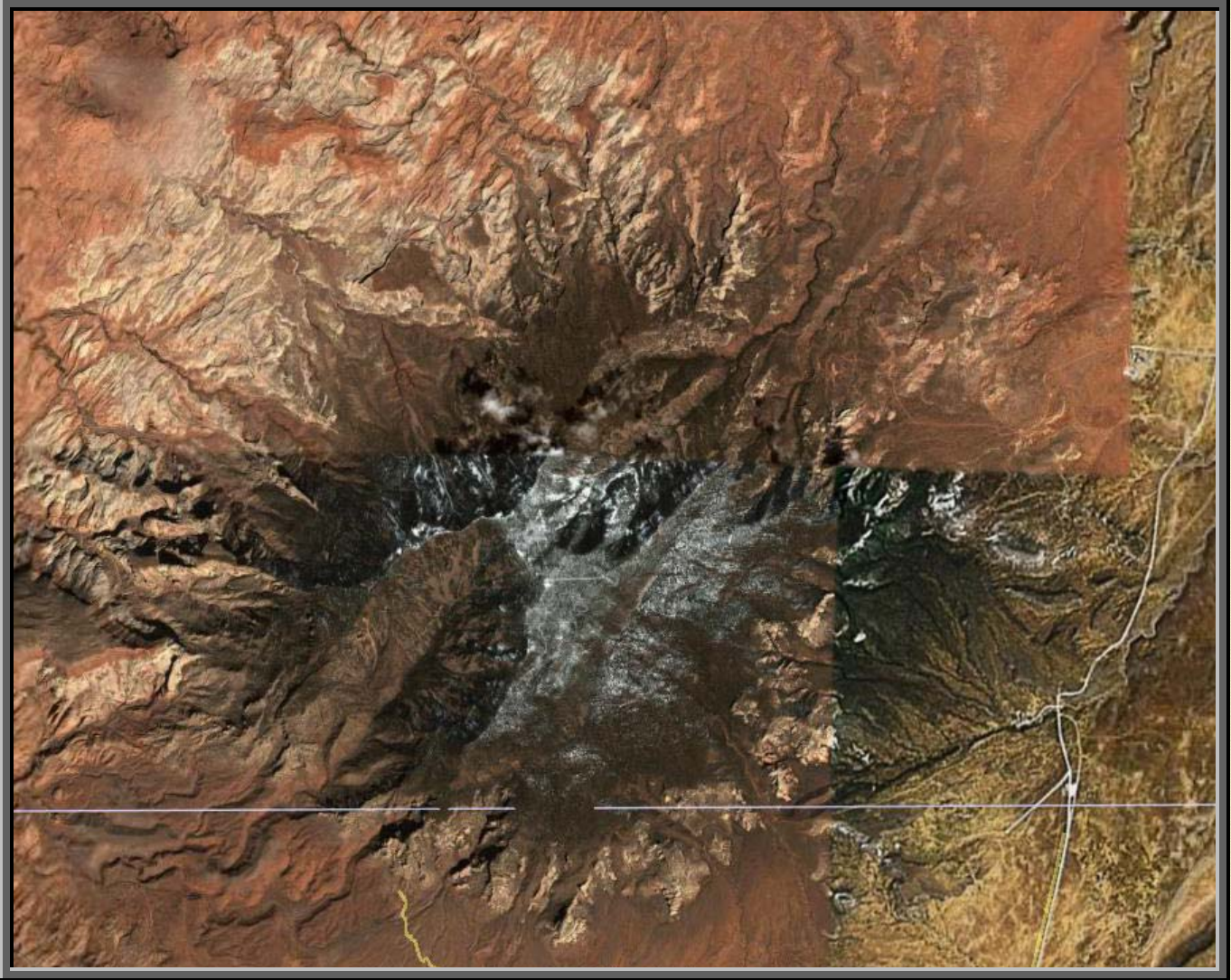


NAVAJO MOUNTAIN



NARROW BANDWIDTH REPEATER FACILITY

Environmental Assessment

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Environmental Assessment

for the

**Navajo Mountain
Narrow Bandwidth Repeater Facility**

ENVIRONMENTAL ASSESSMENT

Navajo Mountain Narrow Bandwidth Repeater Facility

Navajo Nation

Summary

This Environmental Assessment was prepared in response to the need to improve radio communication within the Glen Canyon National Recreation Area and upgrade existing radio communication equipment to meet the requirements of Guideline NPS- 15, Wireless Systems: Engineering and Management.

Two alternatives were developed and analyzed: the Preferred Alternative and the No Action Alternative. The Preferred Alternative includes the installation of a new radio repeater and tower near the top of Navajo Mountain to replace the existing National Park Service Navajo Mountain repeater facility. Under the No Action Alternative no new location would be established for the existing National Park Service Navajo Mountain repeater facility. The existing repeater equipment would remain on the Arizona Department of Public Safety tower at the top of Navajo Mountain. Upgrades to that equipment would be carried out to the extent possible; however, not all of the requirements of Guideline NPS- 15 could be met.

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Acronyms and Abbreviations

AIRFA	American Indian Religious Protection Act
ARPA	Archaeological Resource Protection Act
amsl	above mean sea level
BIA	Bureau of Indian Affairs
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DO	Director's Order
DPS	Arizona Department of Public Safety
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GCMRA	Glen Canyon National Recreation Area
GMP	General Management Plan
MCL	Maximum Contaminant Level
NEPA	National Environmental Policy Act of 1969
NESL	Navajo Nation Endangered Species List
NHPA	National Historic Preservation Act
NNDFW	Navajo Nation Department of Fish and Wildlife
NNEPA	Navajo Nation Environmental Protection Agency
NNHPD	Navajo Nation Heritage Preservation Department
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
PL	Public Law
RBNM	Rainbow Bridge National Monument
RCRA	Resource Conservation and Recovery Act
RRU	Recreation and Resource Utilization area
SDWA	Safe Drinking Water Act
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
U.S.	United States
USC	United States Code
USF&WS	United States Fish and Wildlife Service

Chapter 1.0: Purpose of and Need for Taking Action

1.1 Introduction

Radio communication within the National Park Service's (NPS), Glen Canyon National Recreation Area (GCNRA) plays a critical role in law enforcement, emergency response, and operations and maintenance activities by the NPS. For this reason the NPS has had a radio signal repeater located on the top of Navajo Mountain since 1978. The antenna for this repeater is mounted on a tower that is owned and maintained by the Arizona Department of Public Safety (DPS). The NPS has identified a new location on Navajo Mountain for the repeater. Figure 1 presents a regional map depicting the relative locations of the GCNRA and the Navajo Nation.

In accordance with the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1500-1508), this Environmental Assessment (EA) was prepared for the purpose of identifying any potential impacts to the natural or human environment that might occur as a result of construction and operation of a new repeater. Because the new repeater and its associated facilities would be located on Indian Trust land, the Bureau of Indian Affairs is the lead federal agency responsible for complying with NEPA. As a federal agency and the project proponent, the NPS is acting as a cooperating agency for NEPA compliance.

1.2 Current Management

Management decisions for the GCNRA are based on the 1979 General Management Plan for Glen Canyon National Recreation Area.

1.3 Enabling Legislations

The GCNRA was established by enactment of Public Law (PL) 92-593 on October 27, 1972. The legislation defines the purposes of the recreation area: "...to provide for public outdoor recreation use and enjoyment of Lake Powell and lands adjacent thereto. . . and to preserve scenic, scientific, and historic features contributing to public enjoyment of the area" (NPS 1979).

1.4 Laws, Policies, and Authorities

The following regulations and guidance documents guide the planning and completion of the projects proposed in this EA.

National Environmental Policy Act (NEPA) – The purpose of NEPA is to encourage productive and enjoyable harmony between humans and the environment; to promote efforts which will prevent or eliminate damage to the environment and stimulate the health and welfare of humankind; and to enrich the understanding of the ecological systems and natural resources important to the Nation. NEPA requirements are satisfied by completion of a Categorical Exclusion (CE), Environmental Assessment (EA), Environmental Impact Statement (EIS), or a memo to the files documenting existing NEPA work that covers the current proposed activity. In the case of an EA or EIS, NEPA requirements are met by successful completion of the document and an accompanying decision document.

Director's Order- 12 (DO- 12) – DO- 12 is the NPS guidance for Conservation Planning, Environmental Impact Analysis, and Decision Making. DO- 12 states the guidelines for implementing NEPA according to NPS regulations. DO- 12 meets all Council on Environmental Quality (CEQ) regulations for implementing NEPA. In some cases, the NPS has added requirements under DO- 12 that exceed the CEQ regulations.

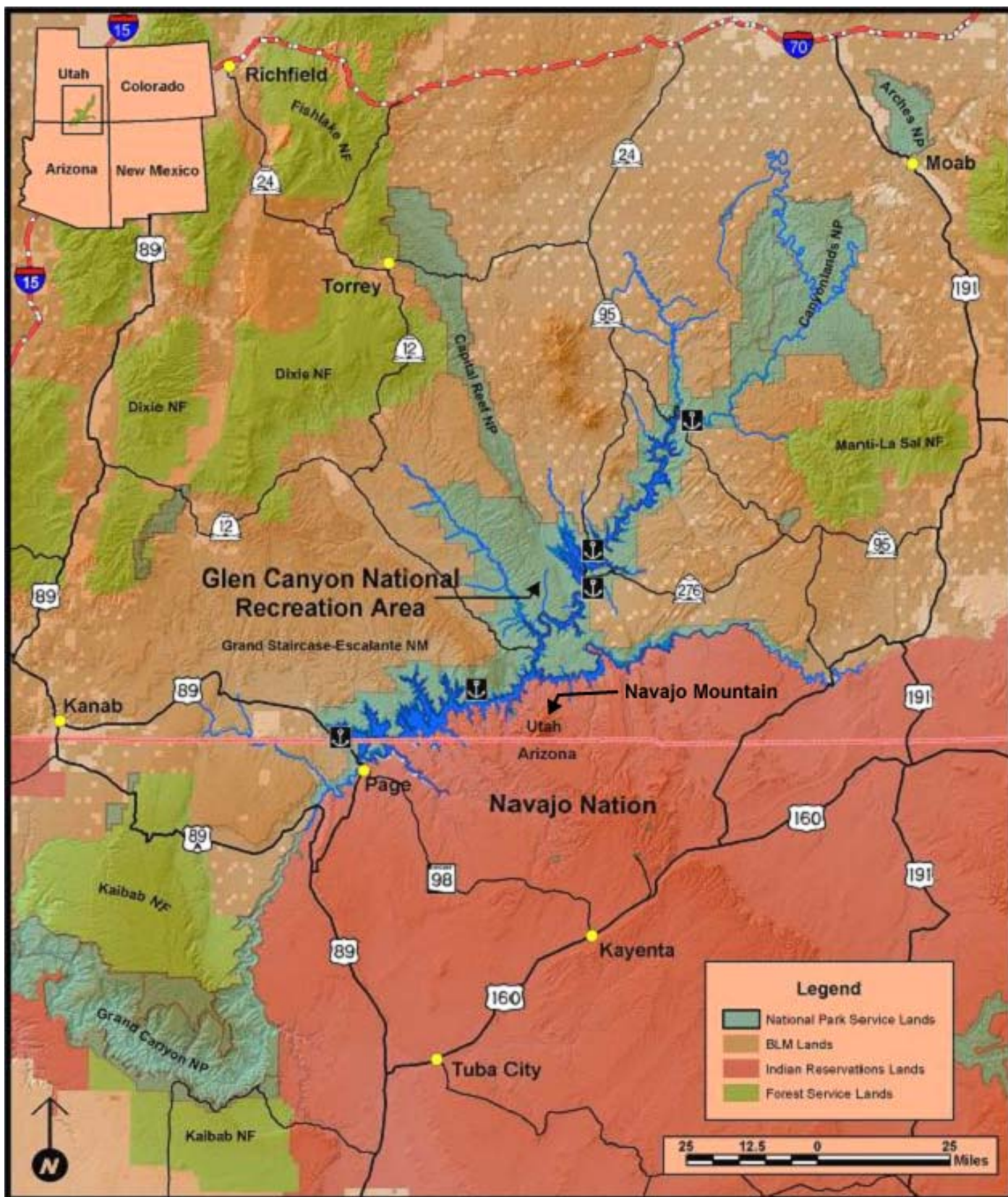


Figure . Glen Canyon National Recreation Area and Navajo Nation area map.

