize the potential hazard to avian species protected by the MBTA due to the height of the structure and the proposed lighting (See Appendix B - USFWS Response).

Threatened and Endangered Species

Construction-Related Impacts – Construction-related activities would affect threatened, endangered, and sensitive species in the same manner that flora and fauna would be affected. Construction-related activities may potentially adversely affect threatened and endangered species by potentially reducing, altering, or fragmenting available habitat; introducing invasive species; causing injury or mortality to wildlife; noise; and causing behavioral impacts.

The Fairground Road tower site is a Self-support lattice tower approximately 340-ft in height and requires less than 0.083-acres in total ground disturbance and was evaluated for potential

occurrences of federally protected species. TEP conducted a preliminary review using the US Fish and Wildlife Service Division of Endangered Species website to identify listed and proposed threatened and endangered species, as well as critical habitats that may be located on or near the proposed Site. Based on a review of the website, the Indiana Bat (*Myotis sodalis*), Dwarf-flowered Heartleaf (*Hexastylis naniflora*), Small Whorled Pogonia (*Isotria medeoloides*), White Irisette (*Sisyrinchium dichotomum)* and Rock Gnome Lichen (*Gymnoderma lineare*) were listed.

TEP conducted an informal biological assessment of the property on March 31, 2009. Habitats for the species identified in the threatened and endangered species database were compared to the habitat at the proposed site; none of the habitats were identified, nor were considered to potentially occur at the Proposed Action location.

According to correspondence with the USFWS, the Proposed Action would be expected to have no significant impact and the Proposed Action may affect but is not likely to adversely affect threatened, endangered, or their designated critical habitat. (See Appendix B - USFWS Response).

Operations-Related Impacts – Following the completion of site development, operations-related impacts from the Fairground Road tower site are not expected to occur. Overall, operations-related impacts would be expected to have no significant impact on threatened and/or endangered species, or their designated critical habitat.

According to correspondence with the USFWS, the Proposed Action would be expected to have no significant impact and the Proposed Action may, but is not likely to, adversely affect federally protected species, or their designated critical habitat (See Appendix B - USFWS Response).

Wetlands

Construction-Related Impacts – No wetland habitat was observed at the Proposed Action project site or on the surrounding area, therefore, construction-related impacts would be expected to have no impact on wetland habitats.

Operations-Related Impacts – Routine maintenance activities on the Fairground Road tower site would include mowing and herbicide treatments around the Fairground Road tower infrastructure and possibly along access roads. No wetland habitat was observed at the Proposed Action project site; therefore, operations-related impacts would be expected to have no impact on wetland habitats.

No Action Alternative

Under the No Action Alternative, there would be no new construction. No significant impacts on vegetation and wildlife, migratory birds, threatened and endangered species, or wetlands would occur under the No Action Alternative.

Resource 6 – Historic and Cultural Resources

Impacts to historic and cultural resources can occur both from physical disturbance of historic properties and from aesthetic changes to a historic property or it viewshed. To determine the nature of impacts to historic properties, as defined under the NHPA, consultation with the relevant State SHPO, or THPO, is required.

Proposed Action

Construction-Related Impacts – Construction-related impacts to historic and cultural resources at or near the Fairground Road tower site could cause temporary impacts to viewsheds and present risk of permanent impact or harm to historic properties, primarily through ground-disturbing activities.

TEP visited the North Carolina State Historic Preservation Office (NC SHPO) and the North Carolina Office of State Archeology to view the pertinent USGS 7.5-minute topographic map (Rutherfordton South) to make an assessment of the potential significant impacts to architectural, historic, or archeological sites in the vicinity of the tower site. Additionally, R.S. Webb conducted an archeological investigation on 4-23-2009 of the proposed communications facility. No artifacts, features, or structural remains were observed either on the surface or within the six shovel tests conducted. Also, a public notice was issued related to impacts to historic and cultural resources. The Legal Notice was placed in the The Daily Courier on March 31, 2009. No comments were received to date. Letters were sent to the Rutherford County Historic Preservation Commission and the Rutherford County Planning Department on April 3, 2009, inviting them to be a consulting party regarding any potential impact to historical or archaeological resources in the area. In addition, the North Carolina SHPO and the appropriate THPOs of the Federally Recognized Native American Tribes with known ancestral rights to Rutherford County were consulted to determine the effect from the Proposed Action. According to the correspondence with the NC SHPO, the Proposed Action will have no adverse effect on historic properties (See Appendix C- Section 106). Concurrence from all appropriate Native American Tribes was also received regarding the Proposed Action.

Operations-Related Impacts – Operation of the Fairground Road tower site does not typically require any ground-disturbing activities; therefore, it is expected that there would be no impact to archaeological resources. Based on correspondence with the SHPO and appropriate THPOs, no adverse impacts were determined.

No Action Alternative

Under the No Action Alternative, there would be no new construction. Therefore, no impact to historic and cultural resources resulting from the No Action Alternative would be anticipated.

Resource 7 – Aesthetic and Visual Resources

Potential impacts on aesthetic and visual resources are likely to be greater in more natural (rural) settings than commercial or residential settings (urban and suburban) where development is more common. Impacts on aesthetic and visual resources may be short or long term, depending on whether the impact is related to construction activities or the feature that is being constructed.

Proposed Action

Construction-Related Impacts – Under the Proposed Action, the Fairground Road tower location impacts on aesthetics and visual resources from construction-related activities would include the clearing and grading of approximately 3,600-sq. ft. (0.083-acres) necessary for the proposed access easement and fenced tower compound, the construction of infrastructure necessary to operate the transmitting and receiving site, and the installation of the specific site facilities including a proposed 12' x 24' equipment shelter and a 5'-6" x 9'-6" emergency generator concrete pad. Additionally, the degree of visual disturbance would depend on project-specific construction activities, and each viewer's perception. The Fairground Road tower site short-term impacts on aesthetic and visual resources resulting from construction-related activities would likely have no significant impact.

Operations-Related Impacts – Features that might create a permanent contrast with the existing environment would include communication towers and buildings associated with transmitting and receiving sites. The Proposed Action would include an approximate 340-ft. AGL Self-support communications tower and associated 12' x 24' equipment shelter. If overhead transmission lines (instead of buried lines) were used for power or communication, these lines would also represent a permanent feature. The proposed fenced tower compound, including the equipment shelter and emergency generator, will be located approximately 55-ft south of Fairground Road, within an approximately 2-acre densely forested area. The visual disturbance from the proposed tower compound operation is anticipated to be limited due to the density of the forested portion of the parent property where the tower is to be located. However, the degree of contrast depends on the existing landscape and each viewer's perception.

The long-term impacts resulting from the permanent placement of the Fairground Road tower site would likely have no significant impact.

No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no impact to aesthetic or visual resources resulting from the No Action Alternative.

Resource 8 – Land Use

Impacts to land use can occur when incompatible land uses are placed adjacent to one another. PSIC-funded transmitting and receiving projects would not be compatible with all land use types and should be carefully sited, in accordance with local master plans, planning initiatives, local zoning, and coastal land use restrictions. Transmitting and receiving sites are most compatible with industrial, commercial, or public land uses, such as utilities, because of the basic intended function of these sites and the associated activities by which their operation is characterized. Compatibility with land use planning is derived from the foundation or purpose such as operation of the site; construction activities do not have any substantive bearing on impacts to land use planning. Therefore, only impacts from operations will be discussed in this section.

Proposed Action

General Land Use Compatibility for the Proposed Action Fairground Road tower site would not be compatible with all types of land uses. In general it is expected that siting of PSIC-funded transmitting and receiving sites would be compatible with existing land use plans and zoning at and adjacent to the proposed site and would not impose an incompatible land use on an area. Commercial, industrial, and some municipal and institutional facilities, such as airports and utilities, would be compatible, because infrastructure and activities are similar to that associated with transmitting and receiving sites. The Fairground Road tower site is located adjacent to the North Carolina National Guard Armory, within an undeveloped forested portion of the 5.89-acre parcel, south of Fairground Road. The Proposed Action is within the County of Rutherford on an un-zoned parcel. In addition, a letter was sent to the Rutherford County Planning Department requesting consultation regarding the Proposed Action. No response has been received to date.

