FINDING OF NO SIGNIFICANT IMPACT FOR CONSTRUCTION/OPERATION OF A COMMUNICATIONS TOWER SITE ALONG HAP ARNOLD DRIVE AND PUMPING STATION ROAD ARNOLD AIR FORCE BASE, TENNESSEE

Pursuant to the Council on Environmental Quality (CEQ) regulation for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 40 of the Code of Federal Regulations (CFR) §§ 1500–1508 and the Air Force Environmental Impact Analysis Process (EIAP) regulations, Title 32 CFR § 989, Verizon Wireless (Verizon), in coordination with the Air Force, has prepared an environmental assessment (EA) to assess the potential impacts on the natural and human environment associated with constructing and operating a communications tower site along Hap Arnold Drive and Pumping Station Road, Arnold Air Force Base (AFB), Tennessee.

PURPOSE OF AND NEED FOR ACTION (EA § 1.3, pages 4 - 5): The purpose of the Proposed Action is to provide reliable cellular phone coverage along a rural section of Hap Arnold Drive/Pumping Station Road and the Wattendorf Memorial Highway within the boundaries of Arnold AFB. In 2015 Verizon was approach by Arnold AFB personnel to address a specific lack of cellular coverage along this location. Currently, there is insufficient telecommunications infrastructure, which inhibit the ability to use cellular phones within this area. The Proposed Action is needed to address safety and communication concerns for visitors and base personnel traveling along this highway. Specifically, the Proposed Action would mitigate a lack of cell phone coverage and/or slow network speed along the southern part of Hap Arnold/Pumping Station Road for housing residents and employees of Arnold AFB as well as students and employees of the University of Tennessee Space Institute (UTSI), a campus located on Arnold AFB.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

ALTERNATIVE SELECTION CRITERIA (EA § 2.1.2, pages 10 - 11): Radio frequency (RF) engineering studies were completed by Verizon to generate coverage/capacity maps of the area and visualize the specific location of signal needs. No existing telecommunications towers or structures were identified within the area as being available to support collocation of antenna; therefore, the only available option was to build a new tower. Based on the RF search ring studies, only a limited number of alternatives were available for consideration, which were further screened by Arnold AFB personnel and Verizon using the following criteria:

- Location within the specified RF search ring to address lack of cell phone coverage near the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway,
- Elevation and topography that supports RF transmission across the search ring,
- Available land for development,
- Avoidance of sensitive environmental areas (mapped wetlands, surface waters, and previously documented cultural resources),
- Avoidance of populated areas,
- No encroachment on operational areas within Arnold AFB,
- Appropriate setbacks from highway,
- Subsurface geological conditions appropriate for structural design, and
- Zoning and land use compliance.

Based on the above criteria, only the proposed site provides a technically appropriate location for a tower that meets coverage objectives. No other locations were identified that met all of the above-listed criteria. Thus, no alternatives were carried forward for detailed analysis with the exception of the No Action Alternative.

ALTERNATIVE 1 – CONSTRUCTION OF THE PROPOSED TELECOMMUNICATION TOWER

SITE (EA § 2.2, page 12): Under Alternative 1, the Preferred Alternative, a 265-foot communication tower along with an equipment shelter and gravel access road would be installed just southwest of the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway within Arnold AFB (EA

Exhibit 1, Appendix A). As part of this action, Verizon would enter into a utility easement with the Air Force for the use of an approximate 10,000-square foot lease area along the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway. In addition, an emergency generator and above-ground storage tank (AST) supplied with diesel fuel would be installed.

ALTERNATIVE 2 – NO ACTION ALTERNATIVE (EA § 2.2, page 12): Under Alternative #2, the No Action Alternative, Arnold AFB would not allow Verizon to install a telecommunications tower site on Air Force property. Existing cell phone coverage gaps, capacity issues, and limited signals would continue within the designated region and the proposed site would remain in its current conditions. The No Action Alternative serves as the baseline for assessing the impacts of Alternative 1.

ENVIRONMENTAL CONSEQUENCES

Analyses within this EA focused on geological resources, land use, transportation, hazardous material/wastes, socioeconomics, air quality, noise, public services/utilities, water resources, biological resources, cultural resources, and safety. Overall, environmental analyses did not identify any significant impacts to any of these resources. In addition, no significant cumulative impacts caused by implementation of the Proposed Action when combined with other past, present, and reasonably foreseeable actions occurring at Arnold AFB, were identified.

GEOLOGICAL RESOURCES (EA § 3.1, page 13): The proposed site primarily consists of gently sloping uplands within undeveloped grassed and wooded land. Soils within the area drain moderately-well; flooding and ponding do not occur. There would be short-term impacts to geological resources with Alternative 1; primarily from excavating the tower foundation area. Because the proposed project site is relatively level and at grade with the surrounding area, and no sub-surface structures (i.e. basement) are proposed, no significant impacts to geological resources are anticipated with implementation of the Proposed Action.

LAND USE (EA § 3.2, pages 13 - 14): According to the Coffee County Real Estate Assessment Data, the site is located within the Arnold Engineering Development Complex Reservation of Arnold AFB and zoned federal. The Federal Air Administration (FAA) conducted an aeronautical study under the provisions of 49 U.S.C. § 44718 and issued a "*Determination of No Hazard to Air Navigation*". The FAA determined the proposed tower does not exceed obstruction standards and would not be a hazard to air navigation. Verizon will be required to submit a FAA Form 7460-2, *Notice of Actual Construction*, prior to construction. Overall, there will be no impacts to land use from the Proposed Action.

TRANSPORTATION (EA § 3.3, page 14): The site is located approximately 1,300 feet southwest of the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway. Wattendorf Highway is a two lane road that is fairly maintained and somewhat heavily traveled. A gravel drive would extend north/northwest connecting the proposed tower compound to Hap Arnold Drive/Pumping Station Road. There may be a temporary increase in the volume of traffic on roads in the subject area during construction; however, no significant impacts to daily traffic are anticipated during normal intended usage of the facility.

HAZARDOUS MATERIALS AND WASTES (EA § 3.4, pages 15 - 16): No toxic materials or hazardous wastes were identified at the proposed site and the location does not fall within the boundaries of an installation restoration program (IRP) area. An environmental baseline survey (EBS) was prepared identifying the site as a Category 1 Property; an "area where no release or disposal of hazardous or petroleum substances has occurred including no migration of these substances from adjacent areas". Because the proposed tower is within the Old Army Camp Forrest Maneuver Area and west of the Old Impact Area South historical range complex, a clearance for surface and sub-surface unexploded ordinances (UXO) was conduction, which found nothing. While the site and surrounding areas were categorized as 'low' probability for UXO occurrence, Verizon and their construction team will be briefed on the historical land used of Arnold AFB along with the findings of this report. If during excavation or construction activities any unusual metal items are recovered, Verizon will notify base personnel in order to have it thoroughly inspected to determine it is not munitions related material. Concerning the installation of an AST, the tank will be double-walled to prevent discharge of the diesel fuel in the event of a leak. Based on this analysis, there will be no impacts to hazardous material and waste from the Proposed Action.

SOCIOECONOMICS (EA § 3.5, pages 16 - 17): The Proposed Action would benefit the community and population of UTSI campus by providing opportunities to communicate via cell phone and expanding cell signal coverage. This will be a particular advantage for UTSI students and faculty, who will be able to access cell coverage along their commute routes to and from campus as well as improving emergency response times for fire, police and medical service within the area. There would also be short-term, temporary job employee during the construction phase of the proposed tower. Overall, there will be a beneficial impact to socioeconomics with implementation of the Proposed Action.

AIR QUALITY (EA § 3.6, pages 16 - 20): Arnold AFB is located in Coffee and Franklin Counties, which are in attainment for all national ambient air quality standards under the Clean Air Act. Conformity analysis is not required. Arnold AFB holds a Title V operating permit issued by the Tennessee Department of Environment & Conservation (TDEC) Air Pollution Control Board. The permit grants Arnold AFB permission to operate sources of air emissions and establishes requirements that include monitoring, recordkeeping, and periodic inventorying of all significant stationary sources emitting air emissions of concern. There is expected to be short-term impacts to air quality during excavation and construction activities. Emissions from construction were determined not to exceed *de minimis* thresholds. In accordance with Tennessee's air pollution control regulations, best management practices (BMPs) would be used to control fugitive dust emissions during construction and would include using water to control dust during land clearing, excavation, tower construction and road grading. The proposed generator would be permitted through a standard air pollution construction permit issued by the TDEC Air Pollution Control Unit for on-site generator operations. It will be the responsibility of Verizon, as the lessee, to maintain compliance with any air permit issued for the generator and Verizon will not be tied to Arnold AFB's Title V Operating Permit. Based on this analysis, there would be no significant impact to air quality from the Proposed Action.

NOISE (EA § 3.7, pages 20 - 21): The proposed project area is located within an undeveloped area of Arnold AFB. Hap Arnold Drive/Pumping Station Road and Wattendorf Hwy are the closest sources of noise generation; however, both roads are considered rural with a light amount vehicle traffic generated noise. There are no sensitive receptors in the vicinity of the site; the nearest residential area is located greater than 3,500 feet from the site. There would be short-term, temporary impacts to noise from construction activities; however, these activities would be limited to daytime hours and would cease once the project was completed. There would be minimal noise generated during operations of the tower. Based on this analysis, there will be no long-term noise impacts associated with Proposed Action.

PUBLIC SERVICES AND UTILITIES (EA 3.8, pages 21 - 22): Duck River Electric Corporation provides electrical services to the proposed project site and surrounding areas. There is no potable water supply, natural gas, or sanitary sewer systems connected to the proposed site. Any disruption to utilities during construction activities would be short-term. Verizon will obtain all appropriate construction permits and incorporate any BMPs to minimize and/or eliminate any disruption to public utility services in the area. Overall, there will be no impacts to public utility services within implementation of the Proposed Action.

WATER RESOURCES (EA § 3.9, pages 22 - 26): There are no surface water features such as ponds, lakes, or drainage ditches at or in the immediate vicinity of the proposed site nor is it located within a

floodplain or wetland area. A National Pollution Discharge Elimination System (NPDES) permit for storm water discharge from a construction site is not required since the impacted area is less than one acre in size, and is not part of a larger common plan of development or sale. There will be short-term, temporary impacts to surface water from ground disturbing activities; however, this impact will be negligible due to the flat topography and distance to the nearest surface water feature. Based on this analysis, there will be no significant impact to water resources from the Proposed Action.

BIOLOGICAL RESOURCES (EA § 3.10. pages 26 - 31): The proposed tower site consists of upland grasses and undeveloped wooded land. Wooded portions are primarily composed of a medium-aged mixed hardwood forest. One snag (a standing dead or dving tree) approximately eight inches diameter breast height (dbh) with peeling bark and one white oak approximately 10 inches dbh with slight exfoliating bark were observed within the footprint of the site. These trees, which would be removed under the Proposed Action, display suitable roosting habitat for the federally endangered Indiana Bat and the federally threatened Northern Long-eared Bat. No caves or karst systems were observed at the tower site, which could provide foraging habitat for the federally endangered Gray Bat. Verizon has agreed to conduct tree clearing activities between October 15 and March 31, to avoid bat roosting season. Based on the Interim Indiana Bat Mitigation Guidance from the state of Tennessee. Verizon has elected to contribute to the Indian Bat Conservation Fund. Because the total site acreage is 0.3 acres of wooded habitat with two potential roost trees identified, the amount Verizon will be paying into the fund is approximately \$1,000. The U.S. Fish and Wildlife Service (USFWS), Cookeville Ecological Services Field Office, will apply the IBCF donation for offseason suitable habitat impact for both the Indiana Bat and the Northern Long-eared Bat species (USFWS Confirmation included in Appendix C). In addition USFWS recommended the tower be constructed following their Revised Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning (2013). While Verizon's siting and design process could not conform to all the USFWS recommendations, Verizon will limit the tower height to the extent feasible, eliminate the need for guy wires, and utilize the minimum intensity FAA obstruction lighting to exclude red steady/beacon lighting. With implementation of these mitigation measures, there would be no significant impacts to biological resources from the Proposed Action.

CULTURAL RESOURCES (EA § 3.11, pages 31 - 32): The proposed site location has previously been surveyed for cultural resources and none were documented per the "Archaeological Survey and Inventory of 16,825 Acres Arnold AFB Coffee and Franklin Counties, Tennessee. The closest archeological resource is located approximately 1,300 feet south of the site and the closet historic resource is located one mile north of the site. Neither of these resources will be visually or directly impacted by the proposed development. No districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed, or are eligible for listing, in the National Register of Historic Places (NRHP) are located on the project site or will be impacted by the proposed undertaking. Fourteen federally recognized Indian Tribes were notified regarding the proposed undertaking, and consultation has occurred between Arnold AFB and these tribes as an on-going process in accordance with Section 106 of the NHPA. Should any buried artifacts, human remains, cultural sites or ground features be unexpectedly unearthed during ground disturbing activities, all construction should immediately cease and Verizon would follow their Unanticipated Discovery Plan (UDP), which includes having the resources examined by a professional archaeologist and notifying all appropriate authorities including Arnold AFB personnel, all pertinent tribal entities and the TN State Historic Preservation Officer. Based on this analysis, there will be no significant impacts to cultural resources from the Proposed Action.

MITIGATIONS

As the proponent for this action, Verizon will be responsible for ensuring the mitigations identified above and in the EA are in place prior to taking any specific action and will coordinate with the Test Support Division/Installation Management Section (TSD/TSDCI) on the submittal of all environmental permits/plans identified within EA § 3.12 of the EA to local, state, and federal agencies. Once obtained, Verizon shall comply with all permit conditions. TSD/TSDCI will oversee and verify mitigations are in place and being carried out, as identified in this Finding of No Significant Impact (FONSI) and the Mitigation and Monitoring Plan (MMP). Within 90 days after signing the FONSI, the MMP will be developed and will include points of contact for oversight (name/office/phone information), inclusion of regulatory permitting requirements as they become available and the anticipated mitigation schedule along with completion date(s). The MMP is a living document and as such will be updated by Verizon throughout the life of the project. It is expected mitigation monitoring will generally consist of on-the-ground inspections and any subsequent actions necessary to address deficiencies discovered during the inspections. For this FONSI and in compliance with Air Force regulation, BMPs will be carried forward and monitored in the MMP.

PUBLIC REVIEW / INTERAGENCY COORDINATION

A Notice of Availability (NOA) will be prepared for the draft EA and draft FONSI. The proposed undertaking will be publicized during a 30-day public comment period published in *The Manchester Times*. Hard copies of the draft documents will be made available for public review at the Coffee County Lannom Library. Substantive comments will be addressed as appropriate in the final documents.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analysis summarized above and contained within the EA, I find the proposed decision to allow Verizon to construct and operate a cellular tower site on Arnold AFB will not have a significant impact on the natural or human environment so long as the mitigations identified above and within the EA are implemented and adhered to. This analysis fulfills the requirements of National Environmental Policy Act, the President's Council on Environmental Quality 40 CFR §§ 1500–1508, and Air Force EIAP regulations 32 C.F.R § 989.

RONALD J. ONDERKO, P.E. Command Senior Civil Engineer Logistics, Civil Engineering and Force Protection Date

DRAFT Environmental Assessment For

Proposed Raw-Land New-Build 265-foot Self-Support Communications Tower Site Hap Arnold Drive/Pumping Station Road AAFB, Coffee County, Tennessee

Prepared for: U.S. Department of the Air Force Arnold Engineering Development Complex

and

Cellco Partnership and its controlled affiliates doing business as Verizon

> Prepared by: Terracon Consultants, Inc.

> > January 2017

AEDC2017-108 Approved for public release

Approved for Public Release: Distribution Unlimited

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Appendix A – Exhibits

- Exhibit 1 USGS Topographic Vicinity Map
- Exhibit 2 Lease Exhibit
- Exhibit 3 Historical Aerial Photographs
- Exhibit 4 Parcel Map
- Exhibit 5 AEDC Wildlife Management Area Map
- Exhibit 6 FEMA Floodplain Map
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- Exhibit 9 USGS Soil Survey Map
- Exhibit 10 AAFB Boundary Map
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Appendix C – Interagency and Intergovernmental Coordination

- Appendix D Determination of No Air Hazard to Air Navigation Study
- Appendix E United Environmental, Inc. UXO Screening Documents
- Appendix F Public Notice
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1.0 INTRODUCTION

1.1 Introduction

Terracon Consultants, Inc. (Terracon) has prepared this Environmental Assessment (EA) in accordance with National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the Air Force Environmental Impact Analysis Process (EIAP) Regulations 32 CFR Part 989, to evaluate potential environmental impacts associated with the proposed raw-land new-build 265-foot self-support communications tower site located along Hap Arnold Drive/Pumping Station Road, Arnold Air Force Base (AAFB), Coffee County, Tennessee. This section specifies the purpose and need for the proposed undertaking at AAFB.

1.2 AAFB Background and Overview

AAFB is located in middle Tennessee encompassing approximately 40,000 acres of land within the city boundaries of Tullahoma, Manchester, and Winchester, Tennessee. While Arnold Engineering and Development Complex (AEDC) is the largest tenant organization operating at AAFB, other organizations such as the Air Force Office of Special Investigations, Army and Air Force Exchange Services, Defense Commissary Agency, Defense Contract Audit Agency, Defense Security Services, and the U.S. Army Corps of Engineers (USACE) are essential to the operations of AAFB. Additionally, the University of Tennessee Space Institute (UTSI), a campus of the University of Tennessee, is located on the installation.

AEDC headquarters, located approximately one mile north of the proposed telecommunications tower site, is the world's largest and most advanced complex of flight simulation test facilities. AEDC operations include: aerodynamic and propulsion wind tunnels, rocket and turbine engine test cells, space environmental chambers, arc heaters, ballistic rangers, and other specialized units. AEDC conducts aircraft, missile, and space system tests and evaluations for the U.S. Department of the Air Force (USAF) and the Department of Defense (DOD), as well as other government agencies and commercial entities.

1.3 Purpose and Need for the Proposed Action

Verizon Wireless (Verizon) was approached by AAFB personnel in 2015 to address a specific lack of cellular coverage around the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway, an area located within the AAFB boundaries. There is currently insufficient telecommunications infrastructure along this transportation route to meet the needs of personnel and visitors who enter and exit the base. The limited signal inhibits the ability of those living, working, and traveling through the area to communicate via cell phone. Because the

route is predominantly rural in nature, the lack of coverage creates additional safety concerns for the commuters. In addition to the lack of coverage, the cell towers servicing other portions of AAFB are in need of data capacity relief due to high subscriber data usage within the base.

The purpose of the proposed action is to provide essential cellular coverage requirements along a rural section of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway within AAFB as well as data capacity relief for other towers within the network. The proposed action is needed to address safety and communication concerns for visitors and base personnel that travel along this highway. Specifically, the primary need of the proposed action is to mitigate a lack of cell phone coverage and/or slow network speed along the southern part of Hap residents/employees Arnold/Pumping Station Road for of AAFB housing and residents/students/employees of the the UTSI campus. The proposed action will provide the following:

- Increased cellular coverage and network capacity for travelers along the route as well as the surrounding vicinity
- 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
- Increased coverage through cost-effective measures

1.4 Summary of Environmental Study Requirements

The proposed undertaking addressed within this EA constitutes a federal action which must be assessed in accordance with NEPA, and requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. Title I of NEPA further requires federal agencies to incorporate environmental considerations in their planning and decision making through a systematic interdisciplinary approach. The CEQ, established under Title II of NEPA, oversees the implementation of the policy and ensures that federal agencies are in compliance and meeting their obligations under NEPA. The EA has been prepared in accordance with NEPA and 32 CFR Part 989.