NPS Organic Act of 1916 – Congress directed the U.S. Department of the Interior and NPS to manage units “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress (16 USC § 1 a- 1).

- Clean Water Act/Regulations – provides national recommended ambient water quality criteria and calls for no degradation of the nation’s surface waters.
- Arizona and Utah Water Quality Regulations – conserves waters of the states to protect, maintain and improve water quality.
- Safe Drinking Water Act - The SDWA authorizes the Environmental Protection Agency (EPA) to set maximum contaminant levels (MCLs) for dangerous chemicals, waterborne bacteria and viruses in the public’s drinking water.
- Executive Order 11990 – provides for the protection of wetlands.
- Executive Order 11988 – provides for the protection of floodplains.
- Clean Water Act and Section 404 Regulations – provides for the protection of wetlands and waters of the United States.
- Endangered Species Act/Section 7 – provides for the listing and protection of endangered and threatened species and their critical habitat; requires consultation under Section 7 if any listed species may be adversely affected.
- National Historic Preservation Act (NHPA)/Section 106 – provides for the identification and protection of historic sites and structures.
- Archeological Resource Protection Act – provides for the protection of archeological resources on public lands.
- Executive Order 13007 – provides for protection of Indian sacred sites.
- NPS Director’s Order #28, Cultural Resource Management Guidelines (NPS, 1998) – defines how the NPS will protect and manage cultural resources on NPS lands in accordance with the NPS Management Policies.

1.5 Purpose and Need

The position of the existing NPS antenna has resulted in undesirable interference from other telecommunications operators. Also, there are many locations within the GCNRA from which the repeater can neither receive nor transmit radio communications. Should the Arizona DPS need the space on its tower that is currently occupied by the NPS antenna, it could be removed. Because of the lack of space, the close proximity of other antennas, and the need for increased power, the conversion of the existing repeater facility on the top of Navajo Mountain to a narrowband digital system is impossible. Final compliance with Guideline NPS- 15, Wireless Systems: Engineering and Management cannot be met at the existing repeater location. Furthermore, the top of Navajo Mountain has traditionally been held by the Navajo people as one of the most sacred parts of the mountain.

The NPS needs to correct these problems with the existing repeater location. The purpose of the proposed project described in this EA is to correct the problems by moving the antenna off the top of the mountain

and on to an NPS- owned tower in another location. The proposed new location is less sacred to the Navajo people than the existing one and would allow the GCNRA to meet the requirements of Guideline NPS- 15, thus benefiting both the Navajo people and the NPS.

1.6 Public Scoping

A public scoping period was open for 30 days beginning on October 6, 2006. It was later extended for an additional 30 days ending on December 6, 2006. Scoping postcards were mailed to the list of recipients in Chapter 7.0 at the beginning of the scoping period and a news release was published in the local Page newspaper. Examples of each can be found in Appendix D.

A total of five comments were received from the general public and consultation meetings were held with the Konosh and Kaibab Paiute Bands of the Paiute Indian Tribes of Utah. Copies of correspondence with these tribes and documentation of the consultation meetings are located in the Appendix D. Four of the comments were in support of the proposed action. The remaining comment was specifically focused on minimizing the visibility of the proposed tower.

A teleconference with GCNRA resource specialists and administrators was held on August 1, 2006 to discuss the proposed action and resource topics. Input from public comments and GCNRA staff was used to determine the scope of the document.

1.7 Scope of the Document

Resource topics were used to focus on the evaluation of the potential consequences of the proposed alternatives. Resource topics were identified based on legislative requirements, topics specified in Director's Order #12 and Handbook (NPS, 2001), and park- specific resource information. Table 1 lists impact topics that were considered for analysis, whether or not each topic was retained for further analysis or dismissed, and the regulations and policies relevant to each topic. Following the table, reasoning is given for the dismissal of those topics that were not analyzed further.

Table . Resource Topics considered for the Navajo Mountain Narrow Bandwidth Repeater Facility Environmental Assessment.

Resource Topic	Retain or Dismiss	Relevant Regulations or Policies
Air quality	Dismiss	Federal Clean Air Act (CAA), CAA Amendments of 1990 (CAAA), NPS Management Policies 2001, and Utah Administrative Code, Title 307, Navajo Nation EPA Regulations, 30 BIAM Supplement 1 NEPA Handbook
Land: Topography, Geology, Soils	Retain	NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Vegetation	Retain	NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Water Resources	Dismiss	Clean Water Act, Executive Order 12088, NPS Management Policies, Navajo Nation EPA Regulations and Standards, 30 BIAM Supplement 1 NEPA Handbook
Wetlands and Waters of the U.S.	Dismiss	Clean Water Act, Executive Order 12088, NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook

Resource Topic	Retain or Dismiss	Relevant Regulations or Policies
Drinking Water	Dismiss	Safe Drinking Water Act, NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Floodplains	Dismiss	Executive Order 11988, Executive Order 11990, Rivers and Harbors Act, Clean Water Act, NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Wildlife	Retain	Bald Eagle Protection Act, NPS Management Policies, Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Threatened and endangered species	Retain	Endangered Species Act, NPS Management Policies, Navajo Nation Fish and Wildlife Department Natural Heritage Program, 30 BIAM Supplement 1 NEPA Handbook
Paleontological resources	Dismiss	NPS Management Policies, Navajo Nation Management Policies
Cultural resources	Retain	Section 106, National Historic Preservation Act (NHPA), Historic Sites Act, Archeological Resource Protection Act, Native American Graves and Protection Act, Director's Order 28, Director's Order 12, Executive Order 13007, NPS and Navajo Nation Management Policies, 30 BIAM Supplement 1 NEPA Handbook
Wilderness	Dismiss	Director's Order 41, NPS Management Policies
Ecologically critical areas or other unique natural resources	Dismiss	Wild and Scenic Rivers Act, 36 CFR 62 criteria for national natural landmarks, NPS Management Policies
Visual Aesthetics	Retain	Organic Act, NPS Management Policies
Public safety and hazardous materials/wastes	Retain	NPS Management Policies, Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response Compensation and Liability Act (CERCLA), Federal Insecticide, Fungicide, and Rodenticide Act
Indian Trust Resources	Dismiss (Pending)	Department of the Interior Secretarial Order No. 3206, Secretarial Order No. 3175
Prime and unique agricultural lands	Dismiss	Council on Environmental Quality (CEQ) 1980 memorandum on prime and unique farmlands, Farmland Protection Act
Resource and land use patterns	Retain	30 BIAM Supplement 1 NEPA Handbook
Socioeconomics	Dismiss	40 CFR 1500 Regulations for Implementing NEPA, 30 BIAM Supplement 1 NEPA Handbook
Environmental justice	Dismiss	Executive Order 12898, 30 BIAM Supplement 1 NEPA Handbook

Rationale for Dismissal:

Air Quality: A small amount of airborne particulate matter in the form of soil dust might temporarily be generated during construction. This would only happen on a few days. The potential effects of this additional dust in the air would be negligible. Exhaust from motorized equipment used during construction would contribute a relatively tiny amount of pollution to the atmosphere, but again, this would be a temporary effect only occurring during the construction period.

Propane fuel for the backup electrical generator is substantially cleaner burning than other alternative generator fuels. The effects to air quality are anticipated to be negligible and below the significance thresholds for all regulated air pollutants. Standby generators operating less than 300 hours per year are typically exempt from air quality permitting due to the insignificant impact. These generators are required, however, to register with the Utah Division of Air Quality. The GCNRA will register the standby generator and abide by the Utah Division of Air Quality regulations, thus this facility will be in compliance with the NAAQS and the Utah Ambient Air Quality Standards.

In the unlikely event of a leak in the propane tank, the Navajo Nation Environmental Protection Agency (NNEPA) would be notified by the NPS and all applicable measures would be taken to correct the problem as determined by NNEPA requirements.

Water Resources, Wetland and Waters of the US, Floodplains, and Drinking Water: There are no surface waters, waters of the US, wetlands, or floodplains in the analysis area and no potential effects to groundwater anywhere as a consequence of either the preferred alternative or the no action alternative.

Paleontological Resources: There are no known paleontological resources within the analysis area.

Wilderness: There are no designated wilderness areas within the analysis area.

Ecologically Critical Areas Or Other Unique Natural Resources: There are no designated ecologically critical areas in the analysis area. For a discussion of other unique natural resources, see the Visual Aesthetics sections.

Indian Trust Resources: The only known trust resources found within the proposed repeater site are rock and a small amount of vegetation. The value of these resources, given their remote location and abundance in less remote locations, is certainly less than the value of the lease for the property for use as proposed in this document. (Pending approval by BIA.)

Prime And Unique Agricultural Lands: Prime farmland is defined as soil that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique land is land other than prime farmland that is used for production of specific high-value food and fiber crops. Both categories require that land is available for farming uses. The land on top of Navajo Mountain does not meet these requirements; therefore prime and unique agricultural lands was dismissed as an impact topic.

Socioeconomics: The proposed action and alternatives do not have the potential to affect the economic condition of the Navajo Nation or San Juan County, Utah; therefore, socioeconomics was dismissed as an impact topic.

Environmental Justice: Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that all federal agencies address the effects of policies on minorities and low-income populations and communities. Under a negotiated lease

agreement, the Navajo Mountain Chapter of the Navajo Nation would receive an as yet undetermined payment from the NPS on a periodic basis. This payment would be based on the current market value of the proposed site. This payment would be considered an economic benefit to a minority population; therefore, there would be a minor, long-term, local, positive effect beneficial to a minority population. The proposed project is supported by the Navajo Mountain Chapter. No anticipated disproportionate negative effects to a minority or low-income population would be expected.