The Proposed Action is located next to the North Carolina National Guard Armory, south of Fairground Road. The Proposed Fairground Road Tower site is not located in a coastal zone or coastal barrier resource, and no local zoning rules prohibit the Proposed Action. Therefore, no significant impact would occur related to general land use compatibility with the proposed Fairground Road tower site.

No Action Alternative

Under the No Action Alternative, there would be no new construction. Therefore, there would be no impacts to general land use compatibility, coastal zone, or coastal barrier resources resulting from the No Action Alternative.

Resource 9 – Infrastructure

Impacts to infrastructure are typically observed as disruptions in service and utilities, either short or long term, resulting from increases in demand that may overwhelm the capacity of the local area to absorb them. Engagement in a planning process to ensure that system capacity will be able to meet projected increases in demand is the most effective way to avoid impacts to infrastructure, although resources may not always be available to implement upgrades.

Proposed Action

Utilities

Construction-Related Impacts – Short-term minor impacts on utility quality and availability would be anticipated for developed areas. In the unlikely event that construction or maintenance activities result in actual damage to a utility system or interruption of services resulting from installation of the Proposed Action, a short-term significant impact may occur. For the Fairground Road tower which is located in a rural area involving new construction; construction-related activities would require additional short-term electric and communication services from available utility networks. Construction-related impacts are not expected to lead to major shortages in supply, nor are they expected to require major changes to the system. Impacts to utilities would not be significant.

During construction-related activities related to the Proposed Action, precautions would be taken to avoid damage to existing utility lines. All potential modifications to utility services would be evaluated. Coordination with potentially affected local and regional utility service providers would occur to avoid unnecessary damage or interruption of service. According to the Federal Aviation Administration Aeronautical Study Number 2009-ASO-2330-OE, the Proposed Action was determined to pose "No Hazard to Air Navigation." The study revealed that the Proposed Action "does not exceed obstruction standards and would not be a hazard to air navigation." There would be no significant impact to utility services from construction related activities with the Fairground Road tower site.

Operations-Related Impacts – The Proposed Action would not be expected to cause noticeable impacts to local utility services across all category types. Operations impacts are not expected to lead to major shortages in supply, nor are they expected to require major changes to the services. According to the Federal Aviation Administration Aeronautical Study Number 2009-ASO-2330-OE, the Proposed Action was determined to pose "No Hazard to Air Navigation." The study revealed that the Proposed Action "does not exceed obstruction standards and would not be a hazard to air navigation." There would be no significant impact to utility services from operations-related activities of the Fairground Road tower site.

Transportation Network

Construction-Related Impacts – For the Fairground Road tower site construction-related activities, heavy equipment and materials that may be needed for site access and site preparation would not pose a significant impact to the transportation network. Construction of the Proposed Action may require numerous truck trips to haul materials to the project site or to dispose of waste materials. The number of construction-related trips and the frequency involved is anticipated to be minimal for the Fairground Road tower site due to the anticipated surface impact of less than 0.083-acres in size, which would not require a significant amount of construction related traffic to complete the project. During the construction period, the movement of heavy equipment and materials to the project site during construction may cause a relatively short-term increase in the level of service along local roadways.

Potential impacts to transportation are expected to be minimal, provided appropriate planning and implementation actions are taken. Existing roads would be used to the maximum extent possible. There would be no significant impact to transportation networks from construction-related activities.

Operations-Related Impacts – Due to the limited footprint of the Fairground Road tower site, less than 0.083-acres, only a small number of daily trips by medium-duty vehicles and/or personal vehicles will be required. Transportation activities during operation would not be expected to cause noticeable impacts to local transportation networks. There would be no significant impact to transportation networks from operations-related activities.

No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no impact to utilities or the transportation network resulting from the No action Alternative.

Resource 10 – Socioeconomic Resources

Impacts to socioeconomic resources are assessed in terms of the effects of expenditures on the overall local economy and the impact of in-migration on demographics, employment, the availability of housing, and the ability of a jurisdiction to provide services such as education and public safety. In addition, disproportionate impacts to low-income or minority populations would result in adverse environmental justice impacts.

Proposed Action

Under the Proposed Action, expenditures associated with the implementation of PSIC-funded grant programs would represent a small portion of overall statewide spending and a small portion of the statewide economy.

The implementation of the PSIC-funded project may result in an increase in jobs as a result of the construction of the Fairground Road Communications tower site, but the increase is not expected to be significant in Rutherford County, North Carolina.

Although increases in employment would be expected as a result of the implementation of the PSIC-funded project, increases are not expected to be significant. There would be no expected in-migration and therefore no impacts expected to demographics, the supply of housing, or other local entities to provide public services.

The potential for impacts on minority and low-income populations would be based on the evaluation of specific site characteristics. The Proposed Action was not disproportionately proposed for low-income or minority areas, therefore, no significant impacts to environmental justice would be expected.

No Action Alternative

Under the No Action Alternative, there would be no new construction. Under this alternative, there would be no increase in economic activity and job creation related to implementation of the program. Therefore, there would be no PSIC-related impacts to demographics, the availability of housing, the availability of services, or environmental justice.

Resource 11 – Human Health and Safety

Impacts to human health and safety can come from a wide range of activities. Workplace construction site safety can adversely impact health and safety, as well as the generation, handling, storage, use or disposal of hazardous toxic materials.

Proposed Action

Construction-Related Impacts – Under the Proposed Action, there would be a slight increase in workplace safety hazards during the construction phase of the Fairground Road tower site because of the nature of construction work and the increased intensity of work at the proposed tower site. The impact of this increase would not be significant. Work areas surrounding construction activities would be fenced, and appropriate signs would be posted to further minimize safety risks. In addition, implementation of worker safety rules, derived from OSHA safety and health standards, will establish a uniform set of safety practices and procedures to protect workers. Construction-related impacts to human health and safety would not be significant.

Operations-Related Impacts – Under the Proposed Action, fuels needed to power emergency generators would have to be stored on site in above-ground or vaulted tanks, to minimize the risk of soil contamination in the event of a leak. BMPs for the handling, storage, use, and disposal of fuels such as Diesel fuel would include regularly monitoring and inspecting tanks for leaks.

Depending on the size of the storage tank, a spill prevention, contingency and countermeasure (SPCC) plan may need to be developed.

The Fairground Road tower site would be fenced, and access would be restricted to authorized personnel to minimize risks to human health and safety. Under the authority of Section 311 (j)(l)(C) of the Federal Water Pollution Act (Clean Water Act) found at Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) a facility is not regulated under the SPCC Spill Prevention Plan if the aggregate aboveground storage tank capacity does not exceed 1,320-gallons. Based on the specified elevation of the proposed antennas (>10 meters AGL) and because the site will be located within a restricted area, no threat to human health and safety is apparent concerning radio frequency emissions. There would be no significant adverse impacts to human health and safety resulting from operation of the Fairground Road tower site under the Proposed Action.

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

No Action Alternative

Under the No Action Alternative, there would be no new construction. Current interoperability communications gaps would continue, compromising the ability of first responders to respond effectively and rapidly to emergency situations. There would be adverse impacts to human health and safety as a result of the No Action Alternative.

SECTION 5 – FINDINGS AND CONCLUSIONS

Findings

The Proposed Action would require construction of a new transmitting and receiving tower involving a Self-support lattice tower over 200-ft AGL, thus requiring a site specific PSIC NEPA-EA.

However, the Proposed Action will not involve any of the unusual risks or impacts to sensitive areas identified in Section 4 that would require a site-specific EA. The No Action Alternative would result in adverse impacts to human health and safety. Therefore, the Proposed Action would warrant the issuance of a FONSI to cover those actions for which no significant impact has been determined.

In accordance with 47 CFR Section 1.1307 (a)(1) through (8), an evaluation has been made to determine whether any of the listed FCC special interest items would be significantly affected if a tower structure and/or antenna and associated equipment control cabinets were constructed at

the proposed site location. No FCC special interest items were identified that would require an EA to be prepared (See Appendix E).