1.5 Scope of the Environmental Assessment

The proposed undertaking consists of a proposed 265-foot self-support telecommunications tower structure within an approximate 10,000-square foot lease area along with an approximate 250-foot access road/utility easement located along Hap Arnold Drive/Pumping Station Road in AAFB, Coffee County, Tennessee.

This Environmental Assessment evaluates potential environmental impacts to the following resources by implementation of the Proposed Action or its alternatives:

- Geological Resources;
- Land Use and Zoning;
- Transportation and Circulation;
- Hazardous Materials and Wastes;
- Socioeconomic Issues;
- Air Quality;
- Noise;
- Public Services and Utilities;
- Water Resources/Water Quality;
- Biological Resources;
- Cultural Resources; and
- Safety.

1.6 Summary of Interagency and Intergovernmental Coordination, Consultation, and Permitting

Federal, state, local, and intergovernmental agencies with jurisdictional authority over resources that could be affected by implementation of the Proposed Action will be notified and consulted once the Draft EA has been approved by the Major Commands (MAJCOM) of the USAF and AEDC. A complete listing of the agencies that will be consulted is provided in Appendix C. In addition to the interagency and intergovernmental coordination associated with the EA, consultation with the U.S. Fish and Wildlife Services (USFWS) under Section 7 of the Endangered Species Act (ESA) was conducted to assess potential impacts to listed and proposed threatened/endangered species and critical habitats resulting from the implementation of the Proposed Action and its alternatives. In addition to meeting the above consultation requirements, Verizon will obtain all necessary permits prior to the initiation of construction activities.

2.0 PROPOSED ACTION AND ALTERNATIVE

This section provides a detailed summary of the Proposed Action (Preferred Alternative) and the No Action Alternative (Status Quo).

2.1 **Proposed Action (Preferred Alternative)**

The proposed action is to develop a telecommunications tower that provides needed cellular coverage along Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway within AAFB. The proposed telecommunications tower site is defined as an approximate 10,000-

square foot lease area, which is to be developed with a 265-foot self-support tower and associated equipment along with an approximate 250-foot access road/utility easement. The proposed project site is located southwest of the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway on the east side of Hap Arnold Drive/Pumping Station Road in the AAFB, Coffee County, Tennessee 35016. The Site's latitude and longitude are N 35° 21' 33.39"/ W 86° 3' 26.28" (NAD83).

Exhibit 1 (Appendix A) depicts the general vicinity of the proposed project site, Exhibit 2 is a Lease Exhibit, and Exhibit 3 includes Historical Aerial Photographs that depict the historic use of the property. Representative photographs of the site are provided in Appendix B. Identification of the Proposed Action was originally based on environmental considerations, transmission coverage objectives, site elevation, construction access, subsurface conditions, zoning considerations and cooperation of the property owners.

2.1.1 Description of Proposed Action Projects

The Lease Exhibit (LE) provided in Appendix A depicts present and future development within the proposed telecommunications tower site. The LE illustrates the proposed 90' x 90' fenced compound within a 100' x 100' lease area, which is to be developed with a 265-foot self-support tower, 11'-6" x 29'-5.4" equipment shelter, an approximate 20' x 250' long gravel access road and utility easement. The location of the tower compound consists of upland wooded land and the proposed access/utility easement contains grassed and wooded land connecting to Hap Arnold Drive/Pumping Station Road.

The following table provides a brief summary of the proposed project site's Affected Environment as well as potential impacts due to development, and possible mitigation actions to reduce the effect of the potential impacts.

Affected Environment	Impacts	Mitigation
Geological Resources	No significant grade changes or fill is anticipated. Excavation of native soil would be limited to the tower foundation area. Urban fill would be graded/excavated in the proposed compound area and as such the potential loss of soil resulting from direct disturbance or indirectly via wind or water would be minimal.	Silt fence would be placed around the perimeter of the site during construction.

Table 1: Proposed Project Site Attributes

Affected Environment	Impacts	Mitigation
Land Use	No local zoning rules prohibit the proposed action; therefore, no significant impact would occur related to general land use compatibility with the proposed tower site.	None.
Transportation & Circulation	There may be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site. No significant impacts to daily traffic are anticipated during normal intended usage of the facility.	Construction vehicles and equipment would be stored on-site during construction and appropriate signage would be posted on affected roadways.
Hazardous Materials	No impacts from hazardous materials or wastes are anticipated. A Phase I Environmental Site Assessment (ESA) was prepared for the Proposed Telecommunications Tower Site did not find any environmental issues associated with the site. In addition, an Environmental Baseline Survey (EBS) prepared for the site did not identify any evidence of past or present contamination associated with the proposed site. A diesel- fueled generator will be utilized in future operations.	Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, state, and federal regulations. A permit issued by the Tennessee Department of Environment & Conservation (TDEC) Air Pollution Control Unit for on-site generator operations will be obtained by Verizon, who will develop and manage the site.
Socioeconomic Resources	No impacts to socioeconomic resources are anticipated.	None.
Environmental Justice	No disproportionately high or adverse effects on minority or low- income populations are anticipated.	None.

Affected	Impacts	Mitigation
Environment		
Air Quality	Short-term impacts to air quality may occur during the construction period due to the operation of equipment and minor earth moving operations. Future diesel generator operations will be permitted by Verizon under TDEC and Verizon will be responsible for air quality associated with the generator operations.	Operation of fuel-burning equipment would be kept to a minimum and engines would be properly maintained. Verizon will obtain and operate under appropriate TDEC permits.
Noise	Short-term impacts to noise may occur at the proposed project site during the construction period.	Construction would take place during normal business hours (e.g. daytime hours) and will be temporary in duration.
Public Services	Short-term impacts anticipated during construction activities. Appropriate construction permits would be prepared and submitted.	Best Management Practices (BMPs) would be undertaken to minimize and/or eliminate any disruption to public utility services in the area.
Water Resources	No impacts to water resources are anticipated, as there are no surface water features on-site or in the immediate vicinity of the site. The closest surface water feature is a tributary of Brumalow Creek located approximately 550 feet east of the site.	None.
Surface Water Runoff	Minor impacts from surface water runoff are possible during construction; however, there are no on-site surface water features. Potential impacts to surface water due to the proposed project are considered negligible due to the flat topography and distance to the nearest surface water feature.	Silt fence would be placed around the perimeter of the site during construction to protect surface water from runoff.
Floodplains	No impacts to floodplains are anticipated, as mapped floodplains do not extend onto the site.	None.

Affected Environment	Impacts	Mitigation
Groundwater	No impacts to groundwater resources are anticipated.	None.
Biological Resources	Based on proposed USFWS-approved mitigation, the construction of the proposed telecommunications tower site will not adversely affect the Indiana Bat or the Northern Long- eared Bat. The project will have no effect to the Gray Bat. In addition, no water sources or aquatic habitat is located on or adjacent to the site; therefore, the proposed undertaking would have no effect on listed aquatic species. No other protected resources were identified with the potential for impact by the proposed development. Significant impacts to biological resources are not anticipated. The informal consultation finding of not likely to adversely affect has been fulfilled per the USFWS correspondence in Appendix C.	Verizon has elected to contribute to the Indiana Bat Conservation Fund (IBCF) for mitigation of proposed winter clearing of suitable habitat impact for both the Indiana Bat and the Northern Long-eared Bat species.
Cultural Resources	The site and surrounding areas were previously surveyed for cultural resources and none were identified on the site or within 1,000 feet. No impacts to archeological or historic resources are anticipated. No archeological or historic resources were identified on the proposed project site.	None.

2.1.2 Alternatives Selection Criteria

The proposed action provides required cellular coverage to the specified area within AAFB (near the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway). At the request of base personnel, radio frequency (RF) engineering studies were completed by Verizon to generate coverage/capacity maps of the area and visualize the specific location of signal needs. This map, called an "RF search ring", provides an appropriate area in which to locate a communications facility and address specific cellular coverage/capacity requirements.

Based on the highly specific geographic needs of the proposed action, a limited number of alternatives were available for consideration within the RF search ring. No existing telecommunications towers or structures available for the collocation of antennas were identified within the search area. As such, the only available alternative was to build a new tower. The location of the proposed site was selected by base personnel and Verizon using the following selection criteria:

- Location within the specified RF search ring to address the lack of cell phone coverage near the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway
- Elevation and topography that supports RF transmission across the search ring
- Available land for development
- Avoidance of sensitive environmental areas (mapped wetlands, surface waters, and previously documented cultural resources)
- Avoidance of populated areas
- No encroachment on operational areas within the base
- Appropriate setbacks from highway
- Subsurface geological conditions appropriate for structural design
- Zoning and land use compliance

Consultation and coordination between AAFB and the Verizon Site Acquisition Representatives resulted in the determination the current tower site location is the preferred alternative. Based on the above selection criteria, the proposed site provides a technically appropriate location for a tower that meets coverage objectives. No other locations were identified that met all of the above-listed criteria. Thus, no alternatives were carried forward for detailed analysis with the exception of the No Action alternative.

2.1.3 Design and Construction

For development components of the Proposed Action, it is anticipated that all construction equipment would be brought on-site and would remain on-site for the duration of the development process. Upon completion of the construction, the telecommunications facility and easements would remain. BMPs to minimize environmental impacts, preparation of management plans, and worker training programs would be implemented (as required) by appropriate permitting efforts to minimize erosion, runoff, dust emissions, and emissions of air pollutants during construction. Upon completion, all disturbed areas not supporting the proposed telecommunication tower site would be re-vegetated to the extent possible with native plant species.

2.2 Alternatives Considered for Analysis

Alternative 1: Construction of the Proposed Telecommunications Tower Site

Under Alternative #1, the Preferred Alternative, a 265-foot self-support tower and associated equipment would be constructed within an approximate 10,000-square foot lease area along with access road/utility easement southwest of the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway on the east side of Hap Arnold Drive/Pumping Station Road within AAFB, Coffee County, Tennessee. In addition, tower installation will include an above-ground storage tank (AST) to supply diesel fuel for an emergency generator. Based on the cell coverage needs of the immediately surrounding region, construction of the proposed telecommunication tower site was deemed the preferred alternative for the proposed action. The site is located within grassed land and undeveloped wooded land with no evidence of prior disturbance.

Benefits of the proposed action include:

- Candidate location preliminarily approved by AAFB;
- Location at elevation allowing lower tower heights to meet RF transmission requirements;
- Lack of impact to cultural resources;
- Avoidance of construction on floodplains and wetland areas;
- Improved regional cell signal coverage;
- Updated equipment to support new frequencies and expand coverage.

Alternative 2: No Action Alternative (Status Quo)

Under Alternative #2, the No Action Alternative, AAFB would not allow Verizon to install a telecommunications tower site on AAFB property. Existing cell phone coverage gaps, capacity issues, and limited signals would continue within the designated region. In addition, under Alternative #2, no impacts to existing environmental resources related to the proposed actions of the EA would occur. The proposed site would remain in its current conditions. The No Action Alternative serves as the baseline for assessing the impacts of the other alternatives.

Alternatives Considered, But Eliminated From Detailed Study

The proposed action is required to meet a very specific cellular coverage requirement within a limited geographic area. Alternative tower locations to the proposed action site were considered in this analysis. The consideration of alternative locations was ultimately eliminated from further study based on the limited geographic area requiring cellular coverage and capacity, as well as

the full achievement of selection criteria and negotiated consensus between Verizon and AFB on the location of Alternative 1.

3.0 AFFECTED ENVIRONMENTS & POTENTIAL IMPACTS OF ALTERNATIVES

3.1 Geological Resources

According to the US Geological Survey (USGS) Capitol Hill, Tennessee quadrangle topographic map, dated 1993 (Appendix A, Exhibit 1), the proposed project site is relatively level with a surface elevation of approximately 1,089 feet above mean sea level. The site and general area are depicted to slope to the southwest. The site is depicted to be located within the AAFB boundaries. A tributary of Brumalow Creek is located approximately 550 feet east of the site.

The proposed site lies within the Eastern Highland Rim (EHR) physiographic region of Tennessee. According to the Natural Resource Conservation Service online soils database the site is underlain by Dickson silt loam (2%-5% slopes). Dickson silt loam consists of very deep, moderately well drained soils that formed in a silty mantle 2 to 4 feet thick and in the underlying limestone residuum. Most areas of these soils are on nearly level to gently sloping uplands. Additionally, Dickson silt loam is characterized by a firm and brittle fragipan that is 18 to 36 inches below the soil surface.

3.1.1 Impacts to Topography, Geology, and Soils

Alternative 1 – Construction of the Proposed Telecommunications Tower Site

The current site conditions primarily consists of grassed land and undeveloped wooded land. Excavation of native soil would be limited to the tower foundation area. Urban fill would be graded/excavated in the proposed compound area and, as such, the potential loss of soil resulting from direct disturbance or indirectly via wind or water would be minimal. The proposed project site does not contain soils classified as prime farmland. The proposed project site is relatively level and at grade with the surrounding area, and no sub-surface structures (i.e. basement) are proposed. Therefore, no significant impacts to geological resources are anticipated.

Alternative 2: No Action Alternative

Under the No Action Alternative, there would be no ground disturbing activities related to new construction. There would be no impact to topography, geology, and soils as a result of the No Action Alternative.

3.2 Land Use and Zoning

According to the Coffee County Real Estate Assessment Data, the site is zoned 04-Federal. The site is located within AAFB. Exhibit 4 in Appendix A is a copy of the aforementioned Parcel Map. In addition, the FAA conducted an aeronautical study under the provisions of 49 U.S.C. Section 44718 and if applicable Title 14 of the CFR, part 77 concerning the site and has issued a "Determination of No Hazard to Air Navigation". The study states that the proposed structure does not exceed obstruction standards and would not be a hazard to air navigation. In order to proceed with the site, Verizon shall submit a FAA Form 7460-2, Notice of Actual Construction.

3.2.1 Impacts to Land Use and Zoning

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

No local zoning rules prohibit the proposed action; therefore, no significant impact would occur related to general land use compatibility with the proposed tower site.

<u>Alternative 2 - No Action Alternative</u>

Under the No Action Alternative, there would be no new construction. There would be no impacts to general land use compatibility resulting from the No Action Alternative.

3.3 Transportation and Circulation

The site is located approximately 1,300 feet southwest of the intersection of Hap Arnold Drive/Pumping Station Road and Wattendorf Memorial Highway. In the vicinity of the site, Wattendorf Highway is a two lane road that is fairly maintained and somewhat heavily traveled. There may be a minor temporary increase in the volume of traffic on roads in the subject area during construction. However, no significant impacts to daily traffic are anticipated during normal intended usage of the facility.

3.3.1 Impacts to Transportation and Circulation

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

The impact to traffic would be short-term during site development. Construction vehicles and equipment would be stored on-site and appropriate signage would be posted on affected roadways. At the site, a gravel drive is proposed to extend north/northwest connecting the proposed tower compound to Hap Arnold Drive/Pumping Station Road. Minor improvements such as the addition of gravel would be made to the proposed access road to provide a firm road base to accommodate construction equipment. Periodic traffic on the proposed access road for equipment maintenance and inspection would occur; however, the volume of traffic would be

temporary and minimal. Therefore, impact to traffic due to the proposed action is considered to be minor.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no impact to transportation and circulation networks resulting from the No Action Alternative.

3.4 Hazardous Materials and Wastes (Public Health & Safety)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides for assessment for the potential presence of hazardous substances at a property as well as identifying liability for contaminated property. The Resource Conservation and Recovery Act (RCRA) establishes regulatory standards for the generation, transportation, storage, treatment, and disposal of hazardous wastes. In regulatory terms, a RCRA hazardous waste is a waste that appears on one of the four hazardous wastes lists (F-list, K-list, P-list, or U-list), or exhibits at least some of four characteristics – ignitability, corrosivity, reactivity, or toxicity. Hazardous waste is regulated under the RCRA Subtitle C. Hazardous material means as any material that, because of its quantity, concentration, or physical and chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment.

Terracon prepared a *Phase I Environmental Site Assessment (ESA)* of the site (Hap Arnold Drive/Pumping Station Road) dated April 24, 2015. The Phase I ESA did not identify recognized environmental conditions (RECs) associated with the site. A REC is defined under ASTM E1527-13 as "the presence or likely presence of conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. Additionally, an Environmental Baseline Survey (EBS) of the site (Hap Arnold Drive/Pumping Station Road) was provided to Terracon for review. The EBS did not identify any evidence of past or present contamination associated with the proposed site.

3.4.1 Impacts from Hazardous Materials

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

No toxic materials or hazardous wastes have been identified at the proposed project site, and the location and surrounding areas are not listed in the environmental regulatory database report. The site is not located within the boundaries of an installation restoration program (IRP) or any other regulated facility. AFB categorizes the site as a Category 1 Property, which is defined as "areas where no release of disposal of hazardous or petroleum substances has occurred (including no migration of these substances from adjacent areas)".

The proposed site is within the Old Army Camp Forrest Maneuver Area with the Old Impact Area South historical range complex to the west of this location. Because this proposed site is outside of a historical range boundary and within the Old Maneuver Area, the EBS report found a possibility for surface and sub-surface unexploded ordinances (UXO). As such, a surface clearance for UXO was conducted and no potential UXO was identified. Please refer to Section 3.13 for further discussions regarding the UXO sweep completed at the site.

The tower installation will include an AST to supply diesel fuel for an emergency generator. The proposed AST would be double-walled to prevent discharge of the diesel fuel in the event of a leak. An air permit issued by the TDEC Air Pollution Control Unit for use of the on-site generator operations will be obtained by Verizon.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no impacts from hazardous materials under the No Action Alternative.

3.5 Socioeconomic Issues

EO12898 (Environmental Justice in Minority Populations) requires federal agencies, departments, and their contractors to consider any potentially disproportionate human health or environmental risks their activities, policies, or programs may pose to minority or low-income populations.

EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) requires federal agencies to identify and assess health risks and safety risks that have disproportionately affected children. Agencies must ensure that its policies, programs, activities, and standards address disproportionate risks to children that results from environmental health risks or safety risks.

According to the 2015 U.S. Census estimate, Tullahoma had a population of 19,128 in 2015. In addition, the city's population was 88.1 % Whites of non-Hispanic ancestry, 7% Black or African American, 0.2 % American Indian and Alaska Native, 1.2 % Asian, 3.1% Hispanic or Latino, and 2.5% from two or more races. In the city, the population is broadly distributed with 6.9% under the age of 5, 24.6% from 5 to 18, 51.3% from 18 to 64, and 17.2% who were 65 years of age or older. The median income for a household in the city was \$35,798.00 (2011-2015). The per capita income for the city was \$23,064.00 (2011-2015). In addition, approximately 19.5% of the population were below the poverty line (2011-2015).

According to the 2015 U.S Census estimate, Manchester had a population of 10,517 in 2015. In addition, the city's population was 90.4 % Whites of non-Hispanic ancestry, 3.4% Black or African

American, 0.2 % American Indian and Alaska Native, 1.1 % Asian, 7% Hispanic or Latino, and 2% from two or more races. In the city, the population is broadly distributed with 7.5% under the age of 5, 23.9% from 5 to 18, 51.7% from 18 to 64, and 16.9% who were 65 years of age or older. The median income for a household in the city was \$42,574.00 (2011-2015). The per capita income for the city was \$20,157.00 (2011-2015). In addition, approximately 21.9% of the population were below the poverty line (2011-2015).