1.8 Permitting Requirements

The NPS would need a grant of right-of-way from the BIA. To obtain this grant, the NEPA process must be completed with a Finding of No Significant Impacts (FONSI) issued by the BIA and signed by both the BIA and the NPS. A legal survey of the proposed site, a copy of the Navajo Mountain resolution supporting the proposed project, and a request letter would need to be submitted, along with this document and its accompanying FONSI through the BIA to the Navajo Nation for tribal consent. If consent is granted, then the right-of-way would be granted and a lease agreement would be negotiated.

Chapter 2.0: Alternatives

2.1 Preferred Alternative

A new location for a radio tower has been identified by the NPS that would provide for substantially improved radio communications within the GCNRA. This new location is approximately three-quarters of a mile away from the existing tower and off the true summit of the mountain (see Figures 2 and 3). A four-wheel-drive road already exists from the present tower site to the proposed new site, which was cleared of vegetation by another party sometime around 1988/89.

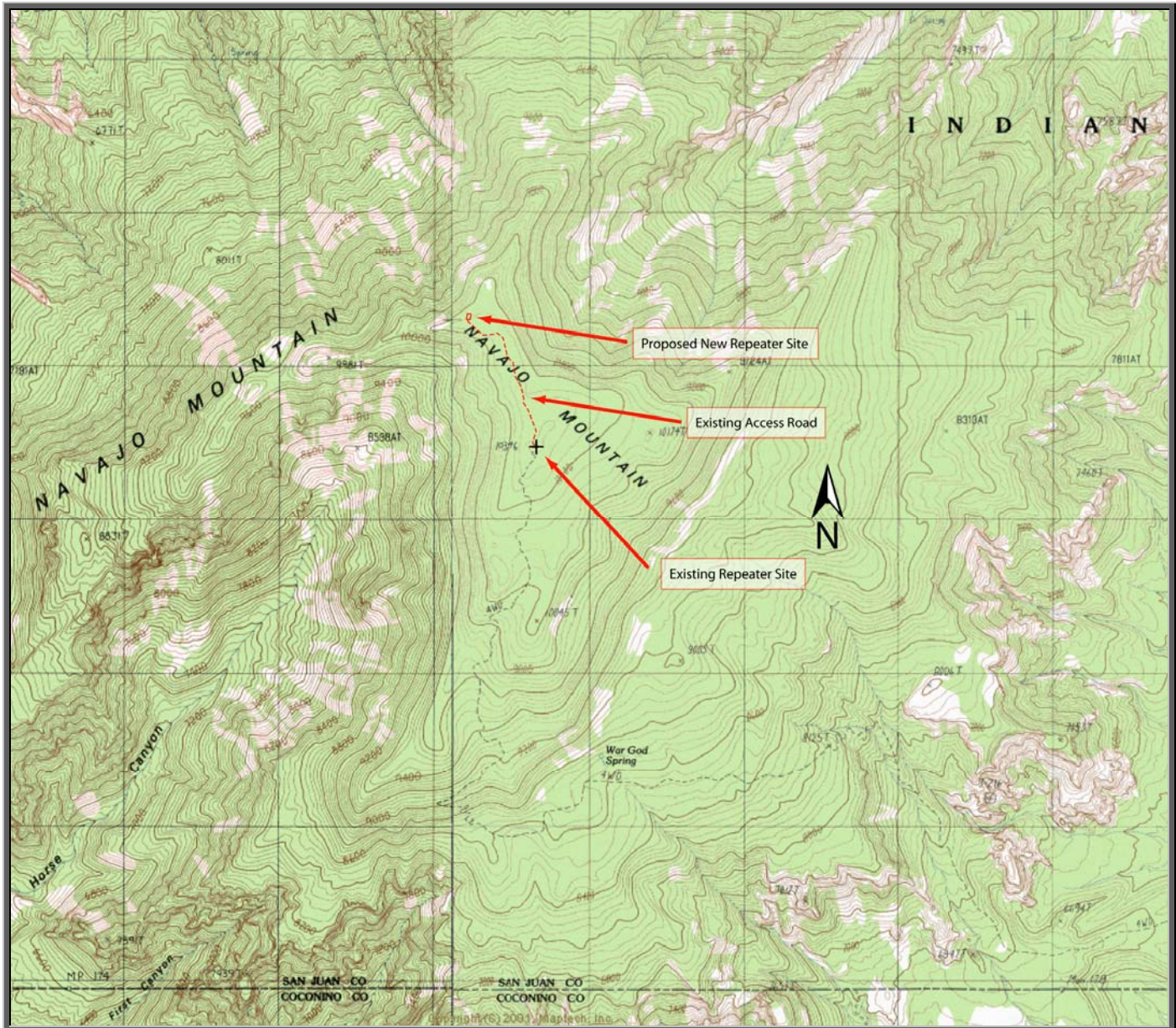


Figure . The proposed repeater location shown on the USGS Navajo Begay Quadrangle, Utah- Arizona, 7.5 Minute Series (Topographic) map.

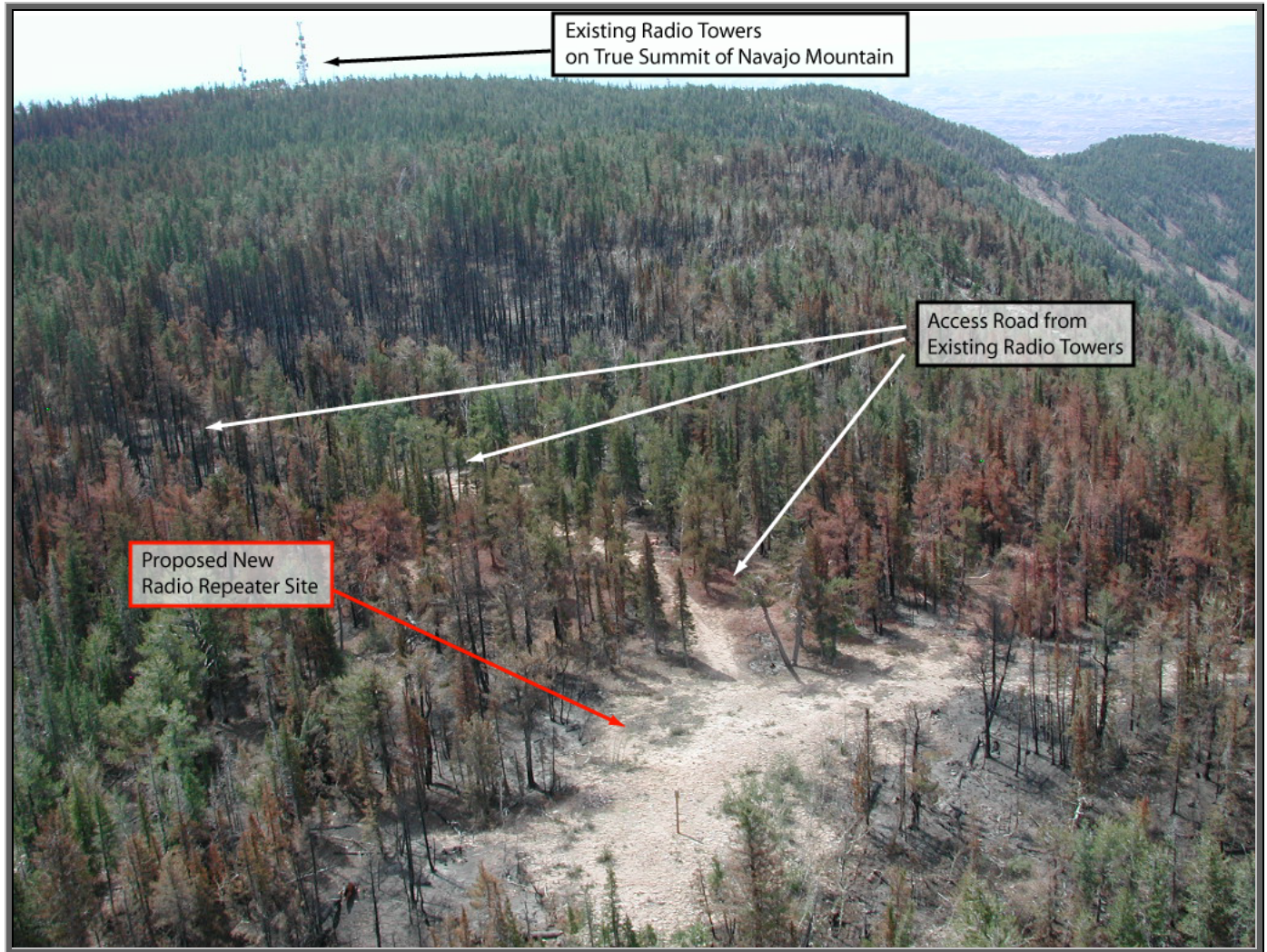


Figure . Photograph of the proposed location for the repeater on Navajo Mountain.

The proposed new repeater site would be a rectangle 75 feet wide by 125 feet long with an area of 0.22 acre. The existing access road from the existing radio towers to the proposed repeater site is 3444.43 feet long and 25 feet wide. A copy of the legal survey and description is included in Appendix A. The GCNRA is proposing to lease this site from Navajo Tribal Trust Lands and the BIA to locate a radio transmitter/receiver building and antenna tower. The GCNRA proposes to obtain a grant of right- of- way for the access road and helicopter landing area.

Construction of the new repeater facility would include the placement of a buried electrical power supply cable in the access road from the true summit of the mountain, where it would tie into existing electrical power facilities, to the proposed repeater site. A new electrical transformer would be placed at the proposed new repeater site. A prefabricated building, 24 feet wide by 40 feet long, would be airlifted either in sections or in whole to the proposed site to house the radio equipment. If the building is transported in sections, then some assembly on- site would be required. The new repeater antenna would be placed on a self- supported tower, 100 feet tall, also constructed on the site. A crane would probably be used to assemble the tower, although it may be necessary to use extension poles and winches as an alternative if transporting a crane to the site proves to be too difficult. A crane could be transported to the site by pulling it up the road behind a heavy tracked vehicle, such as a bulldozer. No other structures are planned for the proposed site.

Although the site is fairly level, a small amount of grading may be necessary where the building would be placed. A few soil samples would be taken during the preliminary design phase to gather specific data necessary for determining the exact tower location, grounding needs, and footing requirements. The concrete piers for the proposed tower and a concrete slab for the building may require up to as much as 300 cubic yards of concrete. This translates into approximately 30 truckloads. If the concrete is brought up to the site by road, then the road up the mountain would require some grading to improve its condition. Otherwise, the concrete would be flown in by helicopter in large buckets on a long cable. This would be the preferred method. Essentially, the construction methods for the proposed new tower and building would be the same as those that were used for the existing towers on the true summit of the mountain.

Holes for the concrete piers that would support the tower would be excavated and any of the excavated material not useful within the site would either be used to fill in some of the rougher sections of the access road or hauled off by the contractor and disposed of in a location and manner that is in compliance with any applicable laws and regulations.

The power supply cable from the summit of the mountain to the proposed repeater site would be laid into a trench as it is dug, immediately backfilled, and compacted. As the road is currently only sparsely vegetated, and does not have any particularly steep sections, it would be allowed to return to its existing condition on its own. Best management practices such as bar ditches and straw bales would be used as necessary to prevent erosion until the roadbed becomes stabilized. Upon completion of construction activities, a chain-link security fence would be placed along the site boundary. The NPS expects construction would be completed in approximately one year.