Consequences of the Proposed Action

The Proposed Action would not have a significant impact on any resource area for those projects falling within the eleven resource parameters described in Section 4. The Proposed Action would have a beneficial impact on human health and safety because it would enable countywide improvements to public safety interoperable communications.

Consequences of the No Action Alternative

Under the No Action Alternative, no interoperable communications capability would occur. Existing gaps in public safety interoperable communications would persist, resulting in an adverse impact to human health and safety.

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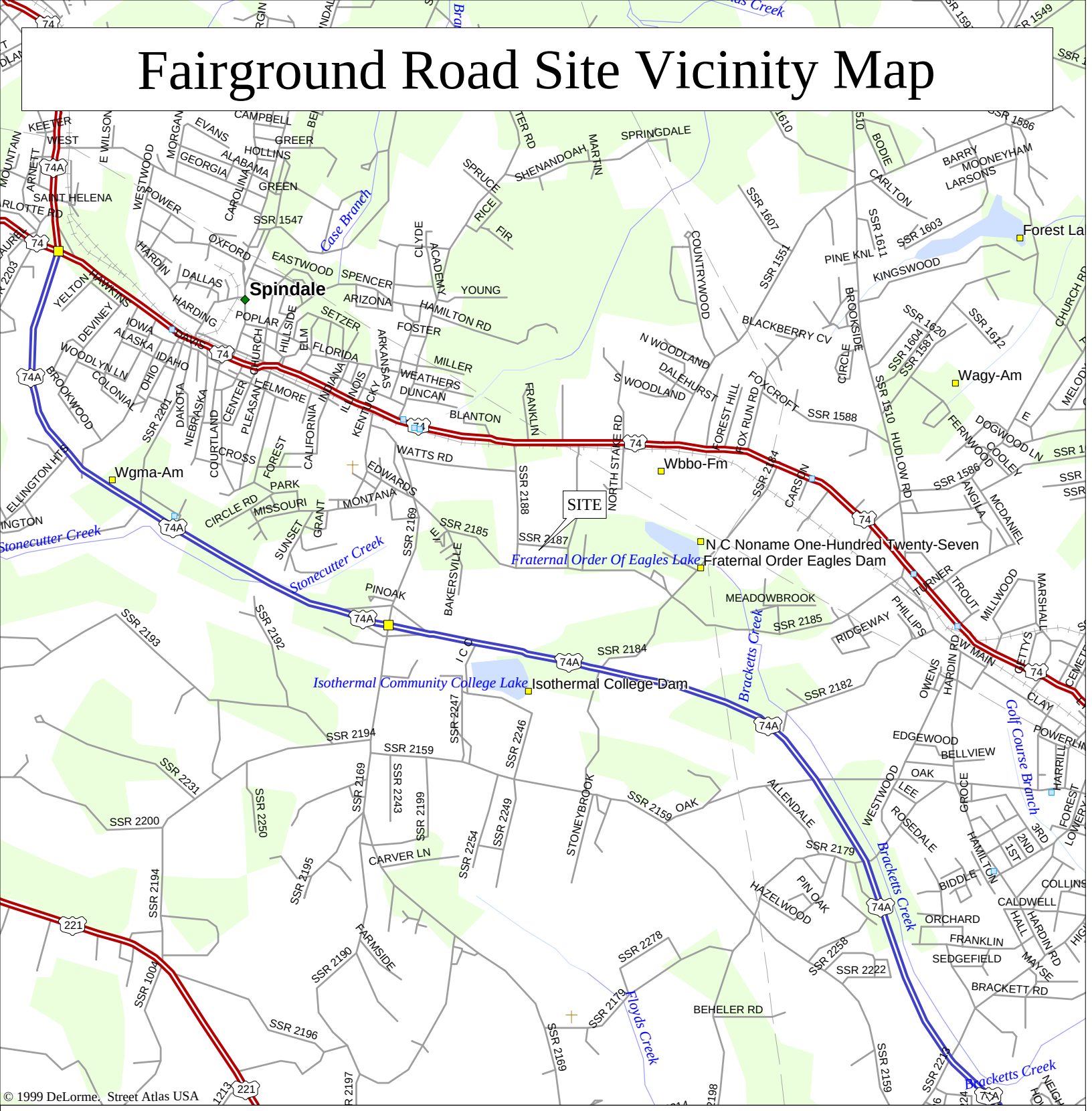
FIGURES

Figure 1: Site Vicinity Map

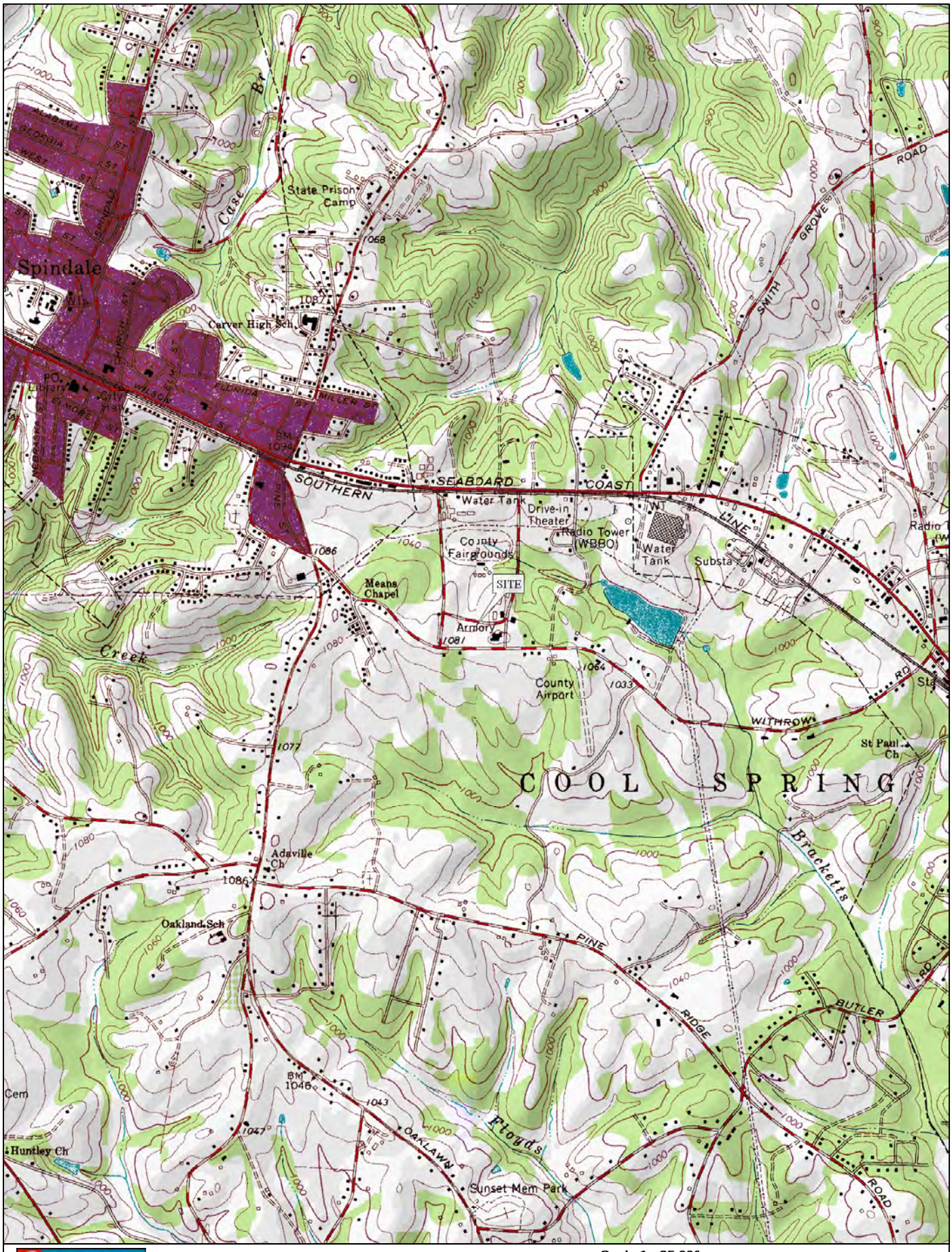
Fairground Road Site Vicinity Map



Mag 14.00
Fri Mar 05 10:48 2010
Scale 1:31,250 (at center)
2000 Feet
1000 Meters

- Local Road
- Interstate/Limited Access
- US Highway
- Exit
- Utility/Pipe
- Railroad
- Point of Interest
- Small Town
- Cemetery
- Water
- Woodland
- River/Canal
- Intermittent River