According to the 2015 U.S Census estimate, Winchester had a population of 8,539 in 2015. In addition, the city's population was 83.3 % Whites of non-Hispanic ancestry, 11.2% Black or African American, 0.4 % American Indian and Alaska Native, 1.3 % Asian, 3.5% Hispanic or Latino, and 2% from two or more races. In the city, the population is broadly distributed with 5.9% under the age of 5, 22.8% from 5 to 18, 51.6% from 18 to 64, and 19.7% who were 65 years of age or older. The median income for a household in the city was \$39,500.00 (2011-2015). The per capita income for the city was \$23,241.00 (2011-2015). In addition, approximately 19.9% of the population were below the poverty line (2011-2015).

Additionally, the University of Tennessee Space Institute (UTSI) is a tenant of the installation and the adjacent roadway (Hap Arnold Drive/Pumping Station Road) is one of multiple access points for the students, faculty, and others who frequent the campus.

3.5.1 Socioeconomic Impacts

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

The proposed action would benefit the community and population of UTSI campus by providing opportunities to communicate via cell phone and expanding cell signal coverage. This will be a particular advantage for UTSI students and faculty, who will be able to access cell coverage along their commute routes to and from campus along Hap Arnold Drive/Pumping Station Road. In addition, temporary jobs would be created for construction works during installation activities, as well as site maintenance activities. The potential increase in employees for the construction and maintenance of the site would be short-term. Furthermore, cell phone service would benefit fire, police, and medical services within the AFB and result in improved emergency response times. Providing necessary phone service for commuters and emergency services would result in a higher level of safety for base personnel and visitors. Therefore, implementation of the preferred alternative is considered to have a beneficial socioeconomic impact with the potential for job creation associated with the construction and operations of the site.

Alternative 2 - 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 proposed site. The lack of coverage would continue to affect populations travelling along the route, resulting in safety issues and lowered emergency response timelines.

3.6 Air Quality

Under the Clean Air Act, the US Environmental Protection Agency (EPA) establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect public welfare by promoting ecosystems health, preventing decreased visibility, and damage to crops and buildings. The EPA has set national ambient air quality standards (NAAQS) for six of the following criteria pollutants; ozone (O3), particulate matter (PM 2.5 and 10), nitrogen dioxide (NO 2), carbon monoxide (CO), sulfur dioxide (SO2), and lead (Pb). Under these standards, a geographic location with pollutant levels below air quality standards, is said to be in "attainment," while higher levels are in "nonattainment." New construction and conversion, which are located in "non-attainment" or "maintenance" areas, as determined by the EPA, may need to be modified or mitigation measures developed and implemented to conform to the State Implementation Plan (SIP).

Under the Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for these pollutants. NAAQS are classified as primary or secondary. Primary standards protect against adverse health effects; secondary standards protect against welfare effects, such as damage to farm crops and vegetation and damage to buildings. Some pollutants have long-term and shortterm standards. Short-term standards are designed to protect against acute, or short-term, health effects, while long-term standards were established to protect against chronic health effects. GHGs are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

Guidance from CEQ recommends that agencies consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action. The guidance also emphasizes that agency analyses should be commensurate with projected greenhouse gas emissions and climate impacts, and should employ appropriate quantitative or qualitative analytical methods to ensure useful information is available to inform the public and the decisionmaking process in distinguishing between alternatives and mitigations.

The USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule on September 22, 2009. GHGs covered under the Final Mandatory Reporting of Greenhouse Gases Rule are carbon dioxide (CO2), methane, nitrogen oxide (NOx), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and other fluorinated gases including nitrogen trifluoride and hydrofluorinated ethers. Each GHG is assigned a global warming potential. The global warming potential is the ability of a gas or aerosol to trap heat in the atmosphere. The global warming potential rating system is standardized to CO2, which has a value of one. The equivalent CO2 rate is calculated by multiplying the emissions of each GHG by its global warming potential and adding the results together to produce a single, combined emissions rate representing all GHGs. Under the rule, specific suppliers of fossil fuels or industrial GHGs, manufacturers of mobile sources and engines are required to submit annual reports to USEPA.

Areas that are and have historically been in compliance with the NAAQS are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The Clean Air Act (42 U.S.C. 7401 et seq.) prohibits federal assistance to projects that are not in conformance with the SIP. According to the EPA Green Book of Nonattainment Areas for Criteria Pollutants, Coffee County, Tennessee was not identified as being within a designated non-attainment area. Furthermore, there are no source areas located on the proposed site such a boilers, incinerators, or fuel storage tank vents, etc.

3.6.1 Impacts to Air Quality

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

Some impact on air quality and visibility is anticipated during the clearing, grading, and excavating of the site due to dust generated from earthwork and construction. Increases in vehicle exhaust emissions are anticipated during construction; however, they are not anticipated to result in air emissions of significant quality to degrade general air quality in the surrounding area nor to require air permitting from the Tennessee EPA. Fugitive dust emissions and emissions from earth-moving and construction vehicles, with internal combustion engines, may temporarily increase levels of air pollutants during excavation and construction. Impacts to air quality are expected to be short-term and minor. Construction equipment would be well-maintained and would operate for the minimum duration possible. Implementation of the preferred alternative would not significantly increase or alter the existing levels of ambient air quality levels above a *de minimis* level and a conformity analysis was not completed the proposed undertaking.

The tower installation likely includes an AST to supply diesel fuel for an emergency generator, which would run only during times of emergency. The proposed generator would be permitted through a standard Air Pollution Control construction permit issued by the TDEC Air Pollution Control Unit for on-site generator operations. It will be the responsibility of Verizon as the lessee of AFB to maintain compliance with the Clean Air Act and TDEC requirements for the generator and permit. Verizon will not be tied to the base's Title V Operating Permit. Operations-related impacts to air quality as a result from the on-site generator would be considered *de minimis* and would not result in long-term operation of significant emission-generated sources.

BMPs would be undertaken for dust control including spraying water on exposed surfaces to minimize dust, limiting the area of uncovered soil to the minimum needed for each activity, siting of staging areas to minimize fugitive dust, using a soil stabilizer (chemical dust suppressor), mulching, using a temporary gravel cover, limiting the number and speed of vehicles on the site, and covering trucks transporting soil, sand, or other loose material off-site. BMPs for construction vehicle and equipment emissions include limiting vehicle idling time, using low or ultra-low sulfur fuel (including biodiesel), conducting proper vehicle maintenance, and using electric-powered tools (instead of gas-powered tools). By using these environmental design measures, air emissions from the proposed action would be temporary and should not significantly impair air quality in the region. While implementation of the preferred alternative would contribute to emissions of greenhouse gases from the combustion of fossil fuels, land clearing, operation of the generator, and facility construction activities, these actions would generate annual GHG emissions far below the CEQ threshold and not likely contribute to global warming to any discernable extent. Therefore, implementation of this action alternative would not result in significant impacts to air quality.

CEQ, Guidance requires NEPA consideration to include climate change resulting from the proposed action, as well as the effect of climate change on the proposed action itself. With regards to climate change, the proposed action consists of a small-scale infrastructure project with a minimal construction footprint. Operations include the use of one emergency generator for use only when needed for backup power. Based on the analysis discussed in preceding paragraphs, no significant impacts to climate change are anticipated to occur as a result of the project. Additionally, there is no data to support that climate change would have any specific impacts on the proposed action.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no construction. There would be no increase in air quality impacts from the No Action Alternative.

3.7 Noise

Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses.

Noise, defined herein as undesirable sound, is federally regulated by the Noise Control Act of 1972 (NCA). Although the NCA gives the EPA authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards. EPA guidelines, and those of any other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals.

The proposed project area is located within an undeveloped area of AAFB. Hap Arnold Drive/Pumping Station Road and Wattendorf Hwy are the closest sources of noise generation; however, both roads are considered rural and vehicle traffic is not a significant source of noise in the area. Further, there are no sensitive receptors in the vicinity of the site. The nearest sensitive receptor, a residence, is located greater than 3,500 feet from the site. Additionally, an office structure is located greater than 1,300 feet from the site.

3.7.1 Impacts due to Noise

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

Construction of the proposed telecommunications tower site would not have any significant adverse impact. Increases in noise levels would occur in the immediate vicinity of the proposed project site during the construction phase of the project. However, adherence to appropriate Occupational Safety and Health Administration (OSHA) standards would protect the workforce from excessive noise (29 CFR 1926.52). Noise impacts during construction of the proposed project would be short-term in duration and limited to daytime hours. Since construction related noise impacts are temporary in nature and would not expose people residing or working in the area to severe noise levels, the impacts would be moderate during the construction phase.

Operations of the proposed telecommunications tower site would cause occasional and temporary increases in noise above current levels during maintenance activities. Normal operations of the proposed site would provide minimal increased noise from a fan, only perceptible in the immediate vicinity of the associated equipment. In addition, on-site generator operations are not anticipated to increase the ambient noise levels due to the nature of the generator use, being only used intermittently during power outages and routine equipment maintenance and testing. Therefore, increased noise levels on a permanent basis from the proposed action is considered to be minor. There are no sensitive receptors in the vicinity of the site that would be adversely impacted by noise related to tower installation and operations.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no adverse impacts on the ambient noise environment under the No Action Alternative.

3.8 **Public Services and Utilities**

Duck River Electric Corporation provides electrical services to the proposed project site and surrounding areas. There is no potable water supply, natural gas, or sanitary sewer systems connected to the proposed site. Law enforcement is provided by state and local authorities. Security guard functions and fire and emergency medical services are provided by contract personnel.

3.8.1 Impacts to Public Services and Utilities

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

Any impact/disruption would be short-term during the construction activities. Appropriate construction permits would be prepared and submitted and BMPs would be undertaken to minimize and/or eliminate any disruption to public utility services in the area.

Alternative 2 - No Action Alternative

Under the No Action Alternative, existing coverage gaps would remain, and cell signals would continue to be limited within the site compromising the ability of first responders to respond effectively and rapidly to emergency situations.

3.9 Water Resources/Water Quality

3.9.1 Groundwater

The regional aquifer in the area includes Highland Rim aquifer which is comprised of flat-lying carbonate rocks of Mississippian age and underlies the Highland Rim physiographic province. The Highland Rim aquifer is part of a karst geology system which is characterized by sinkholes, springs, disappearing streams, and caves. Groundwater in the Highland Rim aquifer can reach depths as great as 500 feet; however, more circulation occur at depths of less than 300 feet below ground surface (bgs). In addition, groundwater at the proposed site flows to the south toward Woods Reservoir.

While there exists over 800 groundwater monitoring wells throughout AAFB, it should be noted, there is no potable water supply to the proposed site. Types of wells include compliance monitoring wells associated with landfills, investigative wells for assessment of groundwater contamination, and wells to measure groundwater on a regional basis. Aside from wells, AAFB also has several wastewater treatment systems in place that treats wastewater as well as groundwater prior to discharge.

3.9.1.1 Impacts to Groundwater

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

No impacts to water resources are anticipated, as there are no surface water features on-site or in the immediate vicinity of the site.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no risk of soil erosion of runoff from construction-related activities. There would be no impacts to groundwater quality under the No Action Alternative.

3.9.2 Surface Water Runoff

The Clean Water Act (CWA) establishes the basic framework for regulating discharge of pollutants into waters of the US (WATERS). The proposed action does not require obtaining a National Pollution Discharge Elimination System (NPDES) permit for storm water discharge from a construction site as the proposed project would not impact an area of soil in excess of one-acre in size, and this site is not part of a larger common plan of development or sale. There are no on-site surface water features (e.g. ponds, lakes or drainage ditches) and no surface water features were identified on the adjacent properties.

3.9.2.1 Impacts to Surface Water Runoff

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

Suspect WATERS were not observed on-site or immediately adjacent to the site. Potential impacts to surface water due to the proposed project are considered negligible due to the flat topography and distance to the nearest surface water feature.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no risk of soil erosion of runoff from construction-related activities. There would be no adverse impacts on surface water runoff under the No Action Alternative.

3.9.3 WATERS (Including Wetlands)

Activities in WATERS, including wetlands, rivers, streams, creeks, lakes, and other water bodies, are regulated by two statutes, the Rivers and Harbors Act of 1899 (Section 10) and the CWA (Section 404). Section 10 of the Rivers and Harbors Act requires a federal permit for activities in navigable waters. Section 404 of the Clean Water Act regulates development in WATERS, including wetlands. This act prohibits the discharge of dredged or fill material from discrete point sources into WATERS. The principal agency responsible for enforcing these acts is the USACE working under the direction of the EPA. The USACE (in coordination with the EPA) is the final authority in a jurisdictional determination.

(1) For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (o)(2) of this section, the term "waters of the United States" means:

(i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) All interstate waters, including interstate wetlands; (iii) The territorial seas; (iv) All impoundments of waters otherwise identified as waters of the United States under this section; (v) All tributaries, as defined in paragraph (o)(3)(iii) of this section, of waters identified in paragraphs (o)(1)(i) through (iii) of this section; (vi) All waters adjacent to a water identified in paragraphs (o)(1)(i) through (v) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters; (vii) All waters in paragraphs (o)(1)(vii)(A) through (E) of this section where they are determined, on a case specific basis, to have a significant nexus to a water identified in paragraphs (o)(1)(i) through (i)) through (iii) of this section.

The waters identified in each of paragraphs (o)(1)(vii)(A) through (E) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (o)(1)(i) through (iii) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (o)(1)(vi) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (o)(1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required. (A) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest. (B) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain. (C) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain. (D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers. (E) Texas coastal prairie wetlands. Texas

coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast. (viii) All waters located within the 100-year floodplain of a water identified in paragraphs (o)(1)(i) through (iii) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (o)(1)(i) through (v) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (o)(1)(i) through (iii) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (o)(1)(i) through (iii) of this section are mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (o)(1)(vi) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (o)(1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

The USACE Wetland Delineation Manual defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Based on the above definitions, various US Supreme Court cases, and USACE/EPA joint guidance documents, wetlands are not regulated as WATERS if they are hydrologically isolated. However, Executive Order No. 11990 (May 24, 1977, F.R. 26961 [in furtherance of the National Environmental Policy Act] requires that projects with a federal nexus avoid all wetlands whenever there is a practicable alternative. Therefore, Terracon also evaluated the site for the presence or absence of hydrologically isolated wetlands regardless of whether they met the criteria to be subject to USACE regulation.

National Wetlands Inventory (NWI) maps are produced by the USFWS and microfilmed by the USGS. Wetlands maps are prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands areas are noted on the photographs based on interpretation of vegetation, visible hydrology, and geography. No wetlands or other potential WATERS are indicated on the site or in the immediate vicinity by the NWI map (Appendix A, Exhibit 6). The closest surface water feature is a tributary of Brumalow Creek located approximately 550 feet east of the site. A site reconnaissance was performed according to procedures specified by the USACE Wetland Delineation Manual. Potential wetlands or other WATERS were not identified during the site reconnaissance. No regulatory agency coordination, relative to WATERS/wetlands, is required or recommended at this time.

3.9.3.1 Impacts to WATERS

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

No impacts to WATERS are anticipated, as there are no surface water features on-site or in the immediate vicinity of the site.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no risk of soil erosion of runoff from construction-related activities. There would be no adverse impacts on WATERS under the No Action Alternative.

3.9.4 Floodplains

EO 11988 (Floodplain Management) and EO 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stokeholder Input) requires that a federal agency avoid direct or indirect support of development within the 100year floodplain whenever there is a practicable alternative. Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, and nutrient cycling. Floodplains also help to maintain water quality and are often home to a diverse array of plants and animals. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplain boundaries are most often defined in terms of frequency of inundation, that is, the 100-year and 500-year flood. Floodplain delineation maps are produced by the Federal Emergency Management Agency and provide a basis for comparing the locale of the Proposed Action to the floodplains. Federal Emergency Management Agency (FEMA) uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). The proposed project site is located in Zone X, which is not within a 100-year floodplain per FEMA FIRM Panel 335 of 376, Map Number 47031C0335C, dated August 4, 2008 (Appendix A, Exhibit 5).

3.9.4.1 Impacts to Floodplains

<u>Alternative 1 - Construction of the Proposed Telecommunications Tower Site</u> No impact.

<u>Alternative 2 - No Action Alternative</u> No impact.

3.10 Biological Resources

3.10.1 Vegetation

Present vegetation on AAFB is predominately upland and swamp oak forest. Of the forested areas, 21,233 acres are in native hardwoods and 5,130 acres are in planted pines. Forested areas are most frequently characterized by closed canopies dominated by various oaks. Dry sites are dominated by post oak, blackjack oak, scarlet oak, southern red oak, and black oak.

The proposed tower site consists of upland grassed areas and undeveloped wooded land. Surrounding properties are primarily wooded land and roadway. Wooded portions of the site consist primarily of a medium-aged mixed hardwood forest. Numerous trees over three to five inches diameter breast height (dbh) were observed dominated by the following:

Common Name	Scientific Name
White Oak	Quercus alba
Black Oak	Quercus velutina
Yellow Poplar	Liriodendron tulipifera
Sourwood	Oxydendron arboretum
Flowering Dogwood	Cornus florida

One snag (a standing dead or dying tree) approximately eight inches dbh with peeling bark and one white oak approximately 10 inches dbh with slight exfoliating bark were observed within the footprint of the site. These trees display potential roosting characteristics as suitable habitat for the Indiana Bat (*Myotis sodalis*) and the Northern Long-eared Bat (*Myotis septentrionalis*) and are proposed for removal. No caves or karst systems that would provide hibernacula or wetlands or waterways that would provide foraging habitat for the Gray Bat (*Myotis grisescens*) were observed or are documented in the area; therefore, suitable habitat for the Gray Bat is not located on the site.

3.10.1.1 Impacts to Vegetation

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

In regards to construction, Verizon has agreed to conduct tree clearing between October 15 and March 31, to avoid the bat roosting season. Based on the Interim Indiana Bat Mitigation Guidance (IIBMG) for the state of Tennessee, Verizon has elected to contribute to the IBCF. The total site acreage is 0.3 acres of wooded habitat with two potential roost trees identified. Timber cover is relatively thick and the habitat block method was utilized rather than the single tree method. Suitable habitat with the potential for occurrence does not require an additional multiplier base

on the IIBMG method. The current price per acre for the IBCF is \$3,650.00 which would apply to the site being less than one acre with no multiplier. Therefore, the amount to be paid into the fund base on site acreage would be approximately \$1,000.00. In addition, Terracon has received confirmation from the USFWS Cookeville Ecological Services Field Office that the IBCF donation would apply for offseason suitable habitat impact for both the Indiana Bat and the Northern Long-eared Bat species (USFWS confirmation is included in Appendix C).

No caves or karst systems that would provide hibernacula or wetlands or waterways that would provide foraging habitat for the Gray Bat (*Myotis grisescens*) were observed or are documented in the area; therefore, suitable habitat for the Gray Bat is not located on the site and the project will have no effect on the Gray Bat. The Gray Bat was included within consultation discussions with USFWS. Based on the response from USFWS, the agency affirmed that the Gray Bat not be included as a potential concern for the proposed action. The informal consultation finding of not likely to adversely affect has been fulfilled per the USFWS correspondence in Appendix C.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no significant impacts on vegetation under the No Action Alternative.

3.10.2 Wildlife

AFB has a diversity of habitats ranging from closed canopy forests to open grasslands. The variety of habitats provides for a highly diverse assemblage of fish and wildlife. To date, 412 species of vertebrates have been identified from the base including:

- 234 species of birds (includes summer residents, migrants, and wintering species)
- 35 species of reptiles
- 26 species of amphibians
- 44 species of mammals
- 83 species of fish

Two species of animals on AFB are considered big game species, white-tailed deer and eastern wild turkey. The most popular small game animals are squirrels, quail, rabbit, and various duck species. Three federally listed species are currently known to occur on AFB - the gray bat (Endangered), Indiana bat (Endangered), and Northern log-eared bat (Threatened). These bat species were previously addressed in Section 3.10.1. Bald eagles nest in the winter on the AFB and are protected by the Bald and Golden Eagle Protection Act; however, no eagle's nests are known to occur near the project site.