Operation of the new repeater facility would be carried out remotely. Maintenance of the facility would take place approximately monthly, usually accessed by helicopter, but sometimes by road. Access by helicopter would be available by way of a clearing just west of the proposed repeater site that has been used before for helicopter landings.

Backup batteries for the radios, which would provide uninterrupted power to the radios in the event of a power outage, would be kept inside a small building either separate from the main building or attached to it. The batteries would be stored in specialized plastic tubs designed to contain any potential leakage from them. No other hazardous materials would be stored at the site.

A 60 kilowatt propane- powered emergency backup generator and 1,000 gallon propane tank would also be located at the site to provide longer- term electrical power to the radios in the event of a prolonged power outage. The generator would be kept in the same small building with the batteries and would be run for one hour each month during maintenance visits to the site. The propane tank would be placed inside a concrete wall box. The area around the battery/generator building, the propane tank, and the tower would be kept clear of flammable vegetation for a distance of at least 50 feet. Due to the recent fire on the mountain, no brush removal would be necessary during construction, although a few ponderosa pines that were killed by the fire may need to be removed for safety purposes.

2.2 No Action Alternative

No new location would be established for the existing NPS Navajo Mountain repeater facility. The existing repeater equipment would remain on the Arizona DPS tower at the top of Navajo Mountain. Upgrades to that equipment would be carried out to the extent possible; however, not all of the requirements of Guideline NPS- 15 could be met. At some point, the facility would be shut down for non- compliance. The GCNRA would continue to try to find a way to relocate the Navajo Mountain repeater facility on Navajo Mountain.

Existing radio communication deficiencies would continue to prevent radio communication from significant portions of the GCNRA. Search and rescue, law enforcement, and other important activities related to the protection of life, health, and safety, in the GCNRA and surrounding areas would continue to be at risk for lack of adequate radio communications. In time, all radio communications reliant upon the existing radio repeater facility would be shut down.

2.3 Other Alternatives Considered, but Eliminated from Further Consideration

Using specialized computer software that shows line-of-sight radio signal coverage from a chosen point, the GCNRA conducted an extensive search for other potential repeater locations. No other locations in the region were identified that could provide an equal or better level of radio signal coverage within the GCNRA. The proposed location is ideal for two primary reasons: 1) it would provide the needed radio signal coverage within the GCNRA, and; 2) it would require only very minimal disturbance for construction and operation of the new repeater facility.

2.4 Summary Comparison of Alternatives

Table . Summary comparison of alternatives.

Selection Criterion	No Action	Proposed Action
Provides the necessary radio signal coverage within the GCNRA	No	Yes
Minimal disturbance for construction and operation	Not Applicable	Yes
Meets purpose and need for the action	No	Yes

2.5 Other Past, Present, and Reasonably Foreseeable Activities in the Proposed Project Area

If the proposed action described in this EA is implemented, other entities may apply to the NPS to place additional antennas on it. As proposed in this document by the GCNRA, the tower height would only provide enough space for one more antenna. Any additional antennas beyond that would require the tower to be extended. Any additional antennas requiring extension of the tower would also require additional NEPA compliance.

There are no other planned, current, or reasonably foreseeable projects in the analysis area; therefore, no other cumulative effects have been identified for any of the resource topics.

Chapter 3.0: Affected Environment

3.1 Land Resources

3.1.1 Topography

The project area occurs within the Rainbow Plateau, which is predominantly an area of red rock that forms narrow divides between many canyons. These canyons range from 200 to 2,000 feet deep. Navajo Mountain is a dome of rock roughly five miles in diameter at its base that was thrust upward from beneath by volcanic forces as described in more detail in the next section below. The top of the mountain is a relatively broad, flat plateau with the true summit situated toward the south end. A number of spurs extend out and away from the plateau. The proposed repeater site is located on the north edge of the plateau at the top of a spur that extends out to the west (see Figure 2). The site itself is a fairly flat and open location that was cleared approximately 17 or 18 years ago.

3.1.2 Geology

Navajo Mountain is located on the Colorado Plateau geologic province and is situated locally near the crest of Rainbow Anticline structural uplift, also known as Rainbow Plateau. The mountain range formed as a result of deep-seated magma migrating upwards through several formations of sedimentary rock. The magma was eventually injected laterally into preexisting fractures and zones of weakness in individual sedimentary formations, thus uplifting the sedimentary rock into a dome-like landform. The end result of this process is known as intrusive laccolithic mountain building. The mountain is in the early stages of weathering and eroding where none of the igneous laccoliths or sills have been exposed and the cover of sedimentary rocks is still evident. The age of intrusion of southeastern Utah laccoliths appear to be mid-Eocene to late Oligocene in age, representing a second and different mid-Tertiary igneous episode (Armstrong, 1969). The doming of Navajo Mountain has exposed rocks of Triassic, Jurassic and Cretaceous age sedimentary rocks. Rainbow Plateau, the basal platform for Navajo Mountain, is composed of the Glen Canyon Group Navajo, Kayenta and Wingate sandstones in descending order. The vertical walls along the side flanks of the mountain show Navajo sandstone at the base and the Morrison formation about three quarters of the way up the mountain. The mountain summit is capped by Cretaceous age Dakota sandstone and possibly volcanic tuff. The volcanic tuff is a light weight, fine grained, white colored sandstone with a brownish-black weathered surface. Within the proposed repeater site, there are no visible faults, fractures, or other weaknesses apparent on the ground surface.

3.1.3 Soils

The proposed repeater site contains soils in the Namon series. These soils are deep and well-drained. They are derived from sandstone and shale. Typically, these soils are very cobbly and contain very fine, sandy loams that are three to five feet deep. Permeability is moderately rapid and surface runoff is medium. The erosion potential is moderate (SCS, 1980).

Field observation of the generalized soil type indicated that shallow, dark silty to silty sand loam soils mixed with angular sandstone blocks and platy fragments are prevalent throughout the proposed repeater site. Angular rocks and boulders form the western, northern, and northwestern mountain slopes. Charcoal and ash from the recent fire are absent at the site but are prevalent in the surrounding area.

3.2 Biological Resources

A biological survey of the access road and proposed repeater site was conducted on June 7 and August 23, 2006. From June 10, 2006 through mid- July, 2006, a wildfire burned across the mountain. This fire burned right up to the southern edge of the proposed repeater site. Some areas were burned completely, leaving only standing dead trees. Other areas burned with much less intensity, burning only the underbrush and leaving the trees alive.

A Biological Evaluation was prepared based on the results of the survey and submitted to the Navajo Nation Fish and Wildlife Department for concurrence. There is no aquatic habitat in the immediate vicinity of the proposed repeater site or access road and consequently no aquatic wildlife present.

3.2.1 Vegetation

The vegetative community within the project site, including the access route, consists of upper montane Mixed Conifer Forest. A complete list of vascular plant species observed within the proposed repeater site and along the access road can be found in Appendix B. This vegetative community is represented along the access road from the existing radio towers to the proposed repeater site by a closed to open canopy forest of co- dominant subalpine fir (*Abies arizonica*), limber pine (*Pinus flexilis*), and white pine (*Abies concolor*) with sparsely scattered small, stunted aspen (*Populus tremuloides*). The proposed repeater site is open with very few trees. In the general project area, understory shrub species include common juniper (*Juniperus communis*), mountain snowberry (*Symphoricarpus oreophilus*), and trumpet gooseberry (*Ribes leptanthum*). Grass cover is none to very sparse with very few clumps of bluegrass (*Poa* sp.). Associate herbaceous forbs include James' chickweed (*Pseudostellaria jamesiana*), piñon- juniper lousewort (*Pedicularis centranthera*), and Andean clover (*Trifolium andinum*). Estimated total vegetation cover in the general project area ranges from 65 to 80 percent and much lower within the proposed repeater site boundaries.

3.2.2 Wildlife

Wildlife data were developed based on field observations of wildlife tracks, droppings, habitat inventory, animal occurrences and other methods of life form analysis. A complete list of wildlife species observed during the field survey can be found in Appendix B.

Small mammal signs were minimal with gray squirrels as the only life form that was observed among the trees. No small burrows or mittens were observed along the access route or within the proposed site. Mule deer (*Odocoileus hemionus*) tracks were observed along the access route leading down to the proposed repeater tower site from the existing tower site.

Carnivore signs were restricted to coyote tracks made along the two track access route where previous rainfall- saturated soils have left an imprint of the tracks. A bobcat was observed in dense vegetation along the proposed access route. No tracks were found in the undisturbed portions of the proposed site due to dense pine needle cover. Historically, other carnivores that inhabited the region included black bears, wolves, mountain lions and possibly grizzly bears. The mountain range provides excellent habitat for black bears and mountain lions. These two carnivores are occasionally reported from the region.

No raptors were observed within the site boundary. Small song birds observed during the survey included mountain bluebird (*Sialia currucoides*) and common flicker (*Colaptes auratus*) in the forest setting and white- throated swift (*Aeronautes saxatalis*) flying acrobatically on the steep down slope area of the repeater tower site to the north and west.

Feral livestock tracks and droppings were scattered throughout the proposed project site and related facilities. Horses and cows were the two main tracks noted. Several feral horses, three mature horses and one small foal, were observed grazing below the summit while descending the mountain.

3.2.3 Special Status Species

3.2.3.1 Vegetation

The biological survey has determined that the proposed site provides excellent habitat for Navajo Mountain penstemon (*Penstemon navajoa*), a species considered rare by the Navajo Nation. The species is listed as Group 3 on the Navajo Nation Endangered Species List (NESL). There were several individual plants scattered along the access road to the site but none within the 07 June or 23 August 2006 surveyed boundaries. Navajo phlox (*Phlox cluteana*) is another uncommon species that was growing locally abundant throughout the surveyed area on June 7, 2006. This species was previously included in the Navajo Nation Endangered Species list, but has been de-listed; however, its distribution within the San Juan River basin is still very limited. Table 3 lists current special status plant and animal species for which habitat potentially could occur somewhere on Navajo Mountain.

Table . Current list and status of federal and Navajo Nation protected species, species proposed for protection, candidates for protection, and species of concern in San Juan County for which habitat could potentially occur on Navajo Mountain.

Common Name	Scientific Name	Federal	NN
Birds			
Golden eagle*	<i>Aquila chrysaetos</i>	S	GRP 3
Peregrine falcon*	<i>Falco peregrinus</i>	DE- L	GRP 4
California condor	<i>Gymnogyps californianus</i>	E	NL
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	NL
Mexican spotted owl*	<i>Strix occidentalis lucida</i>	T	GRP 3
Mammals			
Navajo Mountain vole*	<i>Microtus mogollonensis mexicanus</i>	NL	GRP 4
Desert bighorn sheep*	<i>Ovis canadensis nelsoni</i>	NL	GRP 3
Plants			
Navajo Mountain penstemon	<i>Penstemon navajoa</i>	NL	GRP 3
Navajo sedge	<i>Carex specuicola</i>	T	GRP 3
Parish's alkaligrass	<i>Puccinellia parishii</i>	NL	GRP 4
Reptiles and Amphibians			
Chuckwalla	<i>Sauromalus ater</i>	E	GRP 4
BOLD = OBSERVED DURING THE BIOLOGICAL SURVEY * = NOT OBSERVED, BUT HABITAT PRESENT IN THE AREA E = ENDANGERED T = THREATENED S = SENSITIVE GRP 3 = NESL GROUP 3 GRP 4 = NESL GROUP 4 DE-L = DE-LISTED NL = NOT LISTED FOR SAN JUAN COUNTY Sources: Consultation with the US Fish and Wildlife Service and NN Department of Fish and Wildlife - Natural Heritage Program.			