Figure 2: Topographic Map

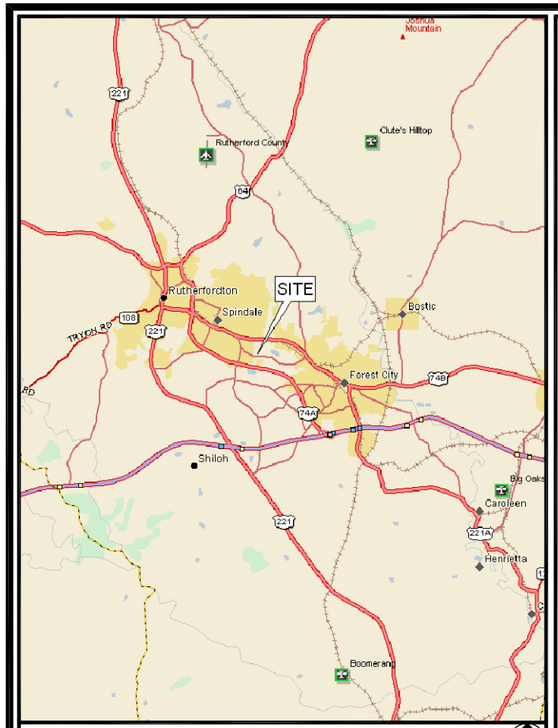


Scale 1 : 25,000
1" = 2080 ft

0 600 1200 1800 2400 3000 ft
0 200 400 600 800 1000 m

TN
MN
0.0°W

Figure 3: Site Plan



VICINITY MAP

PROJECT INFORMATION:

PROPOSED TELECOMMUNICATIONS FACILITY

SITE NAME:

FAIRGROUND ROAD

SITE NUMBER:

HP-1336

SITE ADDRESS:

351 FAIRGROUND ROAD (E911 ADDRESS CONFIRMED) SPINDALE, NC, 28160 (RUTHERFORD COUNTY)

APPLICANT/OWNER:

N.C. HIGHWAY PATROL
3318 GARNER ROAD, BLDG. 2
OFFICE: (919) 662-4440

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
3703 JUNCTION BOULEVARD
RALEIGH, NC 27603-5263
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

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NORTH CAROLINA ONE CALL IT'S THE LAW

THE UTILITIES SHOWN HEREON ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/ SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

UTILITY STATEMENT

REV	DATE	ISSUED FOR:
2	12-28-09	FINAL ZONING
1	04-27-09	FINAL ZONING
0	04-13-09	PRELIMINARY ZONING

DRAWN BY: TRG | CHECKED BY: JBG

SEAL:

December 28, 2009

SEAL:

LOCATION MAP

FROM RALEIGH, NC, TRAVEL WEST ON I-40 TO EXIT 103. TRAVEL SOUTH ON US 64. CONTINUE ON US 64 FOR APPROXIMATELY 25 MILES. TURN LEFT ONTO HUDLOW ROAD. HUDLOW ROAD ENDS AT US 74B AT A STOPLIGHT. CONTINUE STRAIGHT THROUGH STOPLIGHT (WITHROW ROAD). AFTER 1.65 MILES TURN RIGHT ONTO CALLAHAN KOON ROAD. FAIRGROUND ROAD WILL BE THE NEXT RIGHT. THE SITE WILL BE APPROXIMATELY ONE TENTH OF A MILE ON THE RIGHT. (NEXT TO THE NATIONAL GUARD BUILDING)

DRIVING DIRECTIONS

LATITUDE N 35° 20' 45.465" (NAD '27)
LONGITUDE W 081° 54' 32.840" (NAD '27)

LATITUDE N 35° 20' 45.902" (NAD '83)
LONGITUDE W 081° 54' 32.215" (NAD '83)

GROUND ELEVATION = 1054.4' (AMSL)(NAVD '88)

1A CERTIFICATION

TOWER OWNER:

NAME	NORTH CAROLINA HIGHWAY PATROL
ADDRESS	3318 GARNER ROAD, BUILDING TWO
CITY, STATE, ZIP	RALEIGH, NC 27610
CONTACT	MICHAEL HODGSON
PHONE	(919) 662-4440

APPLICANT / LESSEE:

NAME	NORTH CAROLINA HIGHWAY PATROL
ADDRESS	3318 GARNER ROAD, BUILDING TWO
CITY, STATE, ZIP	RALEIGH, NC 27610
CONTACT	MICHAEL HODGSON
PHONE	(919) 662-4440

PROPERTY OWNER:

NAME	STATE OF NORTH CAROLINA
ADDRESS	116 W JONES STREET
CITY, STATE, ZIP	RALEIGH, NC, 27611
CONTACT	UNKNOWN
PHONE	UNKNOWN

AREA OF CONSTRUCTION:	3600 SQ. FT.±
PRESENT OCCUPANCY TYPE:	NATIONAL GUARD ARMORY
PROPOSED OCCUPANCY TYPE:	TELECOMMUNICATIONS FACILITY
CURRENT ZONING:	N/A
PARCEL ID NUMBER:	1615900
JURISDICTION:	RUTHERFORD COUNTY

UTILITIES:

POWER COMPANY:	DUKE POWER
CONTACT:	CUSTOMER SERVICE
PHONE:	(800) 777-9898
POLE # NEAR SITE:	45 046 357
TELEPHONE COMPANY:	AT&T
CONTACT:	CUSTOMER SERVICE
PHONE:	(866) 620-6900
PEDESTAL # NEAR SITE:	UNKNOWN

PROJECT SUMMARY

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. NORTH CAROLINA BUILDING CODE (2009 EDITION)
2. LOCAL BUILDING CODE
3. CITY/COUNTY ORDINANCES
4. ANSI/TIA/EIA-222-G
5. NORTH CAROLINA ELECTRIC CODE (2008 EDITION)

CODE COMPLIANCE

SURVEYOR:

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STRUCTURAL ENGINEER:

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ADDRESS	N/A
CITY, STATE, ZIP	N/A
CONTACT	N/A
PHONE	N/A

ELECTRICAL ENGINEER:

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GEOTECHNICAL ENGINEER:

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CITY, STATE, ZIP	RALEIGH, NC 27603
CONTACT	J. RUSSELL HILL, P.E.
PHONE	(919) 661-6351

TOWER MANUFACTURER:

NAME	T.B.D.
ADDRESS	T.B.D.
CITY, STATE, ZIP	T.B.D.
CONTACT	T.B.D.
PHONE	T.B.D.