In addition to federally listed species discussed previously, 21 animals and 63 plants are state listed as threatened, endangered or special concern species within AAFB. Numerous bird species are known to exist within and around AAFB, which has been designated an important bird area (IBA) in the state of Tennessee by the IBA program. There are no legal or management requirements associated with an IBA designation; it is simply an outside organization (American Bird Conservancy, National Audubon Society, or both) recognizing the excellent stewardship of military lands in managing and conserving habitats for resident and migratory birds.

Eight natural areas, parks, and/or wildlife management areas occur within a five-mile radius of AAFB (Figure 3-6). Included within these are three designated natural areas on the base itself: Goose Pond, Sinking Pond, and AEDC Power Line Barrens. The only one of these designated areas in close proximity to the site is AEDC Power Line Barrens, which is located approximately 1,200 feet northwest of the site. This small strip of barrens under a high voltage power line is one of the most significant botanic areas on the barrens of the Eastern Highland Rim, containing numerous rare and threatened plant species.

The proposed tower site consists of upland grassed and undeveloped wooded land. Surrounding properties are primarily wooded land and roadway. Wooded portions of the site consist primarily of a medium-aged mixed hardwood forest. A species survey was conducted of the project area and no rare or protected species or wildlife was observed on the proposed project site during the site reconnaissance. Potential bat habitat was identified, which is further discussed in Sections 3.10.1 and 3.10.1.1. Threated and endangered species with the potential to exist within the region of the site are further discussed in Section 3.10.3.

The proposed site is located within the "Wildlife Management Area" managed by the USAF and Tennessee Wildlife Resources Agency (TWRA). TWRA will be consulted regarding the Proposed Action once the Draft EA has been approved by the MAJCOM of the USAF and the AAFB. Consultation with USFWS has previously occurred for the project and confirms that the payment into the IBCF adequately mitigates the removal of potential bat habitat at the project site.

3.10.2.1 Impacts to Wildlife

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

Implementation of the proposed undertaking could potentially impact wildlife species through a temporary increase in noise and human presence. The increase would be temporary and minor. The proposed tower is located on the edge of a wooded area adjacent to an existing road, which limits development infrastructure required to service the tower as well as potential habitat fragmentation. The future operations of the tower include the intermittent operation of an emergency backup generator and occasional tower maintenance activities, which are not anticipated to adversely impact wildlife species in the area.

USFWS recommendations published in Revised Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning (2013) state the preferred tower height to decrease potential effects on migratory birds is less than 199 feet tall. If towers taller than 199 feet (and thus requiring lights for aviation safety) must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. USFWS further recommends towers that do not require the use of guy wires to avoid bird strikes resulting from to the guy wires.

The siting and design process for this project could not conform to all the USFWS recommendations, but has included mitigating factors to include limiting the tower height to the extent feasible, eliminating the need for guy wires, and utilization of the minimum intensity Federal Aviation Administration (FAA) obstruction lighting to exclude red steady/beacon lighting. Anticipated lighting is medium intensity dual red-white strobes. The use of the aforementioned mitigation measures should reduce impacts from potential avian strikes to less than significant levels.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no significant impacts on wildlife under the No Action Alternative.

3.10.3 Threatened, Endangered, and Sensitive Species

Pursuant to the Endangered Species Act (ESA), numerous species and their critical habitats are protected as threatened or endangered with extinction country-wide. The USFWS is the lead agency for regulation and enforcement of this act. Section 7 of the ESA directs all federal agencies to participate in endangered species conservation and ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats.

The USFWS Information for Planning and Conservation (IPaC) website was queried to generate a Trust Resource Report for the proposed site. The Trust Resource Report identified federally listed threated or endangered (T&E) species in Coffee County, Tennessee. No critical habitat, refuges, or wetlands were identified through the Trust Resources Report. Table 2 briefly summarizes the threatened, endangered, and candidate species listed by the USFWS as occurring within the county of the proposed site.
Table 2. Official IPaC Species List for Action Area						
Common Name Scientific Name		Status	ESA Determination			
Cumberland Pigtoe	Pleurobema gibberum	Endangered	No effect			
Pale Lilliput (pearlymussel)	Toxolasma cylindrellus	Endagered	No effect			
Slabside Pearlymussel	Pleuronaia dolabelloides	Endangered	No effect			
Boulder Darter	Etheostoma wapiti	Experimental Population, Non-Essential	No effect			
Gray Bat	Myotis grisescens	Endangered	No effect			
Indiana Bat	Myotis sodalis	Endangered	Not likely to adversely affect			
Northern Long- eared Bat	Myotis septentrionalis	Threatened	Not likely to adversely affect			

3.10.3.1 Impacts to Threatened, Endangered, and Sensitive Species

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

It is not anticipated that the construction of the proposed telecommunications tower site would adversely affect the Indiana Bat or the Northern Long-eared Bat and would have no effect to the Gray Bat (refer to discussions in Section 3.10.1.1). In addition, no water sources or aquatic habitat is located on or adjacent to the site; therefore, the proposed undertaking would have no effect on listed aquatic species. However, Verizon has elected to contribute to the IBCF for mitigation of proposed winter clearing of suitable habitat impact for both the Indiana Bat and the Northern Long-eared Bat species. Due to payment info the IBCF, the mitigation would off-set the impacts related to removal of suitable bat habitat for these protected bat species. This approach has been confirmed by USFWS and the consultation response from the agency is included in Appendix C.

Alternative 2 - No Action Alternative

Under the No Action Alternative, there would be no new construction. There would be no significant impacts on threatened, endangered, and sensitive species under the No Action Alternative.

3.11 Cultural Resources

The proposed site location has previously been surveyed for cultural resources and none were documented per the "Archaeological Survey and Inventory of 16,825 Acres AAFB Coffee and Franklin Counties, Tennessee. AMEC Earth and Environmental, Inc., Louisville, Kentucky" (2010 Wampler, Marc, Kim Smith, John Hunter, Mathia Scherer, and Richard Stallings) and AAFB's Integrated Cultural Resource Management Plant (ICRMP). According to the ICRMP, the closest archeological resource is located approximately 1,300 feet south of the site and the closes historic resource is located one mile north of the site. Neither of these resources will be visually or directly impacted by the proposed development. No districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed, or are eligible for listing, in the National Register of Historic Places (NRHP) are located on the project site or will be impacted by the proposed undertaking. The following Federally Recognized Indian Tribes were notified regarding the proposed undertaking, and consultation has occurred between AFB and these tribes as an on-going process in accordance with Section 106 of the NHPA:

- Absentee Shawnee Tribe of Oklahoma
- Alabama-Coushatta Tribe of Texas
- Alabama-Quassarte Tribal Town of Oklahoma
- Cherokee Nation
- Chickasaw Nation of Oklahoma
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Kialegee Tribal Town
- Muscogee (Creek) Nation of Oklahoma
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Shawnee Tribe of Oklahoma
- Thlopthlocco Tribal Town
- United Keetoowah Band of Cherokee Indians

Based on the results of the tribal consultation process, there are no anticipated negative impacts to cultural resources (archeological or historic) and no impacts to existing structures.

3.11.1 Impacts to Cultural Resources

Alternative 1 - Construction of the Proposed Telecommunications Tower Site

No districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed, or are eligible for listing, in the NRHP are located on the site or area of potential effect. According to the ICRMP, the closest archeological

resource is located approximately 1,300 feet south of the site and the closes historic resource is located one mile north of the site. Neither of these resources will be visually or directly impacted by the proposed development. As such no historic properties would be impacted as a result of this proposed undertaking.

There is the potential to encounter currently undiscovered cultural resources during the site development process. The construction contractor should immediately cease work if cultural resources (archeological or historic artifacts) are identified during excavation or other earth-moving activities until a qualified archaeologist is contacted to identify, catalog, and/or remove said artifacts. In the event that archaeological materials are encountered prior to or during construction of the facilities, State Historic Preservation Officer (SHPO), tribes and other consulting parties should be contacted. Archaeological materials consist of any items, fifty years or older, which were made or used by man. These items include stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal remains. These materials may be present on the ground surface and/or under the ground.

Should any buried artifacts, human remains, cultural sites or ground features be unexpectedly unearthed during ground disturbing activities, all construction should immediately cease and the resources be examined by a professional archaeologist. Additionally, all appropriate authorities – including all pertinent tribal entities and the SHPO should be notified. Inadvertent discoveries would follow the procedures set forth in the Verizon Unanticipated Discovery Plan (UDP).

<u>Alternative 2 - No Action Alternative</u>

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

3.12 Coordination and Permits

The following permits and plans may likely be required for the proposed action:

- TDEC Air Pollution Control Unit Permit for on-site generator operations
- Contribute to the IBCF for mitigation of proposed winter tree clearing

Additional permits may be required for the proposed action. None of the anticipated permits and approvals would result in or contribute to an adverse environmental consequence.

The following agencies, will be notified and provided with the Draft EA:

- U.S. Fish and Wildlife Service Cookeville Ecological Services Field Office
- Tennessee Wildlife Resources Agency (TWRA)

- Tennessee State Historic Preservation Office (SHPO)
- Tennessee Department of Environment & Conservation (TDEC) Governor's Lead Point of Contact for NEPA Reviews
- TDEC Columbia Environmental Field Office
- TDEC Division of Air Pollution Control

Federal, state, local, and intergovernmental agencies with jurisdictional authority over resources that could be affected by implementation of the Proposed Action will be notified and provided with the Draft EA. A complete listing of the agencies consulted with is provided in Appendix C, as well as any existing consultation documentation. In addition to meeting the above consultation requirements, Verizon will obtain all necessary permits prior to the initiation of construction activities.

3.13 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 worker's 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 risk or 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 the 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. The proposed action would require construction activities on a portion of undeveloped wooded land located within the AAFB. Construction and ground-disturbing activities would take places for approximately one week and would include grading and digging with the use of a dozer, using a pier drill rig for the base and footings, and the use of a mobile crane for erecting the telecommunications tower.

The FAA conducted an aeronautical study under the provisions of 49 U.S.C. Section 44718 and if applicable Title 14 of the CFR, part 77 concerning the site and has issued a "Determination of No Hazard to Air Navigation". In addition, the study states that the proposed structure does not exceed obstruction standards and would not be a hazard to air navigation.

Due to the site location being within the Old Camp Forrest Maneuver Area with the Old Impact Area South historical range complex located to the west of the proposed site, a surface clearance was conducted to prevent the possibility for surface and sub-surface UXO existing on-site. U.S. Environmental, Inc. conducted a 1-foot removal at the proposed site and has classified the site and surrounding areas as "low" probability for a UXO occurrence. In addition, during the fieldwork, no munitions or fragments were found in the area, with the only items recovered being debris (i.e. chains, cans, etc.). However, U.S. Environmental, Inc. does recommend Verizon and its construction team be aware of the 1-foot clearance performed on-site and briefed on the historical land use of the base. If during the excavation or installation of the proposed undertaking, any unusual metal items are recovered, it should be inspected thoroughly to determine it is not munitions related material. The UXO-screening Tracklog Map, Daily Site Reports, representative photographs of the lease area and recovered debris are provided in Appendix E.

4.0 PUBLIC INVOLVEMENT

A Notice of Availability (NOA) would be prepared for the Draft of this EA report. The proposed undertaking would be publicized during a 30-day public comment period published in The Manchester Times, Herald Chronicle, and Tullahoma News. A hard copy of the Draft EA would be made available for public review at the Franklin County Library, Coffee County Manchester Public Library, and Coffee County Lannom Memorial Public Library. Substantive comments would be addressed as appropriate in the final documents.

5.0 TABLES & FIGURES

Tables included in this report

Table	1	Proposed Project Site Attributes
Table	2	USFWS IPaC Trust Resource Report List of T&E Species
Table	3	List of Preparers

Appendix A - Exhibits

Exhibit	1	USGS Topographic Vicinity Map			
Exhibit	2	Lease Exhibit			
Exhibit	3	Historical Aerial Photographs			
Exhibit	4	Parcel Map			
Exhibit	5	AEDC Wildlife Management Area Map			
Exhibit	6	FEMA Floodplain Map			
Exhibit	7	National Wetlands Inventory Map			
Exhibit	8	Map with Floodplain, Wetlands, and Surface			
		Features Merged.			
Exhibit	9	USGS Soil Survey Map			
Exhibit	10	AAFB Boundary Map			
Appendix B – Photo Log					

Appendix C – Interagency and Intergovernmental Coordination

Appendix D - Determination of No Air Hazard to Air Navigation Study

Appendix E – United Environmental, Inc. UXO Screening Documents

Appendix F - Public Notice

Appendix G - Credentials

6.0 LIST OF PREPARERS

Table 3						
Name	Affiliation	Title	Responsibilities			
Hyun-Woo Lim	Terracon Consultants, Inc.	Environmental Project Manager	Project Management, Report Preparation, Literature Review			
Jim Baxter	Terracon Consultants, Inc.	Natural Resources Special – Senior Ecologist	Site Assessor, Report Preparation			
Emily Kosmalski	Terracon Consultants, Inc.	NEPA Group Manager, Senior Associate	Project Management, EA Report Reviewer			
Craig Pruett Terracon Qu Consultants, Inc.		Quality Assurance	EA Report Reviewer			

7.0 **REFERENCES**

- Archaeological Survey and Inventory of 16,825 Acres AAFBCoffee and Franklin Counties, Tennessee. AMEC Earth and Environmental, Inc., Louisville, Kentucky (2010 Wampler, Marc, Kim Smith, John Hunter, Mathia Scherer, and Richard Stallings).
- AAFB, Fact sheets, accessed online on February 2016 at http://www.arnold.af.mil/library/factsheets/index.asp.
- AAFB, Integrated Natural Resource Management Plan (INRMP) FY 2016-2020, AEDC 2016-068
- AAFB, Integrated Cultural Resource Management Plan (ICRMP) FY 2016-2020
- City of Tullahoma, Demographics Page, accessed online on February 2016 at <u>http://www.tullahomatn.gov/demographics/</u>.
- City of Tullahoma, Land Use & Zoning, accessed online on February 2016 at <u>http://www.tullahomatn.gov/planning-commission/</u>.
- Coffee County, Property Assessor, accessed online on February 2016 at http://www.coffeecountytn.org/government/elected_offices/property_assessor/index.html

- Environmental Baseline Survey for the Verizon Cellular Tower at AAFB, TN, Arnold Engineering Development Complex, December 2014.
- Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants, accessed online on February 2016 at <u>http://www3.epa.gov/airquality/greenbk/</u>.
- Federal Emergency Management Agency. Flood Insurance Rate Map, Coffee County, FIRM Panel 335 of 376, Map Number 470310335, dated August 4, 2008, accessed online February 2016 at http://www.msc.fema.gov/.
- Google Earth Aerial Photograph of the Site, 1997, 2003, 2007, 2008, 2010, 2012, and 2013.
- Phase I Environmental Site Assessment, Proposed Telecommunications Tower Site, AAFB, Terracon Consultants, Inc. April 24, 2015.
- Programmatic Environmental Assessment for Implementation of the General Plan at AAFBTennessee, Department of the Air Force, May 2015.
- U.S. Census Bureau, State & County Quick Facts, Manchester, Tennessee, accessed online May 2017 at <u>https://www.census.gov/quickfacts</u>
- U.S. Census Bureau, State & County Quick Facts, Tullahoma, Tennessee, accessed online May 2017 at <u>https://www.census.gov/quickfacts</u>
- U.S. Census Bureau, State & County Quick Facts, Winchester, Tennessee, accessed online May 2017 at <u>https://www.census.gov/quickfacts</u>
- U.S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed online December 2015, at <u>http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</u>.
- U.S. Geological Survey, Capitol Hill, Tennessee, 7.5-minute Quadrangles, 1993.
- U.S. Fish and Wildlife Service, Information for Planning and Conservation accessed online December 2015 at <u>http://ecos.fws.gov/ipac/</u>.

- Communications Tower Siting, Construction, Operation, and Decommissioning Recommendations, USFWS Service Interim Guidelines <u>https://www.fws.gov/midwest/Endangered/section7/telecomguidance.html</u>
- U.S. Fish and Wildlife Service, National Wetlands Inventory, Wetland Mapper page accessed online December 2015 at <u>http://www.fws.gov/wetlands/</u>

APPENDIX A

Historical Topographic Map



N ▲	TARGET QU NAME: MAP YEAR: REVISED FI	CAPITOL HILL 1993 ROM :1972	ADDRESS:	Arnold AFB #264257 Pumping Station Road Tullahoma, TN 37388 35° 21' 33.39"/ -86° 3' 26.28"	EXHIBIT 1
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Tennessee Property Viewer



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Coordinate System Map Projection: Tennessee State Plane Meters North American Datam - NAD83

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ATA - A Joint Venture of Jacobs, CSC, and GP Arnold Engineering Development Center, Arnold Air Force Base, Tennessee







Soil Map—Coffee County, Tennessee (Arnold AFB)



Conservation Service

12/18/2015 Page 1 of 3



Map Unit Legend

Coffee County, Tennessee (TN031)					
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI		
Dk	Dickson silt loam, 2 to 5 percent slopes	1.0	100.0%		
Totals for Area of Interest		1.0	100.0%		



Arnold AFB Location

APPENDIX B



Photo 1: View at center of the proposed compound with large black oak and snag off to the left.



Photo 3: View of north adjacent wooded area.

Tower Evaluation - Project No. 18157306



Photo 2: View of thick wooded land just east of the site.



Photo 4: View of sloped area with younger hardwood south of the site.

Project Name: Arnold AFB

Date Photos Taken: December 2015



Photo 5: View of proposed access road location in open area near the main road.



Photo 6: View of relatively open wooded area at site access road and proposed compound edge facing west towards the main road.

APPENDIX C



ALABAMA-COUSHATTA TRIBE OF TEXAS

571 State Park Road 56 • Livingston, Texas 77351 • (936) 563-1100

January 6, 2017

Arnold Air Force Base Attn: Shannon Allen, Acting CRM AEDC/TSCDI 100 Kindel Dr., Suite B-322 Arnold AFB, TN 37389-2322

Dear Ms. Allen:

On behalf of Mikko Colabe III Clem Sylestine and the Alabama-Coushatta Tribe, our appreciation is expressed on your efforts to consult us regarding the Verizon telecommunications tower in Coffee County.

Our Tribe maintains ancestral associations within the state of Tennessee despite the absence of written records to completely identify Tribal activities, villages, trails, or burial sites. However, it is our objective to ensure significances of American Indian ancestry, especially of Alabama-Coushatta origin, are administered with the utmost considerations.

Upon review of your November 10, 2016 submission, Coffee County exists beyond our scope of interest for state of Tennessee. Therefore, no impacts to cultural assets of the Alabama-Coushatta Tribe of Texas will occur in conjunction with this proposal.

Should you require further assistance, please do not hesitate to contact us.