The site also provides habitat for other uncommon plants that occur in the Navajo Nation only on Navajo Mountain. These plants include Andean clover (*Trifolium andinum*), pretty Jacob's ladder (*Polemonium pulcherrimum* var. *delicatum*), limber pine (*Pinus flexilis*), and white pine (*Abies concolor*). These species are located in other mountain ranges at much higher elevations than at the Navajo Mountain summit.

The only plant found growing on or near the proposed repeater tower site during the survey that is listed as Endangered, Threatened or Sensitive by the U.S. Fish and Wildlife Service, Natural Heritage Program, or

the State of Utah was Navajo Mountain penstemon. Navajo Mountain penstemon is not federally listed, but is considered rare by the Navajo Nation and the State of Utah. A habitat assessment of these plant species is provided below. A copy of the NN Department of Fish and Wildlife – Natural Heritage Program (NNDFW- NHP) consultation response letter is included in Appendix B.

***Penstemon navajoa* N. Holmgren**

Family: SCHROPIARIACEAE – Figwort Family

Common Name: Navajo Mountain penstemon

Federal / Navajo Nation Status: None / NESL Group 3

Known Distribution: San Juan Co., Utah

Habitat: Ponderosa pine forest, aspen groves and Douglas fir plant communities at 8,000 to 10,400 feet elevation.

Remarks: Several individuals were scattered along the narrow access route to the proposed repeater tower site but no individuals were observed within the surveyed boundaries of the site.

***Carex specuicola* J. T. Howell**

Family: CYPERACEAE – Sedge Family

Common Name: Navajo sedge

Federal / Navajo Nation Status: Threatened / NESL Group 3

Known Distribution: Apache, Coconino and Navajo Counties, Arizona.

Habitat: Hanging gardens and seeps on vertical sandstone cliffs and in the recesses of alcoves at 4500- 7200 feet elevation.

Remarks: No habitat occurs for Navajo sedge in the proposed project area. This species was first discovered and described from Inscription House Canyon, the type locality.

***Puccinellia parishii* A. S. Hitchcock**

Family: POACEAE (GRAMINEAE) – Grass Family

Common Name: Parish's alkaligrass

Federal / Navajo Nation Status: None / NESL Group 4

Description: Annual grass with culms up to 15 cm tall; Leaf blades are flat to moderately involute or curled along the leaf edge; Flower spikelets a narrow, ascending panicle, each spike 3- 5 mm long; Glumes are broad, strongly nerved with scarious margins; Lemmas pubescent on the nerves and the tip is shredded; Flowering May to June.

Known Distribution: Apache, Coconino and Navajo Counties, Arizona; New Mexico

Habitat: Alkaline seeps, springs, cienegas and drainages with moist alkaline soils.

Remarks: No alkaline seeps were encountered during the biologic survey and no habitat occurs within the proposed site.

3.2.3.2 Wildlife

Rare fauna with potential to occur on or near the proposed repeater tower site and access route on top of Navajo Mountain, San Juan County, Utah, Navajo Nation include the following: golden eagle (*Aquila*

chrysaetos), peregrine falcon (*Falco peregrinus*), Mexican spotted owl (*Strix occidentalis lucida*), Navajo Mountain vole (*Microtus mogollonensis mexicanus*) and desert bighorn sheep (*Ovis canadensis nelsoni*). A habitat assessment of these species is provided below. There is no aquatic habitat in the project area; therefore, neither fish nor willow flycatcher (*Empidonax traillii extimus*) habitat is present. There are no prairie dogs in the project area; therefore, there is no potential for black-footed ferrets (*Mustela nigripes*) to occur there. There is no habitat present in the project area for the yellow-billed cuckoo (*Coccyzus americanus*). The bald eagle (*Haliaeetus leucocephalus*) and the California condor (*Gymnogyps californianus*) are only known to occur in the region and could potentially pass through the project area. Optimal habitat for these species does not occur in the project area. There are no known nests for these birds within a half-mile of the proposed project area or even in San Juan County (Roman, pers. comm., 2006).

Aquila chrysaetos

Common Name: Golden eagle

Federal / Navajo Nation Status: Sensitive / NESL Group 3

Remarks: Protected under the Migratory Bird Treaty Act and the Eagle Protection Act. Golden eagles prefer remote terrain with vertical cliffs and ledges of up to 100 feet or more. Their nesting sites are adjacent to open areas of desert scrub and grasslands vegetation cover where small mammals are plentiful. They forage on small mammals and reptiles. They have been reported throughout the Navajo Nation where habitat requirements are met. These large raptors are reported to occur in the general project area and may utilize Navajo Mountain for nesting and perching. Optimum nesting and perching habitat is the large conifer trees near the lower edges of the mountain several thousand feet below the repeater site where extensive sandstone cliffs are exposed. No golden eagles or nests were observed within the project area at the time of the survey.

Falco peregrinus

Common Name: Peregrine falcon

Federal / Navajo Nation Status: De-listed Endangered (25 August 1998) / NESL Group 4

Remarks: Protected under the Migratory Bird Treaty Act. Peregrine habitats occur in extensive vertical cliff walls of greater than 100 feet in height preferably next to perennial water sources. They nest on ledges, rocky overhangs and potholes. The topography is often variable with changing slopes and elevation next to forested regions. Excellent peregrine falcon habitat is not present at the repeater site but occurs surrounding the lower mountain slopes where extensive, inaccessible sandstone walls occur as a broad band that surrounds the mountain. These raptors have been reported to occur within the Chuska Mountains, Black Mesa, Carrizo Mountains, Canyon de Chelly, Dilkon region, San Juan River and Colorado River system.

Strix occidentalis lucida

Common Name: Mexican spotted owl

Federal / Navajo Nation Status: Threatened / NESL Group 3

Remarks: Protected under the Endangered Species Act and Migratory Bird Treaty Act. A nocturnal forest dweller where the preferred habitat occurs in mature montane coniferous forests with variable tree age groups that exhibit open to closed canopies and a component of dead and down logs on the forest floor. They also occur in deep shaded canyons with perennial streams and riparian vegetation cover. They have been reported to occur within the Chuska Mountains, Lukachukai Mountains, Canyon de Chelly, Defiance Plateau and Black Mesa range. Excellent habitat occurs throughout the Navajo Mountain range. The

surveyed site had old growth mature coniferous forest with open flyways surrounding it on June 7, 2006, prior to the fire. The forest surrounding the site may provide habitat for these elusive birds and further night surveys may be warranted.

Microtus mogollonensis mexicanus

Common Name: Navajo Mountain vole

Federal / Navajo Nation Status: None / NESL Group 4

Remarks: Small mammal that prefers open grassy meadows with variable shrub component in ponderosa pine forest for the high elevation habitat. Lower elevation habitat is much more variable with shrub cover as the main component. They occur on the Navajo Nation at Navajo Mountain, Black Mesa, Defiance Plateau and Chuska Mountains. No signs of small mammals were observed within the proposed project site and no potential habitat occurs on site. These small mammals have excellent habitat about 1000 feet lower in elevation near War God Springs where ponderosa pine forest is the typical vegetation cover.

Ovis canadensis nelsoni

Common Name: Desert bighorn sheep

Federal / Navajo Nation Status: None / NESL Group 3

Remarks: Desert bighorn sheep prefer steep rocky terrain with cliffs and precipitous ledges in mixed desert shrub plant communities. These elusive sheep are reported from the Navajo Nation along the San Juan River canyon system and its tributaries. They also have good potential habitat along the canyons of the Colorado and Little Colorado River systems. Suitable habitat does not occur on the surveyed site; however, potential habitat occurs along the side flanks of the Navajo Mountain in extensive sheer sandstone walls surrounding the mountain.

3.3 Cultural Resources

A 100 percent pedestrian survey, following standard survey protocols, of the access road to the summit of Navajo Mountain and from the summit to the proposed repeater site, and of a 40 feet by 40 feet square area originally proposed for the repeater site was conducted on June 27 and 28, 1998 by Nelson (1998). Prior to the pedestrian survey Nelson performed an archaeological records search to identify any previously recorded archaeological sites in the area. Nelson conducted ethnographic interviews on August 3 and 4, 1998. The results of these studies and interviews were presented in a report prepared by Nelson (1998) for the NPS. Navajo Mountain is considered to be a sacred place and is recognized as a Traditional Cultural Property (TCP).

An additional pedestrian archaeological survey was performed on August 23, 2006 of a one-acre square centered on the original 40 feet by 40 feet square to accommodate the revised boundary of the proposed site as described in Section 2.1 of this document. Prior to the pedestrian survey an archaeological record search was performed to identify any additional archaeological sites that might have been recorded since Nelson's survey. The results of these studies were presented in an a report prepared by GreatHouse Environmental, LLC, (GHE, 2006) for the NPS.

The archaeological records searches resulted in the identification of nine previously recorded sites within one-half mile of the proposed project area. The report by Nelson concluded that as a result of the pedestrian archaeological survey conducted by her in 1998, five previously unrecorded historic properties, one documented traditional cultural property, one in-use property, and two isolated occurrences are located in the project area. The additional survey by GreatHouse Environmental (GHE, 2006) identified only the documented traditional cultural property and one previously unrecorded isolated occurrence.

The one documented traditional cultural property referred to by Nelson and GreatHouse Environmental is Navajo Mountain. None of the three isolated occurrences recorded by the two surveys retain integrity or satisfy the necessary criteria to be considered eligible for nomination to the National Register of Historic Places (NRHP). They are not thought to be of archaeological interest regardless of age since their research potential has been exhausted through recordation, thus they do not meet the definition of an archaeological resource as required for protection under the Archaeological Resources Protection Act (ARPA). They do not exhibit qualities or characteristics that would make them eligible for protection under the provisions of American Indian Religious Protection Act (AIRFA). The one in-use property recorded by Nelson is the existing radio tower site at the summit of Navajo Mountain. This property is not eligible for the NRHP, nor is it eligible for protection under the ARPA or AIRFA.

The nine previously recorded sites identified during the records searches are outside the area of potential effect. The five historic properties recorded by Nelson are located in the vicinity of the main access road going up Navajo Mountain. The results of the ethnographic interviews conducted by Nelson (1998) indicated that the placement of another tower on the mountain would further erode its sacred qualities.

3.4 Resource and Land Use Patterns

Due to the high elevation, winter snows, and difficult access the land uses in the areas surrounding the proposed repeater site and access road are limited. There are existing radio towers and facilities on the summit of the mountain approximately 0.75 mile south of the proposed repeater site. In the summer, some people visit the area to camp and enjoy the scenic views from the top of the mountain. The mountain is also used by Navajo medicine men as a source of medicinal plants. The mountain is used for grazing by horses, sheep, and cattle, and also for subsistence hunting by the Navajo. None of these resources or land use patterns are exclusive to the proposed repeater site.