PROJECT TEAM

SHEET	DESCRIPTION	REV
T1	TITLE SHEET	2
N1	PROJECT NOTES	2
Z1	SITE PLAN	2
Z2	COMPOUND DETAIL	2

INDEX OF SHEETS

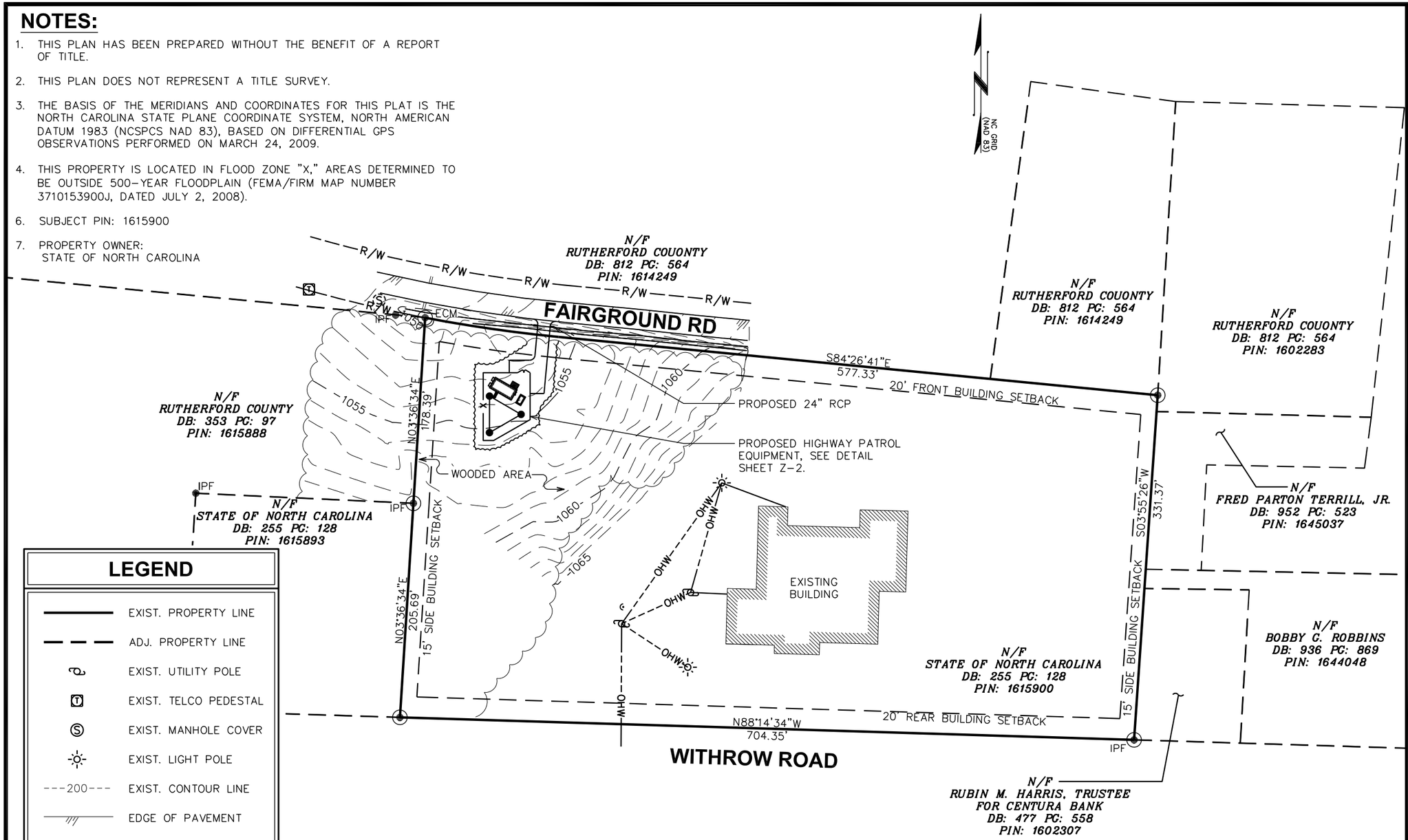
SHEET NUMBER: **T-1**

REVISION: **2**

TEP #: 083186

NOTES:

1. THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A REPORT OF TITLE.
2. THIS PLAN DOES NOT REPRESENT A TITLE SURVEY.
3. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (NCSPCS NAD 83), BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON MARCH 24, 2009.
4. THIS PROPERTY IS LOCATED IN FLOOD ZONE "X," AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN (FEMA/FIRM MAP NUMBER 3710153900J, DATED JULY 2, 2008).
6. SUBJECT PIN: 1615900
7. PROPERTY OWNER: STATE OF NORTH CAROLINA



LEGEND

- EXIST. PROPERTY LINE
- ADJ. PROPERTY LINE
- EXIST. UTILITY POLE
- EXIST. TELCO PEDESTAL
- EXIST. MANHOLE COVER
- EXIST. LIGHT POLE
- ---200--- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- —— X —— CHAIN LINK FENCE
- EXISTING TREE LINE
- IRF IRON ROD FOUND
- PROPERTY CORNER

SITE PLAN

SCALE: 1" = 100'

0 100 200

SCALE IN FEET

PLANS PREPARED FOR:

3318 GARNER ROAD, BLDG. 2
RALEIGH, NC 27607
OFFICE: (919) 662-4440

PROJECT INFORMATION:

FAIRGROUND ROAD
SITE # HP-1336

351 FAIRGROUND ROAD
SPINDALE, NC 28160
(RUTHERFORD COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
3703 JUNCTION BOULEVARD
RALEIGH, NC 27603-5263
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 032017 ENGINEER JOHN B. GOINS

December 28, 2009

REV	DATE	ISSUED FOR:
2	12-28-09	FINAL ZONING
1	04-27-09	FINAL ZONING
0	04-13-09	PRELIMINARY ZONING

DRAWN BY: TRG | CHECKED BY: JBG

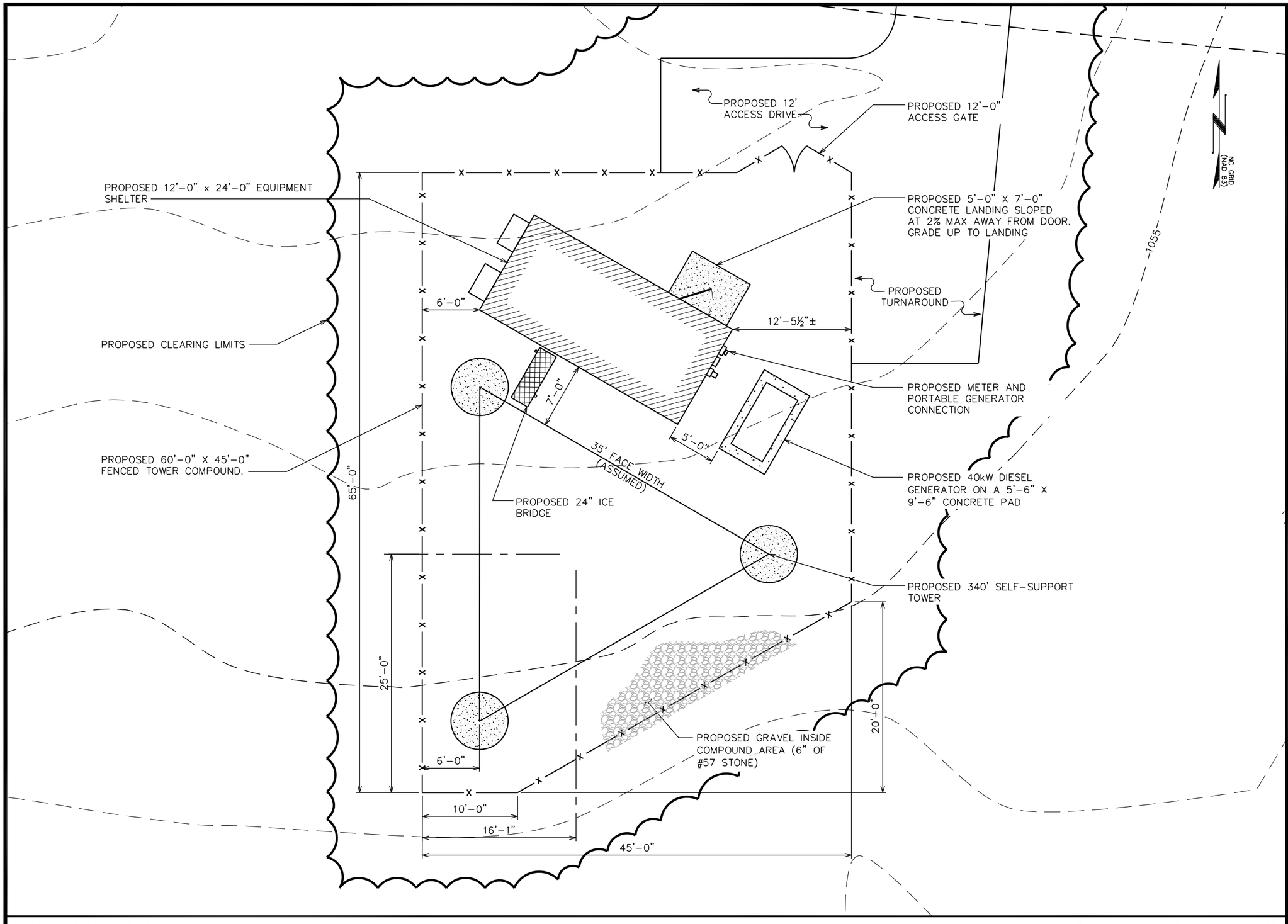
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **Z-1**