Sincerely,

SLAL

Bryant J. Celestine Historic Preservation Officer

Office (936) 563 - 1181

celestine.bryant@actribe.org

Fax (936) 563 - 1183



DEPARTMENT OF THE AIR FORCE HEADQUARTERS ARNOLD ENGINEERING DEVELOPMENT COMPLEX (AFMC) ARNOLD AIR FORCE BASE, TENNESSEE

NOV 1 D 2016

Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Jeremiah Hobia Chief Kialegee Tribal Town PO Box 332 Wetumka OK 74883

Dear Chief Hobia

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RODNEY F. TODARO, Colonel, USAF Commander

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- 2. Draft Environmental Assessment (CD)

cc: AFCEC/CZO (Al Urrutia) AEDC/TSDCI (Shannon Allen) URS (Shawn Chapman) JA (Capt Brett Johnson)



DEPARTMENT OF THE AIR FORCE HEADQUARTERS ARNOLD ENGINEERING DEVELOPMENT COMPLEX (AFMC) ARNOLD AIR FORCE BASE, TENNESSEE

NOV 1 0 2016

Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. George Wickliffe Chief United Keetoowah Band of Cherokee Indians in Oklahoma PO Box 746 Tahlequah OK 74465

Dear Chief Wickliffe

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NOV 1 0 2016

Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Ms. Glenna J. Wallace Chief Eastern Shawnee Tribe of Oklahoma PO Box 350 Seneca MO 64865

Dear Chief Wallace

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NOV 1 0 2016

Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Patrick H. Lambert Chief Eastern Band of Cherokee Indians PO Box 455 Cherokee NC 28719

Dear Chief Lambert

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NOV 1 0 2016

Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Lovelin Poncho Chairman Coushatta Tribe of Louisiana PO Box 10 Elton LA 70532

Dear Chairman Poncho

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Commander

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Bill Anoatubby Governor Chickasaw Nation of Oklahoma PO Box 1548 Ada OK 74821-1548

Dear Governor Anoatubby

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Bill John Baker Chief Cherokee Nation PO Box 948 Tahlequah OK 74465-0948

Dear Chief Baker

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Tarpee Yargee Chief Alabama-Quassarte Tribal Town PO Box 187 Wetumka OK 74883

Dear Chief Yargee

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

NOV 1 0 2016

Mr. Clem Celestine First Chief Alabama-Coushatta Tribe of Texas 571 State Park Road 56 Livingston TX 77351

Dear First Chief Celestine

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Ms. Edwina Butler-Wolfe Governor Absentee Shawnee Tribe of Oklahoma 2025 S. Gordon Cooper Drive Shawnee OK 74801

Dear Governor Butler-Wolfe

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Ron Morrow Mekko Thlopthlocco Tribal Town PO Box 188 Okemah OK 7485901

Dear Mekko Morrow

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. James Floyd Principal Chief Muscogee (Creek) Nation of Oklahoma PO Box 580 Okmulgee OK 74447

Dear Principal Chief Floyd

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Ron Sparkman Chief Shawnee Tribe of Oklahoma PO Box 189 Miami OK 74355

Dear Chief Sparkman

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Ms. Stephanie Bryan Tribal Chairman Poarch Band of Creek Indians 5811 Jack Springs Road Atmore AL 36502

Dear Tribal Chairman Bryan

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Colonel Rodney F. Todaro Commander, Arnold Air Force Base 100 Kindel Drive, Suite A-303 Arnold AFB TN 37389-1303

Mr. Leonard Harjo Principal Chief Seminole Nation of Oklahoma PO Box 1498 Wewoka OK 74884

Dear Principal Chief Harjo

An Environmental Assessment (EA) is being prepared for a proposed telecommunications tower site at Arnold Air Force Base (AFB), Tennessee. Arnold AFB is sending this letter to notify you of our intent to prepare this EA. The general location of the proposed telecommunications tower site is shown on the map in Attachment 1, and a copy of the draft EA is provided in Attachment 2 for your review. Arnold AFB would like to know if you are interested in providing comments, concerns, and suggestions.

The proposed undertaking consists of a 265-foot self-support telecommunications tower structure within an approximate 10,000-square foot lease area along with access road/utility easements located along South Hap Arnold Drive, Arnold AFB. All necessary utilities and ancillary work (e.g., clearing trees, filling and grading, providing proper storm water drainage, and roadway improvements) would also be accomplished as necessary to achieve these improvements.

The entire area has been previously surveyed for cultural resources and no archaeological sites are recorded within the area of potential effect (APE). Because the APE for this undertaking involves grounds either previously disturbed or surveyed for cultural resources as identified in the current Integrated Cultural Resources Management Plan, we do not anticipate inadvertent discovery of any cultural artifacts during the project implementation. Nonetheless, our Standard Operating Procedures (SOPs) for inadvertent discovery will apply.

If you have comments or concerns to provide, please respond to this letter within 30 days of receipt by mail: Mrs. Shannon Allen, Acting Cultural Resources Manager, AEDC/TSDCI, 100 Kindel Drive, Suite B-322, Arnold AFB TN 37389-2322, or (preferred) shannon.allen.1@us.af.mil.

Sincerely

ROĎNEÝ F. TODARO, Colonel, USAF Commander

2 Attachments:

1. General Location Map of the Proposed Verizon Telecommunications Tower

2. Draft Environmental Assessment (CD)



United States Department of the Interior

FISH AND WILDLIFE SERVICE Tennessee ES Office 446 Neal Street Cookeville, Tennessee 38501



October 12, 2016

Mr. Hyun-Woo Lim Environmental Project Manager Terracon Consultants, Inc. 650 West Lake Street, Suite 420 Chicago, IL 60661

Subject: FWS# 16-F-0456. Telecommunications Tower, Site Name: Arnold Air Force Base, Tullahoma, Coffee County, Tennessee.

Dear Mr. Lim:

We have analyzed the effects of the subject action under the 2015 Biological Opinion: Tennessee Field Office's Participation in Conservation Memoranda of Understanding for the Indiana Bat and/or Northern Long-eared Bat (BO). This action has been reviewed in accordance with an interim compliance process for projects being coordinated under the U.S. Fish and Wildlife Service's (Service) previous program for forest-dwelling bat Conservation Memoranda of Agreement. A standard, long-term process is being established by the Service to improve this program, and the interim procedure will be used until that process is formalized.

Cellco Partnership and its controlled affiliates doing business as Verizon Wireless and Arnold Air Force Base propose construction of a 265- foot self-support telecommunications tower with associated antennas and equipment enclosures within a 10,000 square foot lease area located east of Pumping Station Road in Tullahoma. Vehicular access and utilities will be provided via a proposed easement that will extend approximately 250-feet southeast from Pumping Station Road towards the tower site. Conservation measures to be implemented for this project in association with the Conservation Strategy for Forest-dwelling Bats in Tennessee and BO have been evaluated by the Service to assess the direct, indirect, and cumulative effects of the proposed project on the two species.

The removal of suitable Indiana bat and northern long-eared bat habitat would occur during a timeframe when the species could be present but only during the non-maternity period. This will provide for avoidance of direct impacts to bats that are not yet flying and to adult female bats that are preparing to raise newborn pups. The period during which trees would be removed for

this project is August 1 through March 31. The project proponent has chosen to contribute to the Tennessee Imperiled Bat Conservation Fund (Tennessee IBCF) for this project. The contribution rate at the time of the request to enter into the Tennessee IBCF was 3650.00 per acre for this project and 0.3 "acre" of habitat would be removed (0.3 x 3,650.00 = 1,095.00). We have received notification that the project proponent submitted a check in the amount of 1,095.00 and it has been accepted by the Kentucky Natural Lands Trust for deposit into the account of the Tennessee IBCF for this project.

We conclude that impacts to Indiana bat and northern long-eared bat habitat would be adequately covered by the conservation measures agreed upon above. Any incidental take of Indiana and/or northern long-eared bats that will or could result from the forest habitat removal associated with this project would be authorized under the BO and the northern long-eared bat 4(d) rule. Therefore, we have determined that the Arnold Air Force Base Telecommunications Tower project is not likely to jeopardize the continued existence of the Indiana bat or northern long-eared bat or result in the destruction or adverse modification of designated critical habitat for either species.

This letter serves as documentation that the requirements of section 7 of the Endangered Species Act of 1973 (the Act), as amended, are fulfilled; and it applies to any associated federal agency action(s) that require coordination with the Service, such as federal permits or federal funding. We believe that the project plans adequately address potential direct, indirect, and cumulative effects upon the Indiana bat, northern long-eared bat, and other threatened and endangered species. Therefore, it is appropriate to conduct the tree-clearing activity between August 1st and March 31st. Obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for working with us to address concerns about impacts to the Indiana bat, northern long-eared bat, and the associated habitats. Feel free to contact Amy Turner, Ph.D. of my staff with any questions at 931/525-4987 or by email at *amy_turner@fws.gov*.

Sincerely

Mary E. Jennings Field Supervisor



February 29, 2016

Tammy Bilbrey USFWS Cookeville ES Field Office Permit Consultation Reviewer / GIS 446 Neal Street Cookeville, TN 38501 (P) (931)525-4987 (F) (931) 528-7075 (E) tammy_bilbrey@fws.gov

Re: Tower Site Evaluation: Proposed 265-foot Self-Support Telecommunications Tower Site Name: Arnold AFB USGS Quadrangle: Capitol Hill, TN (1972 PR 1993) Latitude/Longitude: 35-21-33.39 N / 86-03-26.28 W Site Address: Pumping Station Road Tullahoma, Coffee County, TN 37388 Terracon Project Number: 18157306

Dear Ms. Bilbrey:

On behalf of Cellco Partnership and its controlled affiliates doing business as Verizon Wireless (Verizon Wireless) and Arnold Air Force Base (Arnold AFB), Terracon is requesting a review of potential impacts to listed and proposed threatened/endangered species and critical habitats resulting from the proposed construction of a 265-foot self-support telecommunications tower at the above referenced location. Findings in this report are based upon the site's current utilization, the most recent reconnaissance information and from other activities described herein. Federal Communication Commission (FCC) regulations, as identified in 47CFR § 1.1307 (a) 3, require that Verizon Wireless consider the effects of the proposed tower construction to protected species and critical habitats. However, the FCC has deferred to the U.S. Air Force (USAF) as the lead agency for this project as the federal landowner. As such, this request is being conducted to fulfill requirements outlined in the Council on Environmental Quality (CEQ), 32 CFR Part 989, *Environmental Impact Analysis Process* (EIAP).

The proposed tower site is located east of Pumping Station Road in Tullahoma, Coffee County, TN 37388. Specifically; the location is 35-21-33.39 N latitude, 86-03-26.28 W longitude with a ground elevation of 1,089 feet above mean sea level (amsl). The proposed tower site consists of open grassy land and undeveloped wooded land. Surrounding properties are primarily undeveloped wooded land, Wattendorf Memorial Highway, and Pumping Station Road. Topography in the area was observed sloping primarily toward the





south. The site and its topographic environment are shown on the United States Geological Survey (USGS) *Capitol Hill, TN,* dated 1972 photo-revised 1993, 7.5 Minute Series Topographic Maps (see attached).

Terracon understands that Verizon Wireless is proposing to build a 265-foot self-support telecommunications tower (265-foot total tower height) with associated antennas and equipment enclosures within a 10,000 square foot (sf) lease area. Vehicular access and utilities will be provided via a proposed easement that will extend approximately 250-feet southeast from Pumping Station Road towards the tower site. No wetlands, streams, springs, ponds, or other water sources are located on the tower site. The closest wetland area depicted on the NWI map is located approximately 1,000 feet southwest of the proposed tower location. The nearest mapped wetland is a tributary of Brumalow Creek, which is located approximately 550 feet east of the site.

Terracon conducted a preliminary review using the U.S. Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (IPaC) Endangered Species Act species list to identify species of concern determined by the activities proposed at the site. Based on a review of the website, seven (7) species are listed as potentially occurring in the project area.

Terracon conducted a field visit on December 4, 2015. Habitats for the listed species were compared to the habitat observed at the proposed tower site. The proposed tower site consists of open land and undeveloped wooded land. Surrounding properties are primarily wooded land and roadways. According to the IPaC list, the site is located in the range for the Indiana Bat, Gray Bat, and Northern Long-eared Bat. Wooded portions of the site consist primarily of a medium-aged mixed hardwood forest. Numerous trees over three to five inches diameter breast height (dbh) were observed with dominate species including white oak (Quercus alba), black oak (Quercus velutina), yellow poplar (Liriodendron tulipifera), sourwood (Oxydendron arboretum), and flowering dogwood (Cornus florida). One snag approximately eight inches dbh with peeling bark and one white oak approximately 10 inches with slight exfoliating bark were observed within the footprint of the site. These trees displayed potential roosting characteristics as suitable habitat for the Indiana Bat and Northern Long-Eared Bat and are proposed for removal. No caves or karst systems that would provide hibernacula for the Gray Bat were observed or are documented in the area; therefore, suitable habitat for the Gray Bat is not located on the site and the species is not likely to be in the area.

Verizon has agreed to conduct any necessary tree clearing between October 15 and March 31, to avoid the roosting season. Based on the Interim Indiana Bat Mitigation Guidance (IIBMG) for the state of Tennessee, Verizon Wireless has elected to contribute to the Indiana Bat Conservation Fund (IBCF). Total site acreage is 0.30 acres of wooded habitat with two potential roost trees identified. Timber cover is relatively thick and the habitat block method was utilized rather than the single tree method. Known maternity or



swarming sites are not present and not located within 10 miles of the site. Suitable habitat with the potential for occurrence does not require an additional multiplier based on the IIBMG method. Current price per acre for the IBCF is \$3,650 which will apply to the site being less than one acre with no multiplier. Therefore, amount to be paid into the fund based on site acreage would be approximately \$1,000. Terracon will confirm this amount with the USFWS upon review and approval of this letter. Terracon has also confirmed with Ms. Sarah Harrison of the USFWS Cookeville, TN Field Office that the IBCF also covers the Indiana Bat and the Northern Long-Eared Bat. Therefore, the donation will apply for offseason suitable habitat impact to both species.

Additional IPaC listed protected species that may occur in the area of the site include three clam species and one fish species. No water sources or aquatic habitat is located on or adjacent to the site. Proposed site activities will have no effect on listed aquatic species.

USFWS recommendations published in Revised Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning (2013) state the preferred tower height to decrease potential effects on migratory birds is less than 200 feet tall. The siting and design process for this project could not conform to all the USFWS recommendations. Therefore, it has included mitigating factors such as consideration of collocation, tower siting with existing towers or in minimally sensitive areas, and eliminating the need for guy wires.

USFWS recommendations published in Interim Guidelines for Recommendations on Communication Tower Siting, Construction, Operation, and Decommissioning (2000) state the preferred tower height to decrease potential effects on migratory birds is less than 200 feet tall. Additional recommendations include consideration of collocation on an existing structure, elimination of guy-wires, siting within "existing antenna farms" outside of bird concentration areas, consideration on lighting effects, and the use of down shielded security lighting. Siting and design process for this project could not conform to all the USFWS recommendations; however the need for guy wires has been eliminated.

Based on Terracon's analysis and reconnaissance, it is not anticipated that the construction of the proposed telecommunications tower site will adversely affect the Indiana Bat or Northern Long-Eared Bat, and will have no effect on Gray bat or listed aquatic species. Verizon Wireless has elected to contribute to the IBCF for mitigation of proposed winter clearing. Your confirmation of this, however, would be greatly appreciated.

A topographic site location map is included with this letter. In addition, we have included representative photographs of the proposed tower site and a Tower Site Evaluation Form for your use.



Please feel free to contact our office at 770-623-0755 if you need additional information. Thank you for your assistance with this project.

Sincerely,



Elliott T. York Archaeologist/Tribal Liaison

L- Ban

Jim Baxter, MFR Senior Ecologist

Attachments: Topographic Site Location Map Soil Map Tower Site Evaluation Form Photographs Endangered Species Act Species List provided by IPaC Preliminary Construction Drawings

Historical Topographic Map



N ▲	TARGET QU NAME: MAP YEAR: REVISED FI	CAPITOL HILL 1993 ROM :1972	ADDRESS:	Arnold AFB #264257 Pumping Station Road Tullahoma, TN 37388 35° 21' 33.39"/ -86° 3' 26.28"	EXHIBIT 1
I	SERIES:	7.5			
	SCALE:	1:24000			

Soil Map—Coffee County, Tennessee (Arnold AFB)



Conservation Service

12/18/2015 Page 1 of 3



TOWER SITE USFWS EVALUATION FORM

1. Location (attach map) State: <u>Tennessee</u> Latitude/Longitude: <u>35-21-33.39 N / 86-03-26.28 V</u> City and Highway Direction: <u>The site is located ap</u> of the intersection of Wattendorf Memorial Highway a	proximately 3,000 feet south-southwest
2. Will the equipment be co-located on an existing <i>FC</i> structure (building, billboard, etc.)? No If yes	C Licensed tower or other existing , type of structure:
IF YES, NO FURTHER INFORMATION IS REQUIRE	D
If No, provide proposed specifications for new tow Height: <u>265-feet</u> Construction type:	ver: _ Self-Support
Guy-wired? <u>No</u> Number of bands: <u>N</u> Lighting (Security & Aviation): <u>In accordance with</u>	I <u>/A</u> Total Number of wires: <u>N/A</u> FAA regulations.
IF TOWER WILL BE LIGHTED OR GUY-WIRE	
<i>IF NOT, COMPLETE ONLY ITEM</i> 3. Area of tower footprint in acres or square feet: <u>1</u>	IS 17 AND 18. 0,000 square feet
4. Length and width of access road in feet:250' lor	ng x 20' wide
5. General description of terrain, mountainous, rolling Heavily wooded land with topography sloping towards	
6. Meteorological conditions (incidence of fog, low ce	ilings, etc.): No Fog.
7. Soil type(s): Dickson silt loam, 2 to 5 percent slopes	;
8. Habitat types and land use on and adjacent to the s Type: Wooded	
9. Dominant vegetative species in each habitat type:	Oak, Poplar, Sourwood
10. Average diameter breast height of dominant tree s	pecies in forested areas: 5-12" dbh

11. Will constru	uction	cause fragmentation of	f a larger habitat into two or more smaller
blocks?	No	If yes, describe:	-

12. Evidence of bird roosts or rookeries present? No If yes, describe:

13. Distance to nearest wetland area (swamp, marsh, riparian, marine, etc.), and coastline: A freshwater wetland is located approximately 1,000 feet southwest of the proposed site.

14. Distance to nearest telecommunications tower: Unknown

15. Potential to collocate antennas on existing towers or structures: No

- 16. Have measures been incorporated to minimize impacts on migratory birds? If yes, describe: Eliminating the need for guy wires
- 17. Has an evaluation been made to determine if the proposed facility may affect listed or proposed endangered or threatened species or their habitats as required be FCC regulation at 47 CFR 1.1307(a)(3)? Yes If yes, present findings: It is not anticipated that the construction of the proposed telecommunications tower will adversely affect the Indiana Bat or Northern Long-Eared Bat, and will have no effect on other listed or proposed protected species.

18. Additional information required: None



Photo 1: View at center of the proposed compound with large black oak and snag off to the left.



Photo 3: View of north adjacent wooded area.

Tower Evaluation - Project No. 18157306



Photo 2: View of thick wooded land just east of the site.



Photo 4: View of sloped area with younger hardwood south of the site.

Project Name: Arnold AFB

Date Photos Taken: December 2015



Photo 5: View of proposed access road location in open area near the main road.



Photo 6: View of relatively open wooded area at site access road and proposed compound edge facing west towards the main road.

U.S. Fish & Wildlife Service

Arnold AFB

IPaC Trust Resource Report

Generated December 18, 2015 08:13 AM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (<u>http://ecos.fws.gov/ipac/</u>): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

US Fish & Wildlife Service IPaC Trust Resource Report

NAME

Arnold AFB

LOCATION

Coffee County, Tennessee

DESCRIPTION

The undertaking consists of the proposed construction of a 265-foot self-support telecommunications tower with associated equipment and access/utility easement.