3.5 Visual Aesthetics

Aesthetic resources include the natural and manmade physical features that give a particular landscape its character and value as an environmental factor. The interplay of form, line and color contribute directly to the scenic quality of an area. Unusual formations and dramatic coloration generally increase the scenic value given to a landscape. Common features and bland colors generally decrease the scenic value. Scale and distance affect the impact a particular landscape feature has on the viewer. Objects in the foreground generally are more noticeable and have the highest impact on the viewer. Objects located farther back, in the middleground, are less noticeable and have a lower impact on the viewer. Objects located in the background, generally considered to five miles or more away, have the least impact on the viewer.

The proposed repeater site is a little over five miles from Rainbow Bridge National Monument (RBNM), which is the nearest parcel of public land in the Lake Powell area from which the proposed tower might be visible. Some of the ponderosa pine trees around the proposed site may be almost half as tall as the proposed tower. Navajo Mountain, because of its prominence in the background, would ordinarily make an important contribution to the overall scenic quality of the landscape at RBNM; however, because the bridge is the main focus of attention for visitors to the monument, background landscape components such as Navajo Mountain are less important.

3.6 Public Safety and Hazardous Materials/Wastes

Because of the remoteness of the top of Navajo Mountain and the extreme difficulties presented by the road that accesses the top, the area does not receive a large amount of visitation by people. There are no known hazardous materials or wastes located within or around the proposed repeater site. Past activity at

the site does not indicate a significant potential for the presence of unknown hazardous materials or wastes at the proposed repeater site. Visual inspection of the site revealed no suspect discoloration of the ground which might indicate a past spill of a hazardous material or waste. Fire retardant slurry was dropped on the top of the mountain in the summer of 2006; however, visual inspection of the area indicated that it did not fall within the boundary of the proposed repeater site. Fire retardant slurry is not considered a hazardous material or waste under the Resource Conservation and Recovery Act (RCRA) (Astaris, 2001).

Chapter 4.0: Environmental Consequences

This section forms the scientific and analytic basis for the comparison of alternatives. It identifies the direct and indirect effects of the proposed action and the no action alternative on each of the issues and environmental resources previously described in Section 3.0, Affected Environment. Throughout this EA, effects are defined as any modification (beneficial or adverse) to an existing resource condition. The effects analyses include the context of each potential effect (local, regional, or widespread), including the duration (short- term versus long- term), and intensity (no effect, negligible, minor, moderate, or major) of the effect, as appropriate. These terms are defined in the methodology subsections for each resource topic. It also includes a discussion of the potential cumulative effects of the proposed action in combination with other past, present, and reasonably foreseeable future projects in the area and proposed mitigation.

In addition, National Park Service Management Policies (2001) require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park.

4.1 Land Resources

4.1.1 Methodology

Beneficial: Effects result in an improvement to the resource.

Adverse: Effects result in an undesirable change of the resource.

Negligible: Changes to the topography of the analysis area would not be noticeable. The geologic stability of the analysis area would not be compromised by digging or foundation

construction activities. Although some clearing, grubbing and grading may take place, the soils in the analysis area would remain essentially intact with no long- term erosion potential.

Minor: Changes to the topography of the analysis area would be noticeable up close, but not from a distance of over one mile. The geologic stability of the analysis area would remain sound; however, digging and foundation construction activities may be extensive and require some engineered reinforcements. Less than one acre of soils would be temporarily disturbed, but not to the extent that standard best management practices would not be capable of preventing erosion until the soils in the analysis area are fully stabilized. Native soils would be retained.

Moderate: Changes to the topography of the analysis area would be noticeable from a distance of over one mile, but not from a distance of five miles or more. The geologic stability of the analysis area would remain sound; however, construction activities would require extensive engineered reinforcements to maintain that stability. Over one acre, but less than five acres, of soils would be disturbed. Best management practices and other mitigation measures would be able to restore the existing condition in the long- term.

Major: Changes to the topography of the analysis area would be noticeable from a distance of over five miles. The geologic stability of the analysis area would entirely dependent upon engineered reinforcements. Over five acres of soils would be disturbed or removed. Although best management practices and other mitigation measures would be employed and erosion would be controlled, there would be an extensive, permanent loss of native soils.

Local: Within one quarter- mile of the proposed project site.

Regional: Within 100 miles of the proposed project site.

Widespread: Within 1,000 miles of the proposed project site.

Duration: Short- term – Recovers in less than one year.
Long- term – Takes more than one year to recover.

4.1.2 Effects of the Preferred Alternative

Topography

Other than a small amount of grading for the building, no changes to the existing topography of the project area are planned. Because of the already level condition of the site, very little grading for the building would be necessary. The potential adverse effect of this modification on the local topography would be long- term and negligible. There would be no impairment of NPS resources.

Geology

The geologic formations, including the Dakota sandstone and possibly volcanic tuff, that occur beneath the proposed repeater site as well as the rest of the top of the mountain, have demonstrated the ability to support a number of tall radio towers at the mountain's true summit. The base of the self- supported tower would be designed in a manner consistent with the requirements of the existing geologic substrate, as would be more precisely determined during the initial design phase. The apparent stability of the site and the distance of the site away from the edge of the mountain's upper slope indicate that the site would

support the proposed tower. Potential adverse effects to the geologic integrity of the site would be local, long- term, and negligible. There would be no impairment of NPS resources.

Soils

Best management practices such as bar ditches and straw bales would be used as necessary to prevent erosion until the roadbed becomes stabilized. No additional measures would be necessary to prevent erosion and the road would be expected to return to its present condition on its own. Soils would remain essentially intact.

Excavated material not used during construction on the proposed site would be removed. Off- site use or disposal of this material as described in Section 2.1 Preferred Alternative would be expected to have no effects. None of any excess excavated material would be disposed of in any jurisdictional waters of the United States; therefore, no Clean Water Act, Section 404 permit would be required for this activity. Potential adverse effects to soils would be local, short- term, and negligible. There would be no impairment of NPS resources.

4.1.3 Effects of the No Action Alternative

Topography

There would be no change to the existing conditions at the proposed site or elsewhere.

Geology

There would be no change to the existing conditions at the proposed site or elsewhere.

Soils

There would be no change to the existing conditions at the proposed site or elsewhere.

4.1.4 Cumulative Effects

There would be no cumulative effects to this resource topic either under either alternative.

4.1.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.2 Biological Resources

4.2.1 Methodology

Vegetation

Beneficial: Effects result in an improvement to the resource.

- Adverse:* Effects result in an undesirable change of the resource.
- Negligible:* No vegetation would be affected or some individual plants could be affected as a result of the alternative, but there would be no effect on native species populations and no spread of noxious weeds or exotics. Any effect would be small scale, and no species of special concern would be affected.
- Minor:* Changes in vegetative communities or species populations would be measurable, with small and localized effects to a relatively minor portion of any species population. The alternative would have some spread of noxious weeds and exotics. Mitigation to offset adverse effects, including special measures to avoid spread of noxious weeds and exotics, could be required and would be effective.
- Moderate:* Changes in vegetative communities or species populations would be readily apparent, with effects to a sizeable segment of the species' population over a relatively large area. The alternative would have some spread of noxious weeds and exotics. Mitigation to offset adverse effects could be extensive, but would likely be successful.
- Major:* Changes to vegetative communities or species populations would have a considerable long-term effect and affect a relatively large area in and out of the park. The alternative would have a considerable long-term effect on the spread of noxious weeds and exotics. Mitigation to offset the adverse effects would be required, extensive, and success of the mitigation measures would not be guaranteed.
- Local:* Within one half- mile of the proposed project site.
- Regional:* Within 100 miles of the proposed project site.
- Widespread:* Within 1,000 miles of the proposed project site.
- Duration:* Short- term – Recovers in less than one year.
Long- term – Takes more than one year to recover.

Wildlife

- Beneficial:* Effects result in an improvement to the resource.
- Adverse:* Effects result in an undesirable change of the resource.
- Negligible:* Wildlife would not be affected or the effects would be at or below the level of detection, and the changes would be so slight that they would not be of any measurable or perceptible consequence to the wildlife species' population. Impacts would be well within the range of natural fluctuations.
- Minor:* Effects to wildlife would be detectable, although the effects would be short-term localized, and would be small and of little consequence to the species' population. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
- Moderate:* Effects to wildlife would be readily detectable, long-term and localized, with consequences at the population level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

- Major:* Effects to wildlife would be obvious, long- term, and would have substantial consequences to wildlife populations in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.
- Local:* Within one half- mile of the proposed project site.
- Regional:* Within 100 miles of the proposed project site.
- Widespread:* Within 1,000 miles of the proposed project site.
- Duration:* Short- term – Recovers in less than one year.
Long- term – Takes more than one year to recover.

Special Status Species

- Beneficial:* Effects result in an improvement to the resource.
- Adverse:* Effects result in an undesirable change of the resource.
- Negligible:* No federally listed species would be affected or the alternative would affect an individual of a listed species or its critical habitat, but the change would be so small that it would not be of any measurable or perceptible consequence to the protected individual or its population. Negligible effect would equate with a "no effect" determination in USFWS terms.
- Minor:* The alternative would affect an individual(s) of a listed species or its critical habitat, but the change would be small. Minor effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.
- Moderate:* An individual or population of a listed species, or its critical habitat would be noticeably affected. The effect could have some long- term consequence to the individual, population, or habitat. Moderate effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.
- Major:* An individual or population of a listed species, or its critical habitat, would be noticeably affected with a long- term, vital consequence to the individual, population, or habitat. Major effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species or critical habitat.
- Local:* Within one half- mile of the proposed project site.
- Regional:* Within 100 miles of the proposed project site.
- Widespread:* Within 1,000 miles of the proposed project site.
- Duration:* Short- term – Recovers in less than one year.
Long- term – Takes more than one year to recover.

4.2.2 Effects of the Preferred Alternative

Vegetation

Very little vegetation would be disturbed by the grading activities within the proposed repeater site boundaries during construction. Trenching the electrical power cable within the access road from the existing radio towers to the proposed repeater site would also disturb very little vegetation. Maintenance activities during operation of the facility would include occasional clearing of vegetation within 50 feet of all structures to minimize the risk of damage to the facility from wildfire.

Soil disturbance from construction activities could potentially provide an opportunity for noxious weeds to become established in the area. The primary potential source of noxious weeds would be from seeds stuck to heavy equipment and vehicles used during construction. In order to minimize the potential introduction of noxious weeds, thorough washing of all heavy equipment and vehicles would be required prior to their arrival at Navajo Mountain.

Any potential short-term, adverse effects would be local and negligible. No long-term, adverse effects would be expected.

Wildlife

Construction and fencing the proposed repeater site would result in negligible, short and long-term, adverse effects on wildlife in the local area as a result of displacement. Human activity during monthly maintenance visits would temporarily disturb wildlife activity in the area; however, upon departure from the site, the anticipated adverse effects of this disturbance would be short-term and negligible.