REVISION: 2

TEP #: 083186



COMPOUND DETAIL

SCALE: 1" = 10'

0 10 20

SCALE IN FEET

PLANS PREPARED FOR:

3318 GARNER ROAD, BLDG. 2
RALEIGH, NC 27607
OFFICE: (919) 662-4440

PROJECT INFORMATION:

FAIRGROUND ROAD
SITE # HP-1336

351 FAIRGROUND ROAD
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December 28, 2009

REV	DATE	ISSUED FOR:
2	12-28-09	FINAL ZONING
1	04-27-09	FINAL ZONING
0	04-13-09	PRELIMINARY ZONING

DRAWN BY: TRG | CHECKED BY: JBG

SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **Z-2**

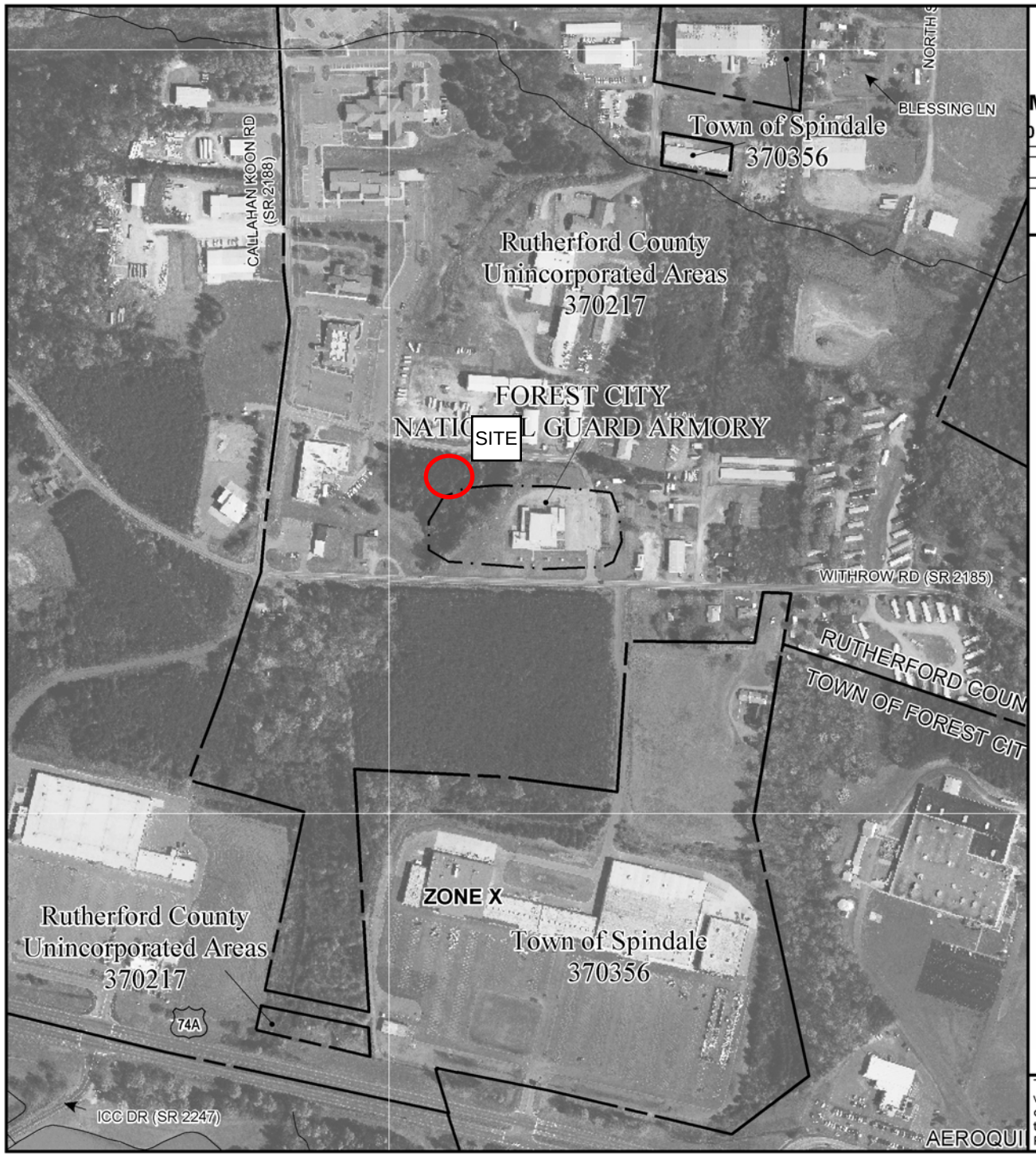
REVISION: **2**

TEP #: 083186

Figure 4: Aerial Map


State Rd 2185
State Rd 2187
SITE
Fairhope St

Figure 5: FEMA Flood Insurance Rate Map



GRID NORTH

MAP SCALE 1" = 500' (1 : 6,000)

0 0 500 1000 FEET

METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1539J

FIRM

FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 1539

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
FOREST CITY, TOWN OF	370218	1539	J
RUTHERFORD COUNTY	370217	1539	J
SPINDALE, TOWN OF	370356	1539	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