IPAC LINK

http://ecos.fws.gov/ipac/project/ JEHMR-BBF3J-FWPDC-KG5DS-XGKJJU



U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

Tennessee Ecological Services Field Office

446 Neal Street Cookeville, TN 38501-4027 (931) 528-6481



Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the <u>Endangered Species Program</u> of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

<u>Section 7</u> of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Clams

Cumberland Pigtoe Pleurobema gibberum	Endangered	
CRITICAL HABITAT		
No critical habitat has been designated for this species.		
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F03	<u>33</u>	
Pale Lilliput (pearlymussel) Toxolasma cylindrellus	Endangered	
CRITICAL HABITAT		
No critical habitat has been designated for this species.		
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F00	<u>)B</u>	
Slabside Pearlymussel Pleuronaia dolabelloides	Endangered	
CRITICAL HABITAT		
There is final critical habitat designated for this species.		
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F0	<u>1Y</u>	
Fishes		
Boulder Darter Etheostoma wapiti Experimental Population, Non-Essential		
CRITICAL HABITAT		
No critical habitat has been designated for this species.		

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E05P

Mammals Endangered Gray Bat Myotis grisescens Endangered CRITICAL HABITAT No critical habitat has been designated for this species. https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A04.J Endangered Indiana Bat Myotis sodalis Endangered CRITICAL HABITAT No critical habitat has been designated for this species. https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A04.J Endangered CRITICAL HABITAT No critical habitat has been designated for this species. https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A000 Threatened CRITICAL HABITAT Threatened Northern Long-eared Bat Myotis septentrionalis Threatened CRITICAL HABITAT No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the <u>Migratory Bird Treaty Act</u> and the <u>Bald and Golden Eagle</u> <u>Protection Act</u>.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (<u>1</u>). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern <u>http://www.fws.gov/birds/management/managed-species/</u> <u>birds-of-conservation-concern.php</u>
- Conservation measures for birds <u>http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/</u> <u>conservation-measures.php</u>
- Year-round bird occurrence data <u>http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/</u> <u>akn-histogram-tools.php</u>

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle Haliaeetus leucocephalus	Bird of conservation concern
Year-round	
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008	
Black-billed Cuckoo Coccyzus erythropthalmus	Bird of conservation concern
Season: Breeding	
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI	
Blue-winged Warbler Vermivora pinus	Bird of conservation concern
Season: Breeding	
Chuck-will's-widow Caprimulgus carolinensis	Bird of conservation concern
Season: Breeding	
Dickcissel Spiza americana	Bird of conservation concern
Season: Breeding	
Fox Sparrow Passerella iliaca	Bird of conservation concern
Season: Wintering	
Kentucky Warbler Oporornis formosus	Bird of conservation concern
Season: Breeding	
Least Bittern Ixobrychus exilis	Bird of conservation concern
Season: Breeding	

Loggerhead Shrike Lanius Iudovicianus Year-round https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY	Bird of conservation concern
Prairie Warbler Dendroica discolor	Bird of conservation concern
Season: Breeding	
Prothonotary Warbler Protonotaria citrea	Bird of conservation concern
Season: Breeding	
Red-headed Woodpecker Melanerpes erythrocephalus	Bird of conservation concern
Year-round	
Rusty Blackbird Euphagus carolinus	Bird of conservation concern
Season: Wintering	
Sedge Wren Cistothorus platensis	Bird of conservation concern
Season: Migrating	
Short-eared Owl Asio flammeus	Bird of conservation concern
Season: Wintering	
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD	
Wood Thrush Hylocichla mustelina Season: Breeding	Bird of conservation concern
Worm Eating Warbler Helmitheros vermivorum	Bird of conservation concern

Season: Breeding

Refuges

Any activity proposed on <u>National Wildlife Refuge</u> lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuges in this location

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army</u> <u>Corps of Engineers District</u>.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location



PARENT PARCEL UNITED STATES OF AMERICA MAP 122, PARCEL 002.00 DEED BOOK: 321, PAGE: 222 ROMC

LESSEE				
1961 NORTHPOINT BLVD, SUITE 130 HIXSON, TN 37343 PH: 423-843-9509 FAX: 423-843-9509				
THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT IS STRICTLY PROHIBITED.				
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CHECKED BY:	СТД			
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A 12/15/14 PRE	LIMINARY I	REVIEW		
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PROJECT No. 20130	852368			
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	ARNOLD AFB			
SITE NUMBER: 264257				
SITE ADDRESS: PUMPING STATION ROAD TULLAHOMA, TN 37388				
SHEET TITLE: LEASE EXHIBIT				
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United States Department of the Interior

FISH AND WILDLIFE SERVICE Tennessee ES Office 446 Neal Street Cookeville, Tennessee 38501

March 23, 2016

Mr. Hyun-Woo Lim Environmental Project Manager Terracon Consultants, Inc. 650 West Lake Street, Suite 420 Chicago, IL 60661

Subject: FWS# 16-F-0456. Telecommunications Tower, Site Name: Arnold Air Force Base, Tullahoma, Coffee County, Tennessee.

Dear Mr. Lim:

Thank you for your correspondence dated February 29, 2016, regarding the proposed telecommunications tower, Site Name: Arnold Air Force Base, Tullahoma, Coffee County, Tennessee. Your correspondence included the results of a federally listed species survey conducted at the project site and requested our review and comments on the subject project. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. § 4321 et seq.); the Migratory Bird Treaty Act, as amended (16 U.S.C. 661-667e); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

Cellco Partnership and its controlled affiliates doing business as Verizon Wireless and Arnold Air Force Base propose construction of a 265- foot self-support telecommunications tower with associated antennas and equipment enclosures within a 10,000 square foot lease area located east of Pumping Station Road in Tullahoma. Vehicular access and utilities will be provided via a proposed easement that will extend approximately 250-feet southeast from Pumping Station Road towards the tower site.

Forest-dwelling Bat Species

According to the environmental document the proposed tower site consists of open land and 0.30 acres of undeveloped wooded land with two trees that have suitable roosting characteristics for forest-dwelling bat species. The project applicant proposes to remove these potentially suitable summer roosting trees between October 15 and March 31, to remove any direct effects to Indian bat (*Myotis sodalist*) and northern long-eared bat (*Myotis septentrionalis*).
Verizon Wireless proposes to enter into the conservation memorandum of understanding (CMOU) with the US Fish and Wildlife Service to address this proposed removal of habitat.

Fish and Wildlife Service policy for signing Memoranda of Agreement (MOAs) and Memoranda of Understanding (MOUs) has been under review for over a year and was recently completed. As a result of that review, the Tennessee Field Office (TFO) and the Southeast Regional Office are temporarily unable to sign CMOUs while we seek legal review of them relative to the new MOA/MOU policies. We anticipate the issue to be temporary, but we do not know exactly when it will be remedied. In the interim, we have discussed alternative solutions with our Regional Office for helping the applicant achieve Endangered Species Act (ESA) compliance on projects involving listed forest-dwelling bats in Tennessee (i.e., the Indiana bat and northern long-eared bat). The Interim Compliance Process outlined below would help ensure that the applicant's project is handled promptly and that they achieve ESA compliance on their project.

Interim Compliance Process for Projects Requesting a Forest-Dwelling Bat CMOU

The TFO's 2015 *Conservation Strategy for Forest-Dwelling Bats in Tennessee* (Conservation Strategy) identifies the types of conservation measures that are appropriate when impacts to known or potential habitat for listed forest-dwelling bats are unavoidable. One of those measures is a voluntary contribution to Tennessee's Imperiled Bat Conservation Fund (IBCF) to off-set forest losses that occur as a result of project implementation. Under the Interim Compliance Process the project applicant may still make that contribution according to the process described in the Conservation Strategy. If the project applicant no longer wants to make an IBCF contribution or if they do not want to use the Interim Compliance Process, they continue to have all other compliance options available to them, as outlined in the Conservation Strategy.

If the applicant chooses to make a contribution to the IBCF, they should use the same basic procedures normally used with the CMOU process (previously referred to as a CMOA process). To do this, they should complete the following steps:

1. The federal action agency for the project (Arnold Air Force Base) would request consultation for the action if it fully complies with the Conservation Strategy and the CMOU components of the Conservation Strategy. If they have been authorized by the federal action agency to coordinate with us, we can conduct much of the coordination with the applicant in advance.

2. To fully comply with the Conservation Strategy, a proposed project must avoid adverse effects to hibernacula, result in the loss of no more than 100 acres of suitable forested habitat, would not occur within one mile of a P1 or P2 Indiana bat hibernaculum or one-half mile of a P3 or P4 Indiana bat hibernaculum or within one-fourth mile of any northern long-eared bat hibernacula, and would not result in impacts to trees within 150 feet of known northern long-eared bat maternity roost trees between June 1 and July 31. These avoidance and minimization measures are listed on pages 15-17 of the Conservation Strategy.

3. Use the process on pages 18-22 of the Conservation Strategy to determine the number of acres of habitat that will be impacted, the number of mitigation acres that would be necessary to offset impact, and the amount of the IBCF contribution.

- 4. Coordinate with the TFO, to ensure the calculations you have made are accurate.
- Mail your IBCF contribution to: Kentucky Natural Lands Trust c/o Hugh Archer, Executive Director 433 Chestnut Street Berea, KY 40403

The contribution should be made via check or money order.

6. The applicant should send a cover letter or memo with the contribution, referencing the Project Proponent's Name, the TFO Project Number FWS-16-F-0456, and "IBCF Contribution" in the letter or memo or on the check or money order. Additionally, a contact name and address should be included in the letter or memo so that a letter of receipt can be sent.

7. Provide a copy of the check or money order to our office via mail, fax, or email to the TFO biologist you have been working with on the project. When we receive notification from the Kentucky Natural Lands Trust that the contribution has been received, the TFO will acknowledge the contribution and provide the applicant or TVA a letter explaining that:

We have analyzed the effects of your action already under the 2015 Biological Opinion: *Tennessee Field Office's Participation in Conservation Memoranda of Understanding for the Indiana Bat and/or Northern Long-eared Bat* (BO), the project adheres to the Conservation Strategy and the conservation measures associated with the Conservation Strategy and BO, and the project is not likely to jeopardize the continued existence of the Indiana bat or northern long-eared bat or result in the destruction or adverse modification of designated critical habitat for either species;

Any incidental take of Indiana and/or northern long-eared bats that will or could result from the forest habitat removal associated with the project would be authorized under the BO; and The letter from the TFO to you would serve as documentation that the project is in compliance with the Endangered Species Act for the covered bat species and would also apply to any involved federal agency action(s), such as any required federal permits or federal funding.

This letter may also contain additional technical assistance and any concurrences or nonconcurrences for other federally listed or proposed species or designated critical habitats that may also be affected by the proposed project. On previous projects that were covered by CMOUs (previously referred to as CMOAs), we typically included this information in a cover letter associated with the CMOU, so the Interim Compliance Process is similar to the CMOU process may have been used before. As a result, the only difference between the CMOU process we normally use and the Interim Compliance Process is that there will not be a CMOU signed by both parties.

Please contact Amy Turner, Ph.D. with the TFO if you have any questions about the Interim Compliance Process. As always, we are available to provide the applicant with any assistance they may need on the proposed project and can answer any questions that action agencies may have regarding the status of the project's ESA compliance.

The following information is specific to this project (FWS-16-F-0456). Cellco Partnership and its controlled affiliates doing business as Verizon Wireless and Arnold Air Force Base propose construction of a 265- foot self-support telecommunications tower with associated antennas and equipment enclosures within a 10,000 square foot lease area located east of Pumping Station Road in Tullahoma. Based on information provided by the project proponent and their consultant, it is the Service's understanding that 0.30 acres of undeveloped wooded land with two trees that have suitable roosting characteristics for forest-dwelling bat species will be removed. The total amount to be submitted to KNLT for this project is $1,0095.00 (.30 \times 3,650.00 = 1,0095.00)$.

Thank you for the opportunity to comment on this action. If you have any questions regarding the information which we have provided, please contact Amy Turner, Ph.D. of my staff at 931/525-4987, or by email at *amy_turner@fws.gov*.

Sincerely,

1:3. Wat

For, Mary E. Jennings Field Supervisor

APPENDIX D

Aeronautical Study No. 2015-ASO-338-OE



Mail Processing Center Federal Aviation Administration Southwest Regional Office Obstruction Evaluation Group 2601 Meacham Boulevard Fort Worth, TX 76193

Issued Date: 02/12/2015

Candice Koenig Verizon Wireless Tennessee Partnership 1120 Sanctuary Pkwy, #150 GASA5REG Alpharetta, GA 30009

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

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

Structure:	Antenna Tower Arnold AFB
Location:	Tullahoma, TN
Latitude:	35-21-33.39N NAD 83
Longitude:	86-03-26.28W
Heights:	1089 feet site elevation (SE)
	265 feet above ground level (AGL)
	1354 feet above mean sea level (AMSL)

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

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

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)

___X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 08/12/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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

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

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

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

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

If we can be of further assistance, please contact our office at (817) 321-7755. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASO-338-OE.

(DNE)

Signature Control No: 240185124-243221151 Debbie Cardenas Technician

Attachment(s) Frequency Data

cc: FCC

Frequency Data for ASN 2015-ASO-338-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
(0)	206	MIL-	1000	XX 7
698 806	806 824	MHz MHz	1000 500	W W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

APPENDIX E

Lim, Woo

From:	Kosmalski, Emily
FI UIII.	
Sent:	Wednesday, February 24, 2016 4:37 PM
То:	Lim, Woo
Subject:	FW: Verizon Cell Phone Tower (Terracon)
Attachments:	1Hot Rock_Arnold AFB_Cell Phone Tower_11_19_15.JPG; 2Metal Cans_Arnold
	AFB_Cell Phone Tower_11_19_15.JPG; 5Arnold AFB_Cell Phone Tower_11_19_15.JPG;
	6Arnold AFB_Cell Phone Tower_11_19_15.JPG; 9Cultural Debris_Arnold AFB_Cell
	Phone Tower_11_19_15.JPG; 10Arnold AFB_Cell Phone Tower_11_19_15.JPG; 11.
	_Access road_Arnold AFB_Cell Phone Tower_11_19_15.JPG; 13Contacts below 1'
	staked_Arnold AFB_11_19_15.JPG; 14South East Corner_Arnold AFB_Cell Phone
	Tower_11_19_15.JPG; 15_South West Corner_Arnold AFB_Cell Phone Tower_11_19_
	15.JPG; Daily Arnold AFB 11-17-15.docx; Daily Arnold AFB 11-18-15.docx; Daily Arnold
	AFB 11-19-15.docx; Tracklog Map.pdf

From: Doug Ralston [mailto:Dralston@usatampa.com] Sent: Tuesday, December 01, 2015 3:30 PM To: TIMMONS, DENNIS R GS-13 USAF AFMC AFCEC/CZOE (dennis.timmons@us.af.mil); CARNLEY, BRIAN K GS-13 USAF AFMC AEDC/TSDCI; KEY, JAMES G MSgt USAF AFMC AEDC/SE; MORRIS, TROY W GS-13 USAF AFMC AEDC/TSDCI Cc: Kosmalski, Emily Subject: Verizon Cell Phone Tower (Terracon)

Team,

USA has completed the 1ft removal at the cell phone tower. In my professional opinion you should be able to classify the surrounding areas as Low. The cell tower is approximately 1.25 miles from the southern impact area so the closer you get to that you would probably find overshoots.

I have attached our Daily Reports and Photographs of the vegetation, recovered metal items, and a map of the boundary of the cleared area.

- We performed the AHA and SOP's in July 2015 and we Mob'd the Mag and Dig Team the performed the 1ft removal 17 19 November 2015.
- We wrote the Construction Support Work Plan and the Explosive Management Plan (EMP) in October 2015.
- The Field Management mob the week of 11/16/15 and demob on 11/20/15. We have attached the Daily Field Reports.

Conclusion of the Field Work:

Our team found no Munitions or fragments of munitions in the area. The only items recovered where cultural debris, i.e., chain, cans, etc.

The construction company should be briefed about the FUDS site and the performance of the 1ft clearance. If they excavate any unusual metal items during installation of the cell tower it should be inspected to determine that it is not munitions related material.

I have included a Tracking Map of the site to show what our team cleared. They marked the boundary of the site with Flags and they also marked anomaly readings deeper than 1ft. These anomalies where not investigated.

Please call me or send an email for and questions you may have.

Doug Ralston Director Operations & Policy (Vieques, MRA, CONUS) & Ops Spt USA Environmental, Inc. (813) 343-6368 Office (813) 343-6368 Fax (813) 500-1099 Cell <u>dralston@usatampa.com</u>



Arnold Air	Force	Base
Completed	Tracklo	og Map

	 -	-	т
			С
			A

SECTION 1 GENERAL INFORMATION											
Project Na	ime:				Custo	mer(s)	Name:			Rep	ort No.:
Cell Phone	e Tower				Terra	Terracon					
			n					-			
Contract N	lo.:		TO No.			letion [Date:	Location			e of Report:
4915787			2020-5	12	11-19	-15		Arnold /		11-1	7-15
								Tullahor		<u> </u>	
SUXOS Na						hone N			Email A		
Randall Jer						43-6368					ahoo.com
Project Ma	0	ame:				hone N			Email A		
Doug Rals Customer						43-6368					tampa.com
						hone N 23-417			Email A		a: @Terracon.com
Emily L. I					//0-0	23-417	I		EIIIIIY.KU	5111015KI	
Project We SECTION		auui 855:				WEAT	UED				
		Dree	alpitatia	n /		VVEAI	TIEK				
Tem / High			cipitatio Humidity		14	/ind:		١	Work Impact	/ Dom	arks.
60	45	0	50			0 mph			vvork inipaci	/ Kell	iai NS.
SECTION		0	50			•		ONNEL			
		N.a. Aaa	l ava a al					ition:	No Assim	l.	No. Present:
Positie		No. Ass	signea:	INO.	. Presen	Present: P		Ition:	No. Assig	nea:	NO. Present:
Site Manag	yei	1	1		1						
UXOQCS/S	:0	1			1						
UXOT III		<u> </u>			1						
UXOT II		2			2						
SECTION	4	-	12	IBCON			SIGN		ONNEL		
Positie		No. Ass			TRACTOR ASSIGNED PERSO Present: Position:		No. Assigned:		No. Present:		
1 0510	011.	110.7133	ignea.	TNO.	. 110301		103		110.7155191	icu.	NO. ITCSCIII.
SECTION	5		RFN	TAL HE	AVY F	QUIPM	1ENT	ONSITE	<u>.</u>		
Descri	-	Quai	ntity:	Operat			Owne		Remarks:		
2 00011											
									1		
SECTION	6				TASK	(S) PEF	RFORM	MED			
	erformed:		Grids:		Transe	<u> </u>		Acquire:	Digs	:	Other:
GPS in roa	d, Staging								J J		
area and C											
Pad.											
Surface sw	eep acces	s									
road.											