Special Status Species

The bald eagle and the California condor may occasionally pass through the project area. Breeding by these species in the project area or the Lake Powell area has not been observed. The bald eagle and the peregrine falcon would tend to avoid human activities in the project area by flying elsewhere. Since the top of the mountain is not prime nesting habitat for these birds, it is unlikely that monthly maintenance visits to the site would have any effect on them.

California condors are naturally curious scavengers. To reduce the attractiveness of the construction site to these birds, the following measures would be implemented in accordance with the USF&WS recommendations:

- Prior to the start of construction, personnel monitoring California condor locations and movement would be contacted to determine the locations and status of condors in the project vicinity.
- If a condor occurs at the construction site, construction would cease until the condor leaves on its own or until techniques are employed by permitted personnel that result in it leaving the area.
- Construction workers and supervisors will be instructed to avoid interaction with condors and to immediately contact the appropriate GCNRA personnel if or when condors occur at the construction site.
- The construction site would be cleaned up (e.g., trash removed) at the end of each day that work is conducted to minimize the likelihood of condors visiting the area. GCNRA staff would monitor site

activities on an as-needed basis during construction to ensure that adequate cleanup measures are taken.

No effects to special status species would be expected from construction or operations activities. A copy of the NNFWS letter of concurrence with the biological resources compliance form is included in Appendix B. The area surveyed and referred to in documents presented in Appendix B was greater than, and encompasses, the actual 0.22 acre that is proposed for use in Chapter 2.0, Section 2.1 of this document. Refer to the legal survey for the correct size, dimensions, and location of the proposed tract.

4.2.3 Effects of the No Action Alternative

Vegetation

There would be no effects.

Wildlife

There would be no effects.

Special Status Species

There would be no effects.

4.2.4 Cumulative Effects

There would be no cumulative effects to this resource topic either under either alternative.

4.2.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.3 Cultural Resources

4.3.1 Methodology

Beneficial: Effects result in an improvement to the resource.

Adverse: Effects result in an undesirable change of the resource.

Negligible: The impact to archeological resources, National Register of Historic Places, and cultural landscapes is at the lowest levels of detection—barely perceptible and not measurable. Impacts would neither alter ethnographic resource conditions, nor alter the relationship between the resource and the affiliated group's body of practices and beliefs.

Minor: For archeological resources, the impact affects an archeological site(s) with modest data potential and no significant ties to a living community's cultural identity. The impact does not affect the character defining features of a National Register of Historic Places eligible or

listed structure, district, or cultural landscape. Impacts to ethnographic resources would be slight and noticeable, but would neither appreciably alter resource conditions, such as traditional access or site preservation, nor alter the relationship between the resource and the affiliated group's body of practices and beliefs.

Moderate: For archeological resources, the impact affects an archeological site(s) with high data potential and no significant ties to a living community's cultural identity. For a National Register eligible or listed structure, district, or cultural landscape, the impact changes a character defining feature(s) of the resource but does not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. Impacts to ethnographic resources would be apparent and would alter resource conditions. Something would interfere with traditional access, site preservation, or the relationship between the resource and the affiliated group's practices and beliefs.

Major: For archeological resources, the impact affects an archeological site(s) with exceptional data potential or that has significant ties to a living community's cultural identity. For a National Register eligible or listed structure, district, or cultural landscape, the impact changes a character defining feature(s) of the resource, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. Impact to ethnographic resources would alter resource conditions. Something would block or greatly affect traditional access, site preservation, or the relationship between the resource and the affiliated group's body of practices and beliefs would be jeopardized.

Local: Within 100 feet of the proposed project site.

Regional: Within 100 miles of the proposed project site.

Widespread: Within 1,000 miles of the proposed project site.

Duration: Short- term – Effects lasting for the duration of the construction activities (less than 1 year);
Long- term – Effects lasting longer than the duration of the construction (longer than 1 year).

4.3.2 Effects of the Preferred Alternative

The use of the access road to the top of Navajo Mountain would not be expected to affect the five historic properties recorded by Nelson (1998). If it should be determined after construction has begun that improvements to the access road are necessary, no disturbance should take place within 100 feet of the sites. In the event of a discovery of a previously unrecorded site during construction, all work would cease and the Navajo Nation Historic Preservation Department would be notified. Prior to the resumption of construction activities, a treatment plan such as is described in the archaeological report by GreatHouse Environmental (GHE, 2006) and included in Appendix C of this EA, would be implemented.

No historic properties would be affected and although Navajo Mountain is considered a sacred place, the Navajo Nation Historic Preservation Department (NNHPD) has determined that there would be no effect on it as a TCP (see Appendix C, Cultural Resources Documentation, Cultural Resources Compliance Form and concurrence with letter from GreatHouse Environmental concluding no further interviews were necessary). The Navajo Mountain Chapter of the Navajo Nation unanimously approved a resolution in support of the project on June 26, 2005 (See Appendix C). The area surveyed and referred to in documents presented in Appendix C was greater than, and encompasses, the actual 0.22 acre that is proposed for use in Chapter 2.0, Section 2.1 of this document. Refer to the legal survey for the correct size, dimensions, and location of the proposed tract.

4.3.3 Effects of the No Action Alternative

There would be no effects.

4.3.4 Cumulative Effects

There could be a potential beneficial cumulative effect to cultural resources under the proposed action when combined with other reasonably foreseeable projects if any of those projects resulted in the removal of existing radio equipment from the summit of Navajo Mountain, which is considered more sacred by the Navajo Tribe than the location of the proposed action. No cumulative effects under the no action alternative would be expected.

4.3.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.4 Resource and Land Use Patterns

4.4.1 Methodology

Beneficial: Effects result in an improvement to the resource.

Adverse: Effects result in an undesirable change of the resource.

Negligible: The resource and land use patterns potentially affected are common throughout the region and, therefore, not restricted to the affected area. Elimination of any resource or land use patterns within the affected area would not result in a noticeable change in those patterns outside of the affected area. No mitigation measures would be necessary.

Minor: Either a resource or a land use pattern would be adversely affected locally for a short-term duration, but not both. Mitigation measures could be developed to potentially eliminate this effect. None of the original resource or land uses would be permanently eliminated.

Moderate: Changes in the resource and land use patterns would be adversely affected either on a long-term or regional scale, but not both. Mitigation measures could be developed to further reduce this level of effect. None of the original resource or land uses would be permanently eliminated.

Major: Changes in the resource and land use patterns would be adversely affected on a long-term and regional scale. Mitigation measures could not be developed to reduce this level of effect. At least some of the original resource or land uses would no longer be possible.

Local: Within one half-mile of the proposed project site.

Regional: Within 100 miles of the proposed project site.

Widespread: Within 1,000 miles of the proposed project site.

Duration: Short- term – Effects last one year or less.
Long- term – Effects last more than one year

4.4.2 Effects of the Preferred Alternative

The very small size of the proposed repeater site relative to the size of the mountain indicates that while any potential adverse effects would be long- term, the context and intensity of the effects indicate that they would be local and negligible.

4.4.3 Effects of the No Action Alternative

There would be no effects.

4.4.4 Cumulative Effects

There would be no cumulative effects to this resource topic either under either alternative.

4.4.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.5 Visual Aesthetics

4.5.1 Methodology

Data included field views by park personnel and its consultant in order to ascertain significant visual elements within the landscape. The thresholds of change for the intensity of impacts on aesthetics and visual resources are defined as follows:

Beneficial: Effects result in an improvement to the resource.

Adverse: Effects result in an undesirable change of the resource.

Negligible: Effects to the visual quality of the landscape would be at or below the level of detection; changes would also be so slight that they would not be of any measurable or perceptible consequence to the visitor experience.

Minor: Effects to the visual quality of the landscape would be detectable, localized, and would be small and of little consequence to the visitor experience. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

Moderate: Effects to the visual quality of the landscape would be readily detectable and localized, with consequences at the regional level. The action would not completely alter the viewshed, but would be a visual addition to the existing condition. Mitigation measures, if needed, would be extensive and likely successful.

- Major:* The Effects to the visual quality of the landscape would be obvious, with substantial consequences to the visitor experience. Extensive mitigation would be needed to offset any adverse effects and their success would not be guaranteed.
- Local:* Within 10 miles of the proposed project site.
- Regional:* Within 100 miles of the proposed project site.
- Widespread:* Within 1,000 miles of the proposed project site.
- Duration:* Short- term – Effects lasting for the duration of the construction activities (less than 1 year);
Long- term – Effects lasting longer than the duration of the construction (longer than 1 year).

4.5.2 Effects of the Preferred Alternative

The nearest key observation point within public land is at RBNM. From this location, the new tower would be visible; however, it would be located over five miles away in the background. Figure 4 below shows approximately how the tower would be expected to appear on the horizon. Public scoping efforts by the GCNRA and its consultant indicate that the appearance of the tower on the skyline of Navajo Mountain from RBNM would not effect the visitor experience. Given the general public sensitivity to radio towers in scenic locations and the highly variable range of individual sensitivity to scenic landscapes, however, there may be an adverse, minor, long- term effect to the visual aesthetics of the local area as a result of a new tower in a location where none previously existed.



Figure . Photograph of Navajo Mountain from Rainbow Bridge National Monument with an approximation of the proposed tower drawn in (location indicated by the arrow) to show how it may look from this location.

4.5.3 Effects of the No Action Alternative

There would be no effects.

4.5.4 Cumulative Effects

Potential adverse cumulative effects to this resource topic under the proposed action could be local, long-term, and minor when combined with reasonably foreseeable projects that would require extension of the proposed tower. Such reasonably foreseeable projects would require additional NEPA compliance. No cumulative effects under the no action alternative would be expected.

4.5.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.6 Public Safety and Hazardous Materials/Wastes

4.6.1 Methodology

- Beneficial:* Effects result in an improvement to the resource.
- Adverse:* Effects result in an undesirable change of the resource.
- Negligible:* Public health and safety would not be affected, or the effects would be at low levels of detection and would not have an appreciable effect on the public health or safety.
- Minor:* The effect would be detectable and would likely be short-term, but would not have an appreciable effect on public health and safety. If mitigation were needed, it would be relatively simple and would likely be successful.
- Moderate:* The effects would be readily apparent and long-term, and would result in substantial, noticeable effects to public health and safety on a local scale. Mitigation measures would probably be necessary and would likely be successful.
- Major:* The effects would be readily apparent and long-term, and would result in substantial, noticeable effects to public health and safety on a regional scale. Extensive mitigation measures would be needed, and their success would not be guaranteed.
- Local:* Within one quarter-mile of the proposed project site.
- Regional:* Within 100 miles of the proposed project site.
- Widespread:* Within 1,000 miles of the proposed project site.

Duration: Short- term – Effects last one year or less.
Long- term – Effects last more than one year

4.6.2 Effects of the Preferred Alternative

The remoteness of the proposed repeater site, the poor condition of the access road to mountain's summit, and the small amount of visitation the area receives indicate that any danger presented to the public by the proposed project either during construction or afterwards during operation of the facility would be minimal. Members of the public present in the vicinity of the proposed site during construction would be asked to remain a safe distance away from the site while in the area. The security fence around the proposed site would serve to further reduce any potential dangers to the public. There would be a benefit to public safety during operation of the proposed repeater facility through improved communications within the GCNRA and portions of the surrounding area.