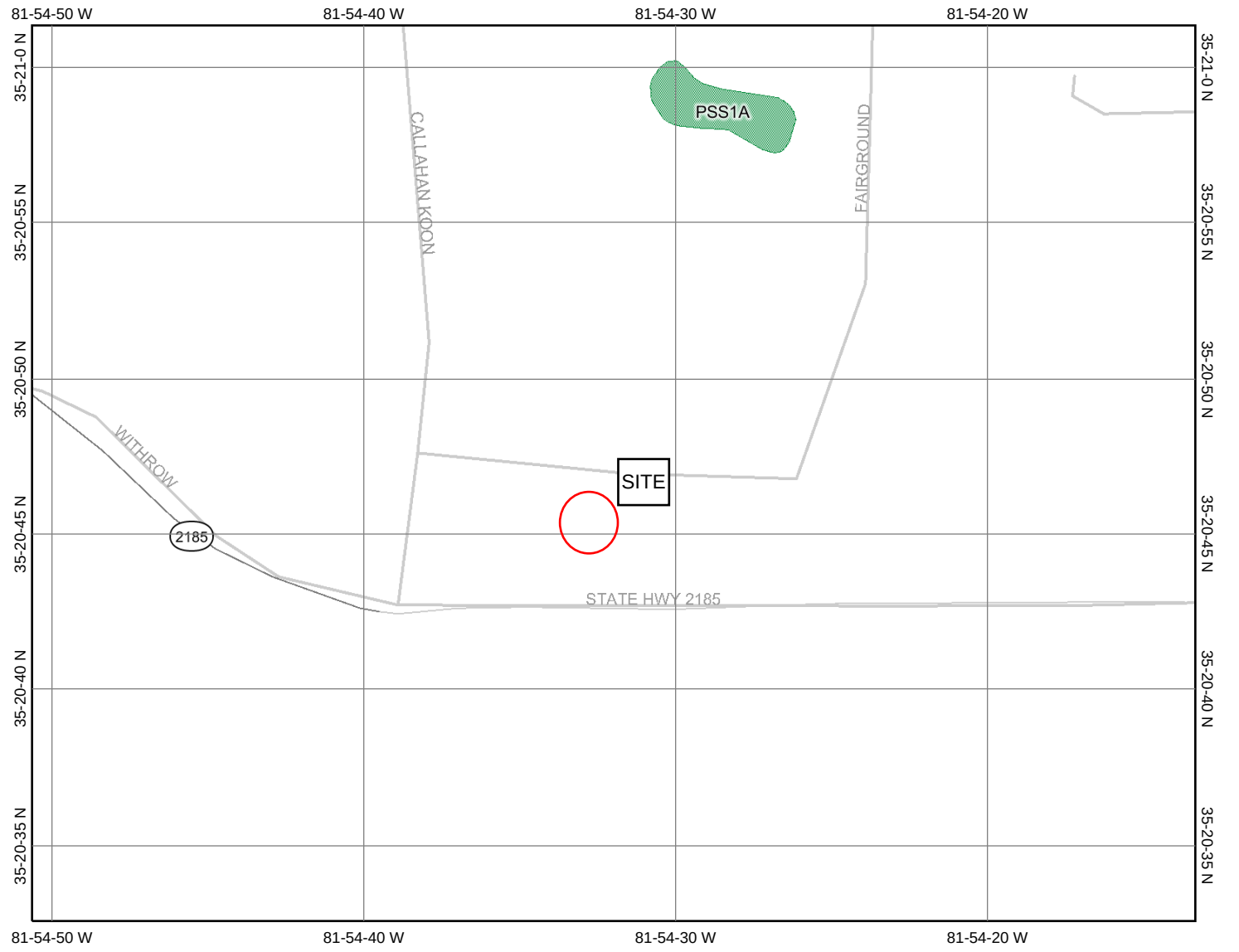
EFFECTIVE DATE
JULY 2, 2008

MAP NUMBER
3710153900J

State of North Carolina
Federal Emergency Management Agency

Figure 6: National Wetland Inventory Map

Fairground Road NWI Map



Legend

Ohio_wet_scan

- 0
- 1
- Out of range

Interstate

Major Roads

- Other Road
- Interstate
- State highway
- US highway

Roads

Lower 48 Wetland Polygons

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

NHD Streams

Counties 100K

South America

North America

N

Scale: 1:6,217

Map center: 35° 20' 46.9" N, 81° 54' 31.9" W

Figure 7: Geologic Map

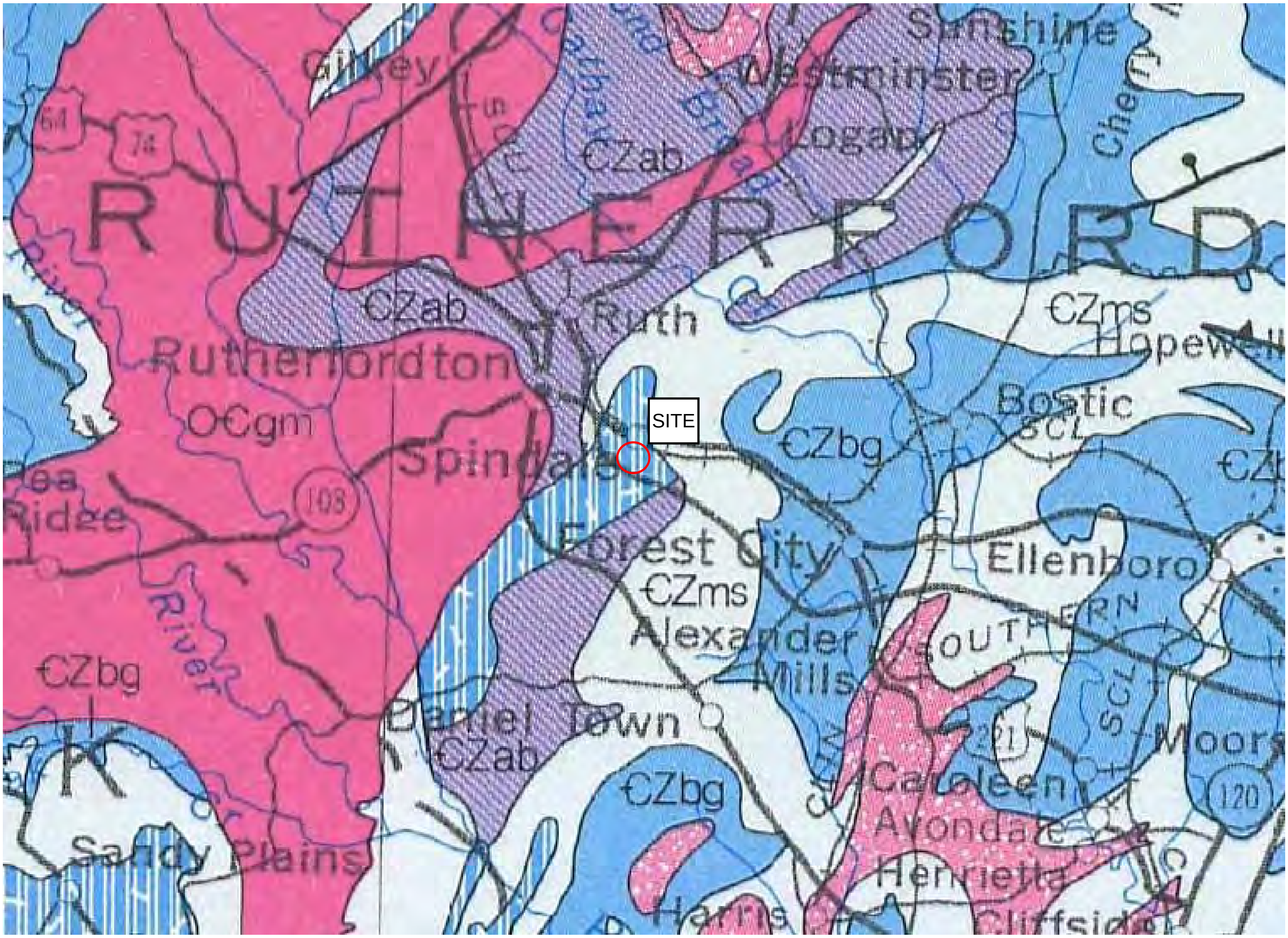
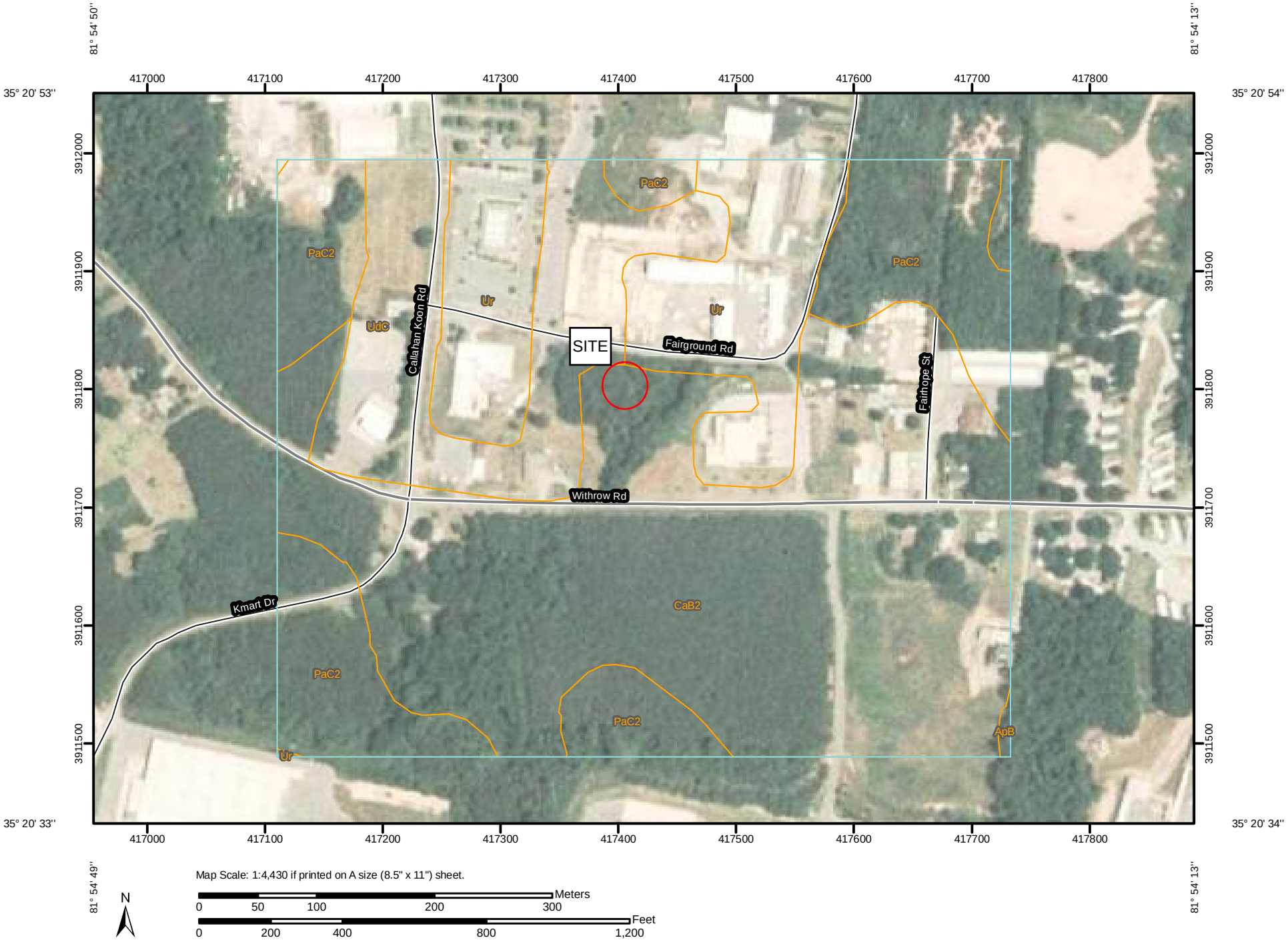