Install IVS, GPS QC Point. Brush cutting									
SECTION 7			WO	rk details					
Grids:	Transects:	Re-Ac	quire:	Digs:			Remark	(S:	
				5				-	
SECTION 8			C V E E	TY DATA					
	on antiona hal	40 5			found or		ad today?		
1) Were safety in					Tourid or	recover	ed today?		⊠ N
General 🔀 1		ask Speci		Type:	<u> </u>		<i>"</i> 10		
3) Were there any			<u>] y 🛛 n</u>		competen	t Persor	" required?	Υ[⊠ N
1 st Aid	Clinic 🗌	Hospital		Туре:					
5) Were there an	y near misses'	? []Y 🛛 N		up or do	vn grad	ed today?		\leq N
Brief Description:				Changed to:					
SECTION 9			QUALIT	Y CONTROL D	ATA				
1) Were QC inspe	ections held?		Y 🗌 N	2) Was a Q	A submitt	al made	today?	Υ	⊲ N
Site MEC		Other		Submitted by			J .		-
3) Were there an			Y 🛛 N		op Work	or CAR i	ssued?	Υ Π	×Ν
	or Criti	cal 🗌		Issued by:		51 07 11 1			
5) Were there an			Y 🛛 N	6) Was a Form 948 issued? □ Y ⊠ N					
5) Were there an	y concetions:			Issued for:					
				135000101.					
			N / I						
SECTION 10				PPEH / MDAS				-	
No. of MPPEH item			0	Lbs. of MDAS				0	
No. of MPPEH item	s consolidated	d.	0	Lbs. of MDAS		a "seal	ed" containe	er. 0)
SECTION 11			MEC /	UXO SUMMA	ARY				
Туре:	Quant	ity:	Live:	Practice:	Unkno	wn:	Lo	cation:	
Projectiles									
Grenades									
Rockets									
Bombs									
Mines									
Missiles									
Pyrotechnics									
ICM / Submunition	s								
	3								
		•							
SECTION 12	N 61			TION OPERAT	10112	Deres 1			
Location:	NO. OF I	ems Dest	royea:			Remarl	(5:		

SECTION 13	DAILY COMMENTS									
Reviewed work Plan and APP.										
Work site Safety Brief held.										
Team briefed on days operations.										
	Gear inspected and prepared for the days operations.									
Porta Toilet delivered to site.										
IVS installed. One small ISO and one										
GPS QC check point established. E-5	85623.3, N-3913331.1									
Schonstedts checked at IVS.		00.1								
The Hand held GPS Trimble GeoXT (C	SeoXI 4) was checked at the	QC check	point.							
E-585623.4, N-3913330.1	the hand held CEOVE									
Areas to be swept were laid out with Completed Brush cutting briars locat		Dad								
Completed surface sweep of access r		au.								
Sweep team located small QC seed it		he								
MEC: 0										
MPPEH: 0										
MDAS: 0										
Cultural debris: 2 Lbs One short pie	ce of chain and pieces of met	al cans.								
Work hours: 10	·									
CUSTOMER/REGULATORY INSTRUCTIO	NS ISSUED:									
SECTION 14	GIGNATURE BLOCKS									
Type or Print SUXOS Name:	Signature:		Date:							
Randall Jenkins			11-17-15							
Type or Print Project Manager's Name:	Signature		Date:							
Doug Ralston										
CC to:	•									
Government Representative	Project Manager	Custome	er Representative							
Other – Specify:										

Note: Sections 2 through 13 above may have additional information found in inspection forms, preprinted forms, information sheets, or tabulated data sets (i. e., Sign-In / Sign-out Log, MEC Summary Log, Demolitions Records, QC Inspection Form, Safety Inspection Form). Attach additional information or continuation sheets to this report as needed.

SECTION 1 GENERAL INFORMATION										
Project Name:				Custo	mer(s)	Name:			Repo	ort No.:
Cell Phone Tower				Terra	Terracon					
Contract No.:		TO No.	:	Comp	letion	Date:	Location		Date	e of Report:
4915787		2020-5	12	11-19	-15		Arnold A	ΞВ,	11-1	8-15
							Tullahom			
SUXOS Name:					hone N			Email Ac	ddress	
Randall Jenkins					43-636					ahoo.com
Project Manager's N	Vame:				hone N			Email Ac		
Doug Ralston				813-3	43-636	8				tampa.com
Customer POC Nam					hone N			Email Ac		
Emily L. Kosmalsk				770-6	23-417	1		Emily.Kos	smalski	@Terracon.com
Project Web Portal	Address:									
SECTION 2					WEAT	HER				
Temp:	Pre	ecipitatio	n /							
High / Low		Humidity		W	/ind:		W	ork Impact	/ Rem	arks:
60 45	100%	100%			0 mph	Hea	avy rains	•		
SECTION 3 USA ASSIGNED PERSONNEL										
Position:	No. Ass	signed:	No.	. Present: Position:		ition:	No. Assigr	ned:	No. Present:	
Site Manager		5								
SUXOS	1	1		1						
UXOQCS/SO	1			1						
UXOT III										
UXOT II	2			2						
SECTION 4		SL	JBCON	TRAC1	FOR A	SSIGN	ED PERSC	NNEL		
Position:	No. Ass	signed:	No.	o. Present:		Posi	ition:	No. Assigr	ned:	No. Present:
SECTION 5		RENT	AL HE	AVY E	QUIPN	ЛENT (ONSITE			
Description:	Qua	ntity:	Operat	ional:		Owne	r:		Rem	arks:
			-							
SECTION 6				TASK	(S) PE	RFORN	/IED			
Task Performed:		Grids:		Transe	cts:	Re-	Acquire:	Digs:		Other:
Surface sweep										
laydown area										
Begin surface and										
subsurface sweep to	o 1'									
SECTION 7				WOR	K DET	AILS				

Grids:	Transects:	Re	e-Acquire:		Digs:		Remarks:		
SECTION 8			SVE	ETY D	ΛΤΛ				
	y inspections held	12			Was HW four	ad or rocov	arod today?	<u>Υ</u> Ν	
			pecific 🗌	Typ			ereu touay?		
	any accidents?				Was a "Comp	etent Perso	on" required?	□ Y ⊠ N	
1 st Aid		Hosp		Typ					
	any near misses?				Was PPE up o	or down gra	ded today?	<u>ΥΝ</u>	
Brief Description	•				anged to:	0	,		
•					0				
SECTION 9			QUALI	TY COI	NTROL DATA	4			
1) Were QC ins	spections held?		🛛 Y 🗌 N	2)	Was a QA sub	omittal mad	le today?	□ Y ⊠ N	
Site MEC		Ot	ther	Sub	omitted by:				
	any failures?		🗌 Y 🖂 N		Was a Stop V	Vork or CAR	issued?	□ Y ⊠ N	
	lajor 🗌 🛛 Criti				ued by:				
5) Were there	any corrections?		🗌 Y 🖂 N		Was a Form 9	948 issued?		🗌 Y 🖂 N	
	Issued for:								
SECTION 10					/ MDAS				
No. of MPPEH ite			0		Lbs. of MDAS recovered.0Lbs. of MDAS placed in a "sealed" container.0				
No. of MPPEH ite	ems consolidated	l	0			ced in a "sea	aled" container.	0	
SECTION 11			1		SUMMARY		1		
Туре:	Quant	ty:	Live:	P	ractice: L	Inknown:	Locat	ion:	
Projectiles									
Grenades									
Rockets Bombs									
Mines									
Missiles									
Pyrotechnics									
ICM / Submuniti	ons								
SECTION 12			DEMOL	ITION	OPERATION	١S			
Location:	No. of It	ems [Destroyed:			Rema	rks:		
			3						
	1								

SECTION 13

DAILY COMMENTS

Work site Safety Brief held.										
Team briefed on days operations.										
Gear inspected and prepared for the days operations.										
Schonstedts checked at IVS. S/N 1760	078, 272718.									
The Hand held GPS Trimble GeoXT (G	eoXT 4) was checked at the (QC checkpoint.								
E-585623.2, N-3913330.2	E-585623.2, N-3913330.2									
Conducted daily vehicle inspection.										
Completed surface sweep of laydowr	n area (50 x 50).									
Began surface/subsurface sweep of c	ell phone tower pad to 1'.									
Sweep team located medium QC see	d item located on the cell ph	one tower.								
MEC: 0										
MPPEH: 0										
MDAS: 0										
Cultural debris: 1/4 Lbs. Pieces of me	tal cans.									
Work hours: 10										
CUSTOMER/REGULATORY INSTRUCTION	NS ISSUED:									
	IGNATURE BLOCKS	Date:								
Type or Print SUXOS Name:	Signature:									
Randall Jenkins		11-18-15								
Type or Print Project Manager's Name:	Signature	Date:								
Doug Ralston										
CC to:										
Government Representative Project Manager Customer Representative										
Other – Specify:										

Note: Sections 2 through 13 above may have additional information found in inspection forms, preprinted forms, information sheets, or tabulated data sets (i. e., Sign-In / Sign-out Log, MEC Summary Log, Demolitions Records, QC Inspection Form, Safety Inspection Form). Attach additional information or continuation sheets to this report as needed.

SECTION 1			(GENER	AL IN	FORM	ATION					
Project Name:				Customer(s) Name:						Report No.:		
Cell Phone Tower			Terracon					001	001			
Contract No.: TO No.:			Completion Date: Location:									
		TO No.: 2020-512				Date:				e of Report:		
4915787		2020-5	12	11-19-15		Arnold AFB, Tullahoma TN.		11-19-15				
SUXOS Name:				Telephone No.:			Tullarior		Address			
Randall Jenkins					43-636				uxojenkins@yahoo.com			
	Project Manager's Name:				hone N				Address			
Doug Ralston	vanie.				43-636			Dralston@usatampa.com				
Customer POC Nam	ıe.				hone N				Email Address:			
Emily L. Kosmalsk					23-417					@Terracon.com		
Project Web Portal				1100	20 417			2				
SECTION 2					WEA	THER						
Temp:	Dro	ecipitation	n /		VLA							
High / Low		Humidity		<u>۱۸</u>	/ind:		۱. ۱	Nork Imp	/ork Impact / Remarks:			
60 40	0	50%			0 mph		· ·					
SECTION 3	0	507					ONNEL					
Position:	No. Ass	ianod:		Presen			ition:	No. Assigned: No. Preser				
Site Manager	NO. A33	signeu.	NO.	пезен	Present. Positi			NO. A33	signeu.	NO. I TESEIIL.		
SUXOS	1			1								
UXOQCS/SO	1			1								
UXOT III	•			-								
UXOT II	2			2								
SECTION 4		SU	IBCON	TRACT	OR A	SSIGN	ED PERS	ONNEL				
Position:	No. Ass			. Present:		Position:		No. Ass	sianed:	No. Present:		
		5							5			
SECTION 5		RENT	AL HE	AVY E	QUIPI	MENT (ONSITE					
Description: Quantity: Operat						Remarks:						
			-									
SECTION 6					<u> </u>	RFORN	/IED					
Task Performed:		Grids:		Transe	cts:	Re-	Acquire:	Di	igs:	Other:		
Surface/subsurface												
sweep to 1' on Cell												
Phone Tower Pad.												
Subsurface sweep to												
on the parking lot a	nd											
generator pad.	ad					-						
Stake corners and ro	Jau											

SECTION 7 WORK DETAILS									
Grids:	Transects:	Re	e-Acquire:		Digs:		Remarks:		
SECTION 8			SAF	ETY D	DATA				
1) Were safet	l 2)		foun	d or recove	ered today?	□ Y ⊠ N			
General 🛛 Tailgate 🗌 Task Specific 🖂					pe:				
	any accidents?					ompe	etent Perso	on" required?	🗌 Y 🔀 N
1 st Aid		Hosp	NTAL V N				r down ara	dad taday?	<u>Υ</u> Ν
5) Were there Brief Description	any near misses?				Was PPE	up o	uowirgra	ueu touay?	
	1.				langea to.				
SECTION 9			QUALIT	Y CO	NTROL D	ATA			
	spections held?		<u>Y</u> N	2)			mittal mad	le today?	🗌 Y 🖂 N
Site MEC		Ot	her		bmitted by:				
	any failures?				Was a Sto sued by:	op W	ork or CAR	issued?	□ Y ⊠ N
	1ajor Criti any corrections?				Was a For	-m 0	18 issued?		□ Y ⊠ N
3) Were there	any concetions:				sued for:	111 7	+0 133ucu :		
SECTION 10			М	PPEH	I / MDAS				
No. of MPPEH it	ems found.		0	Lb	s. of MDAS	reco	vered.		0
No. of MPPEH items consolidated. 0			Lb	s. of MDAS	place	ed in a "sea	aled" container.	0	
SECTION 11	SECTION 11 MEC / L								
Туре:	Quant	ity:	Live:		Practice:	U	nknown:	Loca	tion:
Projectiles									
Grenades Rockets									
Bombs									
Mines									
Missiles									
Pyrotechnics									
ICM / Submuniti	ons								
SECTION 12			DEMOL		I OPERAT	ION	S		
Location:	No. of It	ems D	Destroyed:				Rema	rks:	

SECTION 13 D	AILY COMMENTS						
Work site Safety Brief held.							
Team briefed on days operations.							
Gear inspected and prepared for the days operations.							
Schonstedts checked at IVS. S/N 1760)78, 272718.						
The Hand held GPS Trimble GeoXT (G	eoXT 4) was checked at the C	QC checkpoint.					
E-585623.5, N-3913330.3							
Conducted daily vehicle inspection.							
Completed surface/subsurface sweep	o of cell phone tower pad to ?	1′.					
Completed subsurface sweep to 1' or	n the parking and generator p	bad.					
Placed stakes and flags at the corners	and access road.						
Placed nails with blue tags at the beg	inning of access road and cor	rners that were GPS.					
Access road flagged with pin flags.							
QC of site completed.							
Track logged site with handheld GPS.							
Contacts deeper than 1' were marked	d with stakes.						
Denny Timmons visited the work site							
Notified Operations that we had finis	hed work at the site.						
Called to ensure the portable toilet w	ould be picked up.						
Completed site shutdown and paperv	vork.						
MEC: 0							
MPPEH: 0							
MDAS: 0							
A large number of contacts were hot							
Cultural debris: 1/4 Lb Pieces of met	al cans.						
Holes with contacts deeper than 1': 7							
Contacts prosecuted on Cell Phone Tower Pad: 125.							
Work hours: 8							
CUSTOMER/REGULATORY INSTRUCTIONS ISSUED:							
SECTION 14 S	IGNATURE BLOCKS						
Type or Print SUXOS Name:	Signature:	Date:					
Randall Jenkins	ويصحبونه ويحتان مسم يتعير تشاعره والتصبحر	11-19-15					
Type or Print Project Manager's Name:	Signature	Date:					
Doug Ralston							
CC to:							
Government Representative	Project Manager	Customer Representative					

Other	- Specify	:

Note: Sections 2 through 13 above may have additional information found in inspection forms, preprinted forms, information sheets, or tabulated data sets (i. e., Sign-In / Sign-out Log, MEC Summary Log, Demolitions Records, QC Inspection Form, Safety Inspection Form). Attach additional information or continuation sheets to this report as needed.



Photo 1: Representative photo of recovered debris.



Photo 3: Representative photo of the proposed lease area during UXO clearing process.



Photo 2: Representative photo of recovered debris.



Photo 4: Representative photo of the proposed lease area during UXO clearing process.

Photographs Provided by United Environmental, Inc.



Photo 5: Representative photo of recovered debris.



Photo 7: Representative photo of the proposed lease area during UXO clearing process.



Photo 6: Representative photo of the proposed lease area during UXO clearing process.



Photo 8: Representative photo of the proposed lease area during UXO clearing process.

Photographs Provided by United Environmental, Inc.

APPENDIX F

Upon issuance of the Draft Environmental Assessment (EA), a Notice of Availability

(NOA) will be placed in the following newspapers:

The Manchester Times Herald Chronicle Tullahoma News

Affidavits of publication and tearsheets will be included in the Final NEPA EA report.

APPENDIX G

HYUN-WOO LIM ENVIRONMENTAL PROJECT MANAGER

PROFESSIONAL EXPERIENCE

Ms. Lim is a Staff Scientist in Terracon's Chicago, Illinois Office. Project duties include National Environmental Policy Act (NEPA) assessments and documentation, Phase I Environmental Site Assessments (ESAs), project scoping and proposal preparation, regulatory agency coordination, staff training and mentoring, and technical report writing and review. Ms. Lim is the lead Tribal Consultation Manager for Terracon's NEPA Program and has extensive experience in government-to-government consultation procedures with respect to Native American consultation with Federal agencies. Ms. Lim is well-versed in cultural and natural resource issues important to Native American communities and assessing and mitigating impacts to those resources.

PROJECT EXPERIENCE

Consultation with Federally Recognized American Indian Tribes

Studied tribal consultation procedures, regulations, policies, and protol. Acted as a liaison between tribal representatives, Tribal Historic Preservation Officers (THPO), consultants, and any other parties involved in the consultation process.

National Environmental Policy Act (NEPA) Reviews

Prepared numerous NEPA evaluations for telecommunications towers/utility easements in accordance with FCC NEPA Regulations (Title 47 of the Code of Federal Regulations (CFR), Part 1, Subpart I, rule section 1.1307(a)(4), as amended by the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (47 CFR Part 1, Appendix B) and the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (47 CFR Part 1, Appendix C) in Alabama, Arizona, Arkansas, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, and Tennesse. Project responsibilities consisted of evaluating for the presence/absence of wetlands, floodplains, federal/tribal land, threatened and endangered species, critical habitat, historic resources, and archaeological resources impacted by the proposed undertaking. Agency consultation experience included Section 7 consultation with the United States Fish and Wildlife (USFWS) agency, state wildlife/natural resource agency, and federally recognized American Indian Tribes.

Section 106 Reviews

Project responsibilities included performing Section 106 evaluations per the National Historic Preservation Act of 1966 (NHPA) which consisted of SHPO file review and consultation, documentation of historic resources within the project view shed and analysis of visual impact, archaeological surveys conducted under the supervision of a Principal Investigator, legal notices, public notification letters, and submittal of documentation to the FCC/SHPO. Conducted record review studies for the presence of significant cultural resources including archaeological sites and historic structures eligible for or listed in the National Register of Historic Places (NRHP).

Due Diligence Assessments

Project Manager for numerous Phase I ESA projects involving commercial, industrial, multi-family residential properties, and telecommunication tower sites throughout the southeast U.S. for a broad client base including lending institutions, insurance companies, law firms, and private industrial entities using American Society for Testing and Materials (ASTM) and client-specific due diligence guidelines.

Education

Bachelor of Arts, Political Science & Environmental Studies, 2013, Emory University

Work History

Terracon Consultants, Inc., Chicago, Illinois, Staff Scientist, 2015-Present

Terracon Consultants, Inc., Duluth, Georgia, Field Project Manager, 2013-2015

Emory University, Atlanta, Georgia, Department of Environmental Studies, Student Coordinator, 2010-2013

Georgia Public Service Commission, Atlanta, Georgia, Campaign Researcher, 2012

University of Miami, Miami, Florida, Department of Political Science, Research Assistant, 2012

Volunteer Experience

Alpha Phi Omega, Member Since 2010

Emory University, Atlanta, Georgia, Emory-Tibet Science Initiative, 2012-2013

Green Team, Atlanta, Georgia, Ambassador, 2012-2013



JIM W. BAXTER SENIOR ECOLOGIST

PROFESSIONAL EXPERIENCE

Mr. Baxter is a Senior Ecologist in the Atlanta Office. Project duties include jurisdictional waters delineations, Section 404 permitting, threatened and endangered species habitat assessments and surveys, state waters guidance, stream buffer variance applications, guidance for mitigation banking, and Phase I Environmental Site Assessments (ESA). Mr. Baxter is a lead reviewer for natural resource work and oversees various ecological projects throughout the southeast.

Historical experience includes jurisdictional waters development planning and guidance throughout the southeastern United States, including coordination with United States Army Corps of Engineers (USACE) districts in Georgia, Florida, Tennessee, Alabama, North Carolina, and South Carolina. Mr. Baxter's historical experience also includes forest ecology and wildlife management activities, including the successful completion of a University of Georgia Warnell School of Forest Resources research study on timberland valuation and management throughout the State of Georgia. Additionally, Mr. Baxter has performed biological assessments for threatenened and endangered species including the Indiana bat, gopher tortoise, red-cockaded woodpecker, and various plant species.

PROJECT EXPERIENCE

Commercial

Proposed Solar Farm Sites – Southeast

Project Manager for ecology services involved with the construction of solar farms throughout the southeast including projects in Georgia, Alabama, Florida, Mississippi, North Carolina, and South Carolina. These projects required a wetland delineation, threatened and endangered species survey, and Section 404 permitting (as applicable). Delineation methods utilized apply to the USACE 1987 Wetland Delineation Manual and applicable regional supplement.

Transmission Line

Roundtop Road Site - Ellijay, Georgia

Project Manager for ecology services involved with the construction of a 17 mile transmission corridor. The project required a full Indiana bat and Northern long-eared bat habitat assessment. Results were utilized to perform mist netting and acoustic monitoring at the site. Consultation with the United States Fish and Wildlife Service (USFWS) led to a finding of not likely to adversely affect bat species.

Telecom

Proposed Telecommunications Tower Sites – Southeast

Project Manager for numerous proposed telecommunications tower sites across the southeast. Ecology services include wetland delineation and permitting, state waters guidance, Indiana bat surveys, and protected species habitat assessments. Agency coordination for mitigation involved for ecological impacts on numerous sites where avoidance is not achievable. Education

Master of Forest Resources, University of Georgia, 2002

Bachelor of Science, University of the South, Natural Resources, 2000

Affiliations

Society of Wetland Scientists

Society of American Foresters

Work History

Terracon Consultants, Inc., Senior Ecologist, 2007-Present

Environmental Services Inc., Wetland Scientist, 2005-2007

Warnell School of Forest Resources, Research Coordinator, 2003-2005

ATC Associates, Inc., 2000-2001

Industrial

Proposed Seaboard Ethanol Plant – Seaboard, NC

Project Manager for ecology services involved with the construction of an ethanol plant on an approximate 300acre agricultural site in Seaboard, NC. The project required a wetland delineation, threatened and endangered species survey, Section 404 permitting, and coordination with North Carolina state officials regarding the need for state waters permitting. USACE involvement occurred for the analyzation of various drainage ditches and discharge areas associated with cropland on the site.

Presentations/Published Articles

Property Tax Incentives for the Georgia Landowner, Center for Forest Business, University of Georgia Warnell School of Forest Resources Note #3, December 2004.

Additional Training

Wetland Delineation Field Methods – Environmental Services, Inc. In-house training program, August 2005.

Plant ID: Wetlands and Their Borders - Institute for Wetland & Environmental Education and Research, Inc., April 2008.

Section 7 Endangered Species Interagency Consultation – Duncan and Duncan Wetland & Endangered Species Training, January 2011.



EMILY KOSMALSKI ENVIRONMENTAL SCIENTIST, NEPA GROUP MANAGER, AND ENVIRONMENTAL PROFESSIONAL (EP)

Ms. Kosmalski is a Senior Environmental Scientist, Environmental Professional (EP), and the National Environmental Policy Act (NEPA) Group Manager of the Atlanta office with approximately 10 years of professional expierence conducting Phase I Environmental Site Assessments (ESA), NEPA reviews, Risk Hazard Assessments (RHAs) for proposed school sites, and indoor air quality surveys associated with commercial, multi-family, industrial, and telecommunication tower properties properties throughout the southeasern U.S. Ms. Kosmalski oversees a group of NEPA practioners, including both cultural and natural resource specialists. Ms. Kosmalski's NEPA experience is summarized below:

NEPA / EA / Environmental Services - Federal Communications Commission (FCC) Proposed Telecommunications Towers/Utility Easements across United States. August 2006 – Present. Ms. Kosmalski has performed hundreds of Phase I ESA and NEPA evaluations for telecommunications towers/utility easements in accordance with FCC NEPA Regulations (Title 47 of the Code of Federal Regulations (CFR), Part 1, Subpart I, rule section 1.1307(a)(4), as amended by the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (47 CFR Part 1, Appendix B) and the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (47 CFR Part 1, Appendix C).

NEPA scopes included presence/absence of wetlands, floodplains, federal/tribal land, T&E species, critical habitat, historic resources, and archaeological resources impacted by the proposed tower. Agency consultations included Section 7 consultation with the United States Fish and Wildlife (USFWS) agency, state wildlife/natural resource agency (when applicable), the State Historic Preservation offices (SHPO), and numerous tribes as identified through the FCC Tribal Consultation Notification System (TCNS). Project responsibilities also included performing Section 106 evaluations per the National Historic Preservation Act of 1966 (NHPA). Section 106 responsibilities consist of SHPO file review and consultation, documentation of historic resources within the project viewshed and analysis of visual impact, archaeological surveys conducted under the supervision of a Principal Investigator, legal notices, public notification letters, and submittal to the FCC/SHPO.

In the case that an adverse environmental impact was identified, the proposed project would move to the preparation of an Environmental Assessment (EA). Ms. Kosmalski's project experience has included the preparation and submittal of EAs for the following adverse environmental impacts: wetlands, floodplains, and visual impact to historic resources. All EAs were made available to the public for review and comment. The floodplain EAs posed minimal impact to the floodplain, and the equipment was raised to an elevation above the base flood elevation. Wetland impacts were mitigated through the submittal of credits to a mitigation

Education

Master of Arts, Geography, 2006, Specialization in Environmental Planning/Impact Assessment (NEPA), Ohio University

Bachelor of Science, Geography, 2004, Ohio University

NEPA Compliance and Cultural Resources; National Preservation Institute, 2014

Reviewing NEPA documents and NEPA Cumulative Effects Analysis, The Shipley Group, 2013

NEPA: Writing the perfect EA/FONSI or EIS, NWETC, 2012.

AHERA Certified Asbestos Inspector, 2007 through present

DCA/HUD Environmental Workshop, 2011

Participated in QHEI (Qualitative Habitat Evaluation Index) Training Ohio EPA, 2005

Assisted in a fish count for Ohio EPA to develop data for the Index of Biotic Integrity (IBI), 2005

Work History

Terracon Consultants, Inc., 2006-Present

Teaching Assistantship, Physical Geography, Ohio University 2005-2006

Research Assistant at the Voinovich Center for Leadership and Public Affairs Institute for Local Government Administration and Rural Development (ILGARD), Athens, Ohio, Research Assistant for Sediment TMDL for the Upper Basin of the Raccoon Creek Watershed, 2004 to 2005

Publications

<u>Sediment TMDL for the Upper Basin</u> of Raccoon Creek, published January 2007.Contributor through data collection, research, and report development.



bank. The historic resources impacted were mitigated through agreements with the SHPO and resolved through a Memorandum of Agreement (MOA). The proposed projects were able to move forward under the provisions of the EAs in all cases with a Finding of No Significant Impact (FONSI).

On-Call Environmental Consultant and Account Manager. Ms. Kosmalski coordinates as the on-call environmental consultant for the City of Duluth. Projects with Duluth have included road improvement projects, Phase I ESAs, asbestos surveys, storm water sampling, and general consulting services. Ms. Kosmalski also serves as the national account manager for several of Terracon's clients.

NEPA / Environmental Services for Transportation projects. Ms. Kosmalski has coordinated on a variety of transportation projects funded by local municipalities and/or Georgia Department of Transportation (DOT). This work has included Phase I ESAs, Phase II ESAs/Limited Site Investigations (LSIs), historical resource reviews, T&E species reviews, wetland delineations, GEPA reviews, and categorical exclusions (CEs).

NEPA / Environmental Services – Proposed Solar Farms. Multiple Clients, 2013present. Ms. Kosmalski has coordinated environmental, natural, and cultural resource services for multiple proposed solar farm locations in the United States. Coordination and services include Phase I ESAs, desktop studies, constraints analyses, permitting reviews, wetlands evaluations/delineations, threatened and endangered (T&E) species surveys, and cultural resource surveys. These reports were requested to fulfil client-requested due diligence standards for proposed solar farms. Based on findings, some projects were expanded to include Phase II archaeological testing, wetland permitting, and species-specific surveys.

NEP NEPA / Environmental A Services - Department of Community Affairs (DCA) Low Income Housing Tax Credit (LIHTC) and Housing and Urban Development (HUD) funded housing projects. 2008 – 2012. Ms. Kosmalski has managed multiple proposed housing projects funded by the Georgia DCA LIHTC/HUD program. This work was performed in accordance with the DCA Environmental Manuel and the DCA HOME/HUD Questionnaire (DCA's variation of the HUD Form 4128). Items evaluated for each project included, but were not limited to, wetlands, floodplains, threatened and endangered species, critical habitat, noise, cultural resources, tribal consultation, public participation, environmental justice, hazardous materials, asbestos, lead-based paint, radon, and mold. All reports were submitted for review and approval by the DCA/HUD.

EA - Bureau of Land Management (BLM) NM1 Lindrith Proposed Telecommunications Tower, Rio Arriba County, New Mexico. 2012. Ms. Kosmalski co-managed the preparation of an EA conducted in accordance with the U.S. Department of the Interior's guidance manual on the National Environmental Policy Act of 1969 (NEPA) (516 DM 1-7). The EA evaluation included, but was not limited to, air quality, water quality, impact to cultural and natural resources, view shed, recreation, noise, Native American/Tribal concerns, and range. The report was evaluated and reviewed by BLM and then posted for public comment. The project was able to move forward with a FONSI.

EA - Department of Veteran Affairs (VA) Proposed Outpatient Clinic Property Lease; Decatur, Georgia. Client: Carpenter Robins Commercial Real Estate (CR/CRE). 2012

- 2013. Ms. Kosmalski recently prepared an Environmental Assessment (EA) for the VA on a proposed land lease/renovation of an existing building to house a Proposed VA Outpatient Clinic. The EA was performed in accordance with 40 CFR Parts 1500-1508, VA Implementing Regulations, Environmental Effects of VA Actions, 38 CFR Part 26 (51 FR 37182, Oct. 20, 1986), and NEPA Interim Guidance for Projects PG-18-17. Items evaluated per the NEPA analysis included, but were not limited to, aesthetics; air quality; cultural resources; geology and soils; hydrology and water quality; wildlife and habitat; noise; land use; floodplains, wetlands, and coastal management; socio-economic/environmental justice issues, community service; solid and hazardous materials; transportation and parking, utilities, cumulative impacts; and potential for generating substantial controversy. The EA report included coordination with numerous additional specialists and outside agencies. The report concluded with a FONSI.



EA - United States Department of Agriculture (USDA) Agricultural Research Service (ARS) Proposed Property Disposal; Decatur, Georgia. Client: Clemson University. 2012 – 2013. Ms. Kosmalski recently prepared an Environmental Assessment (EA) for the USDA on a proposed land disposal of an approximate 10-acre tract of commercial and agricultural land occupied by the USDA ARS and used for the purposes of agricultural research. The EA was performed in accordance with *National Environmental Policy Act Program of Requirements For the Potential Property Disposal of USDA Agricultural Research Service (ARS) Lab Sites under P.L. 112-55 Title 40, Code of Federal Regulations (CFR) <i>Parts 1500-1508*, USDA regulations, specifically 7 *CFR Part 1b*, and Agricultural Research Service (ARS) regulations, specifically 7 *CFR Part 1b*, and Agricultural Research Service (ARS) regulations, specifically 7 *CFR Part 1b*, and Agricultural Research Service (ARS) regulations, specifically 7 *CFR Part 520*. Items evaluated per the NEPA analysis included, but were not limited to, air quality; cultural resources; geology and soils; hydrology and water quality; wildlife and habitat; noise; land use; floodplains, wetlands; socio-economic/environmental justice issues, hazardous materials; transportation, utilities, cumulative impacts; and potential for generating substantial controversy. The EA report included coordination with additional specialists and outside agencies. The report concluded with a FONSI.

NEPA / Environmental Services - Federal Deposit Insurance Corporation (FDIC) Phase I ESAs. Georgia. Client: Community and Southern Bank. 2008 – 2013. Ms. Kosmalski has performed over a hundred Phase I ESAs performed in accordance with the FDIC Phase I ESA Scope of Work (SOW), dated 2006. FDIC Phase I ESA's include the consideration/evaluation of the following NEPA items: wetlands, floodplains, historic preservation/cultural resources, threatened and endangered species, wilderness areas, wild and scenic rivers, coastal zones, sole source aquifers, hazardous substances, asbestos, lead paint, and archeological resources.

Additional Environmental Experience – In addition to the above NEPA projects, Ms. Kosmalski's professional involvement includes hundreds of Phase I ESAs and asbestos surveys and experience with mold assessments, radon testing, Phase II testing, risk hazard assessments for proposed school sites, and numerous other regulatory reviews. Historical experience includes in-stream habitat assessments using the Qualitative Habitat Evaluation Index (QHEI), Arcview Geographic Information Systems (GIS) map development, and investigative analysis of sampling data regarding in-stream sedimentation for the development of a sediment Total Maximum Daily Load (TMDL) report for the Raccoon Creek Watershed located in southeastern Ohio.



CRAIG S. PRUETT PRINCIPAL – TELECOMMUNICATIONS SECTOR LEAD



PROFESSIONAL EXPERIENCE

Mr. Pruett has 31 years of professional environmental consulting experience and is a Principal and the Corporate Telecommunications Sector Lead working out of the Denver, Colorado office. As the Telecommunications Sector Lead, Mr. Pruett's provides QA/QC and problem solving support for National Environmental Policy Act (NEPA) telecommunications work throughout Terracon's nation-wide footprint and is directly responsible for all aspects of Terracon's NEPA service line for telecommunications clients. Mr. Pruett has additional management responsibility

for telecommunications geotechnical engineering and other environmental services lines. Mr. Pruett's career experience also includes environmental management systems consulting, litigation expert testimony support, compliance program development and implementation, property transaction and environmental due diligence consulting, brownfields redevelopment, hazardous and mixed waste management, site remediation, facility decontamination, , toxic materials release reporting, emergency spill cleanup, and health and safety oversight.

MANAGEMENT AND PROJECT EXPERIENCE

Wireless Telecommunications Sector Lead

National Telecommunications Sector Lead responsible for directly supervising completion of more than 10,000 Phase I ESAs, NEPA and geotechnical engineering telecommunication cell site projects located across the country. Annual revenue in the telecommunications sector averages approximately \$10M. Approximately 100 offices and 400 employees directly participate in telecommunications work each year. Mr. Pruett has direct responsibility to support the Terracon telecommunications NEPA quality team, providing Terracon resources, processes, systems, procedures, training, tools and outputs to meet client expectations. Clients included Verizon, AT&T, T-Mobile, Sprint, Cricket, American Tower, Crown Castle, General Dynamics Wireless, Insite Towers, Municipal Communications, LLC, Goodman Networks, and Black and Veatch.

Denver Environmental Department Manager

As the Environmental Department Manager for Terracon's Denver office, Mr. Pruett was responsible for overall administration and operations, including business development, proposal preparation, and technical report preparation and review for environmental project in the local market. Mr. Pruett supervised a staff of approximately 14 with annual revenues of approximately \$4M.

Education

Master of Environmental Policy and Management, University of Denver

Bachelor of Science, Chemistry, Illinois State University

Certifications

ISO 14000 Lead Auditor Training Course, Completion Cert No. E1260

RF Safety Certification

40-Hour OSHA Hazardous Worker

8-Hour OSHA Supervisor Training

40-Hour OSHA Instructor

Radiological Survey and Documentation Training

Work History

Terracon Consultants, Inc.,

Telecom Sector Lead, 2005-Present; Environmental Department Manager, 2010-2012; National Account Manager, 2003-2005; Phase I ESA Group Manager, 1999-2004

Maxxim Environmental, Inc., Principal Owner/Senior Project Manager, 1995-1999

WASTREN Remediation, Inc., Senior Project Manager, 1993-1995

Industrial Compliance/SPEVS, Corporate Accounts Manager/Senior Program Manager, 1987-1993

Hazen Research, Inc., Analytical Chemist, Process Development Technician, 1983-1987

Achievements

Founding Board Member and President of the Colorado Wireless Association, 2009 - 2011

Speaker

President's Welcome and Opening Remarks, Colorado Wireless Association Inaugural Launch Luncheon, October 22nd, 2009

The Changing Face of Tower Regulation (Panelist), AGL Regional Conference (Denver), June 9, 2011

Phase I Environmental Site Assessment Group Manager

Managed the Denver office Phase I ESA activities for four years. Performed five to ten Phase I ESAs per week with a team of six to eight employees. Clients represented a variety of industry groups including mining; oil, gas, and petroleum products; metals manufacturing; metal plating; education; restaurants and food processing; commercial office operations; residential, commercial and retail development; electronics manufacturing; agricultural; recreation facilities and golf courses; automotive repair; painting and printing operations; telecommunications; and electronics. Responsibilities included business development, resource allocation, quality assurance and key account management.

TELECOMMUNICATIONS PROJECT EXPERIENCE

<u>Verizon</u>

Mr. Pruett is directly responsible for QA/QC and senior management support for Terracon's ongoing NEPA services to Verizon. Areas of responsibility include NEPA compliance, Phase I Environmental Site Assessments, project management, and client relationship support. Mr. Pruett reviews and has final sign-off authority on all Verizon final NEPA reports. He interacts with, and supports the Terracon quality team, providing corporate resources, processes, systems, procedures, training, tools and outputs to meet client expectations. Mr. Pruett is available to Verizon management as a resource to address any quality related issue including site-specific concerns, changes in NEPA procedures and/or policies, training support, and/or other project parameters.

<u>AT&T</u>

As part of the AT&T Wireless acquisition by Cingular Wireless, Mr. Pruett directly supervised completion of 350 Preliminary NEPA reviews of cell tower assets. In total, Terracon performed approximately 1300 Preliminary NEPA reviews in seven weeks. Based on the information developed in the Preliminary NEPA reviews, additional NEPA evaluations on selected sites were performed.

As part of AT&T's acquisition agreement with Verizon Wireless, which included select Verizon Wireless, Unicel, and Alltel properties in primarily rural areas in Alabama, Arizona, California, Colorado, Iowa, Kansas, Michigan, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Tennessee, Utah, Virginia, and Wyoming, Mr. Pruett supervised the completion of approximately 400 NEPA Reviews.

Mr. Pruett performs ongoing Phase I ESA and NEPA work on the AT&T Turfing contract in the Rocky Mountain Region and coordinates work in AT&T's Pacific Northwest region, Northern California region and New Mexico region.

Cricket Communications

As a Senior Regional Project Manager, Mr. Pruett directly supervised completion of 750 Phase I ESA, NEPA, and geotechnical engineering telecommunication cell site projects in California and the Front Range areas of Colorado. In addition, Mr. Pruett coordinated with other Terracon offices to provide quality assurance and timely deliverables on cell sites in 15 additional Cricket markets. Work for Cricket is ongoing.

T-Mobile and Sprint

As a National Account Manager, Mr. Pruett has managed the completion of approximately 100 cell site projects for T-Mobile in the Colorado region since January 1, 2003. Work with T-Mobile in the Rocky Mountain area is ongoing. Mr. Pruett is currently managing Phase I ESA and NEPA work for Sprint A&E contractors working on the Network Vision project. Terracon is expecting work on this project in five to seven Sprint Network Vision project markets.

OTHER EXPERIENCE AND COMMUNITY SERVICE

Mr. Pruett is the founding president of the Colorado Wireless Association (COWA) which promotes the interests of the wireless communications industry through various educational and community service activities. Mr. Pruett continues to participate in COWA activles.