RUTHERFORD
Sunshine
Westminster
Logan
Gilkey
CZab
Ruth
Rutherfordton
OCgm
Spindale
SITE
CZbg
Bostic
CZms
Hopewell
Forest City
Ellenboro
Alexander
Mills
SOUTHERN
Daniel Town
Caroleen
Avondale
Henrietta
Sandy Plains
Harris
Cliffside
River
Moors
74
64
108
221
120
SCL

Figure 8: Soils Map


81° 54' 50''
81° 54' 13''
35° 20' 53''
35° 20' 54''
35° 20' 33''
35° 20' 34''
81° 54' 49''
417000
417100
417200
417300
417400
417500
417600
417700
417800
3912000
3911900
3911800
3911700
3911600
3911500
PaC2
Ur
UdC
CaB2
ApB
SITE
Callahan Koon Rd
Fairground Rd
Fairhope St
Withrow Rd
Kmart Dr
N
Map Scale: 1:4,430 if printed on A size (8.5" x 11") sheet.
Meters
0
50
100
200
300
Feet
0
200
400
800
1,200

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:4,430 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rutherford County, North Carolina
Survey Area Data: Version 11, Jan 22, 2007

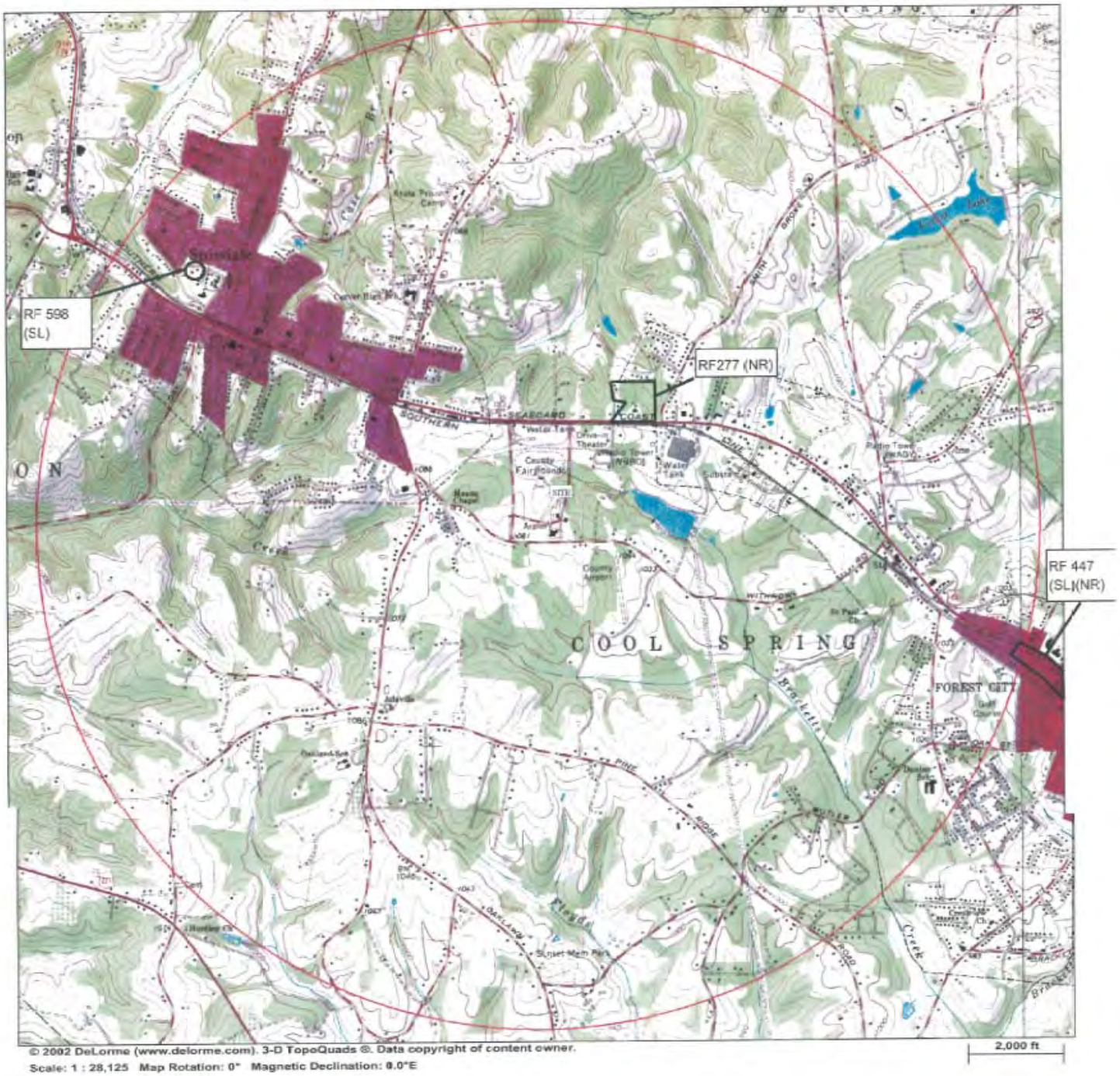
Date(s) aerial images were photographed: 7/1/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Rutherford County, North Carolina (NC161)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
ApB	Appling sandy loam, 1 to 6 percent slopes	0.1	0.1%
CaB2	Cecil sandy clay loam, 2 to 8 percent slopes, eroded	38.7	49.7%
PaC2	Pacolet sandy clay loam, 8 to 15 percent slopes, eroded	15.3	19.6%
UdC	Udorthents, loamy, 0 to 15 percent slopes	11.6	14.9%
Ur	Urban land	12.2	15.7%
Totals for Area of Interest		**77.9**	**100.0%**

Figure 9: Historic Sites Map



Scale: 1 : 28,125 Map Rotation: 0° Magnetic Declination: 8.0°E

Historic Sites Topographic Map Key

RF 277 (NR) – James Dexter Ledbetter House

RF 447 (SL)(NR) – West Main Street Historic District

RF 598 (SL) – Stone Cutter Mills (2009)