The area that would be affected by construction is not known, nor expected, to be contaminated by any hazardous materials or wastes; therefore, the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act, otherwise known as CERCLA, have no particular application to the project proposed in this EA. The application of the Resource Conservation and Recovery Act, commonly known as RCRA, and the potential effects resulting from the use of hazardous materials and the generation of hazardous wastes during construction and operation of the proposed repeater facility are described here.

All heavy equipment to be used during construction would be lubricated and fueled prior to transport to the proposed repeater site. With the exception of potential minor repairs to the construction equipment, no maintenance or refueling of equipment would take place on Navajo Mountain. In the event of the need for minor on-site repairs to construction equipment that involve the use of hazardous fluids, the construction contractor would employ tarps, spill containers, and other construction best management practices designed to prevent ground contamination. In the unlikely event of a hazardous material or waste being spilled on the ground, the contractor would take immediate steps to contain it and notify the NNEPA.

Once operations begin, no hazardous materials or wastes would be stored anywhere at the site. Any lubricants, solvents, cleaning fluids, or other hazardous materials needed during routine maintenance visits would be transported to the proposed repeater site at the time the maintenance is performed and removed from the site upon completion of maintenance activities. The use of any such hazardous materials would be restricted to the interior spaces of the buildings located on the proposed repeater site. Any spillage would be immediately contained and cleaned up prior to departure from the site by maintenance personnel.

No adverse effects from the use of hazardous materials or to public safety would be expected either during construction or operation of the proposed repeater facility.

4.6.3 Effects of the No Action Alternative

There would be no effects.

4.6.4 Cumulative Effects

There could be potential beneficial cumulative effects to public safety under the proposed action if other reasonably foreseeable projects result in further improvements to communications capabilities in the region. Such effects would potentially be long- term. No cumulative effects under the no action alternative would be expected.

4.6.5 Conclusion

Because there would be no major, adverse effects to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of the GCNRA or RBNM; (2) key to the natural or cultural integrity of the GCNRA or RBNM; or (3) identified as a goal in the GCNRA's general management plan or other relevant National Park Service planning documents, there would be no impairment of the GCNRA's or RBNM's resources or values.

4.7 Summary of Effects

Table . Summary table of effects

Issue or Resource Area	No Action	Proposed Action
Land Resources – Topography	NE	ADV, L, LT, N, NI
Land Resources – Geology	NE	ADV, L, LT, N, NI
Land Resources – Soils	NE	ADV, L, ST, N, NI
Biological Resources – Vegetation	NE	ADV, L, ST, N, NI
Biological Resources – Wildlife	NE	ADV, L, LT, N, NI
Biological Resources – Special Status Species	NE	NE
Cultural Resources	NE	NE
Resource and Land Use Patterns	NE	ADV, L, LT, N, NI
Visual Aesthetics	NE	ADV, L, LT, M, NI
Public Safety and Hazardous Materials/Wastes	NE	NE
NE=NO EFFECT, ADV=ADVERSE, BEN=BENEFICIAL, ST=SHORT- TERM, LT=LONG TERM, L=LOCAL, R=REGIONAL, W=WIDESPREAD, N=NEGLIGIBLE, M=MINOR, MOD=MODERATE, MAJ=MAJOR, I=IMPAIRMENT, NI=NO IMPAIRMENT		

4.8 Construction Requirements

1. In order to minimize the potential introduction of noxious weeds, thorough washing of all heavy equipment and vehicles would be required prior to their arrival at Navajo Mountain.
2. To reduce the attractiveness of the construction site to these birds, the following measures would be implemented in accordance with the USF&WS recommendations:
 - Prior to the start of construction, personnel monitoring California condor locations and movement would be contacted to determine the locations and status of condors in the project vicinity.
 - If a condor occurs at the construction site, construction would cease until the condor leaves on its own or until techniques are employed by permitted personnel that result in it leaving the area.
 - Construction workers and supervisors will be instructed to avoid interaction with condors and to immediately contact the appropriate GCNRA personnel if or when condors occur at the construction site.

- The construction site would be cleaned up (e.g., trash removed) at the end of each day that work is conducted to minimize the likelihood of condors visiting the area. GCNRA staff would monitor site activities on an as-needed basis during construction to ensure that adequate cleanup measures are taken.

3. If it should be determined after construction has begun that improvements to the access road are necessary, no disturbance should take place within 100 feet of the sites. In the event of a discovery of a previously unrecorded site during construction, all work would cease and the Navajo Nation Historic Preservation Department would be notified. Prior to the resumption of construction activities, a treatment plan such as is described in Appendix C of the archaeological report by GreatHouse Environmental, would be implemented.

Chapter 5.0: List of Preparers

This list presents the individuals who contributed to the technical content of this EA. Some of the individuals below prepared specific sections in accordance with their technical qualifications. Other technical experts provided input to sections within their respective disciplines through survey reports, in-depth review, and data verification. Still others provided overall technical or management reviews. The document was produced by C Squared Environmental Consulting, LLC, in Rowe, New Mexico.

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Chapter 6.0: Agency/Entity Consultation and Coordination

The following list of individuals, agencies, companies, and organizations were contacted via scoping postcard, email, or telephone during the public scoping period or during preparation of the draft EA. Scoping cards, consultation letters, and other related documentation are included in Appendix D.

- Ms. Barbara Wilson, National Park Service
- Ms. Herrilene Yazzie, Bureau of Indian Affairs
- Mr. William McBurney, Ambassador Guide Services
- Mr. Mark Salvo, American Lands All Grasslands & Deserts
- Mr. Jason Robertson, American Whitewater
- Mr. Bob Veazey, Anglers United
- Mr. Breck Poulson, Aramark- Wilderness River Adventures
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- Director, Arizona Department Of Water Resources, Office Of Colorado River Management
- NEPA Coordinator, Arizona Department Of Environmental Quality
- Mr. Walter Link, District Maintenance Engineer, ADOT, Flagstaff District
- NEPA Coordinator, Arizona Game And Fish
- Mr. Robert Elliott, Arizona Raft Adventures, Inc.
- Mr. Frederick Smith, Arizona Reel Time
- Mr. Sandberg, Arizona Strip Field Office
- Mr. Robert Omart, ASU Center For Environmental Studies
- Ms. Julie Thomas, AZ Hiking Shack
- NEPA Coordinator, AZ Riparian Council, Center For Environmental Studies
- NEPA Coordinator, AZ State Historic Preservation Office
- NEPA Coordinator, Black Mesa Trust
- Mr. Brett Hall, Blue Mules Outfitters
- President Billy Arizona, Bodaway- Gap Chapter, Navajo Nation
- Mr. Jim Cliburn, Bubba's Guide Service
- Field Office Manager, Richfield Field Office, Bureau Of Land Management
- NEPA Coordinator, Bureau Of Reclamation
- President, Cameron Chapter, Navajo Nation
- Mr. Ron Cannon, Cannon Guides And Supplies
- Ms. Laurie Lee Staveley, Canyon Expeditions, Inc.
- Ms. Laurie Lee Staveley, Canyon Explorations, Inc.
- Mr. Gaylord Staveley, Canyoneers, Inc.
- Superintendent, Canyonlands NP
- Ms. Nancy Kaplan, Canyons And Coastlines Kayak School
- Superintendent, Capital Reef National Park
- City of Big Water, Mayor & Council
- Mr. Dan Brown, City of Page, Mayor & Council
- Coconino County Board of Supervisors
- Supervisor, Coconino National Forest
- President, Coppermine Chapter, Navajo Nation
- Ms. Cindy Lester, Chief, Arizona Section, Corp Of Engineers, Los Angeles District
- Ms. Leslie James, CREDA
- Mr. S. Clayton Palmer, Dept Of Energy- Western Area Power Administration
- Mr. Betty Price, End of The Trail Shuttles

- NEPA Coordinator, Bureau of Land Management, Escalante Resource Area
- Mr. Paul Ostapuk, Friends of Lake Powell
- Mr. Mike Ritz, Glen Canyon Anglers
- Ms. Rita Gonzalez- Boepple, Government Documents- Main Library
- The Honorable Janet Napolitano, Governor Of Arizona
- The Honorable John Huntsman, Jr., Governor of Utah
- NEPA Coordinator, Grand Canyon National Park
- Superintendent, Grand Canyon National Park
- Mr. Dennis Curtis, Monument Manager, Grand Canyon- Parashant National Monument
- Mr. Brad Exton, Manager, Grand Staircase Escalante National Monument
- NEPA Coordinator, District Ranger, Hans Flat Ranger Station
- Ms. Leslie E. Hibbert, Hidden Canyon Kayak LLC
- President, Inscription House Chapter, Navajo Nation
- Mr. Jim Caslin, Jim Caslin Guide Service
- Ms. Nancy Walter, JWP Museum
- Supervisor, Kaibab National Forest
- President, Kaibeto Chapter, Navajo Nation
- Mr. Gib Johnson, Lake Powell Resorts & Marinas
- Mr. Ray Young, Lake Powell Charters
- Mr. Freddie Hancock, Lake Powell Waterworld
- President, Lake Powell Yacht Club
- President, LeChee Chapter, Navajo Nation
- NEPA Coordinator, Living Rivers
- Ms. Barbara J. Foster, Marble Canyon Guide Service
- Mr. Dave Foster, Marble Canyon Outfitters
- Mr. Robert A. Witzeman, Maricopa Audubon Society
- Mr. Mike Haws, Mike's Trophy Fishing
- Mr. Roy Cordell, Utah State Coordinator, National Park Service
- NEPA Coordinator, National Parks & Conservation Association
- NEPA Coordinator, National Wildlife Federation
- NEPA Coordinator, Navajo Generating Station
- President, Navajo Mountain Chapter, Navajo Nation
- President Joe Shirley, Navajo Nation
- NEPA Coordinator, Navajo Nation Historic Preservation Officer
- NEPA Coordinator, Navajo Nation EPA Water Quality Division
- Mr. Mike Roth, Northern Arizona Guide Service
- Superintendent Holland, Lake Mead National Recreation Area
- Mr. Len Cook, Old West Marine Services
- President, Oljato Chapter
- Page- Lake Powell Chamber Of Commerce
- Superintendent, Pipe Springs National Monument
- Mr. Sean Smith, Public Lands Director, Blue Water Network
- NEPA Coordinator, San Juan County Commission
- Resource Area Manager, San Juan Resource Area
- NEPA Coordinator, School & Institutional Trust Lands Administration
- President, Shonto Chapter, Navajo Nation
- NEPA Coordinator, Sierra Club, National Headquarters
- NEPA Coordinator, Sierra Club, Grand Canyon Chapter

- NEPA Coordinator, Sierra Club, Utah
- NEPA Coordinator, National Park Service - Southern Arizona Group
- NEPA Coordinator, Southern Utah Wilderness Alliance
- Mr. Richard Quartaroli, Special Collections Librarian
- Mr. John Harja, State Of Utah, Office Of The Governor
- Mr. Daniel Patterson, SW Center For Biological Diversity
- NEPA Coordinator, SWCA Environmental Consultants
- Mr. James Stein, The Road Less Traveled, Inc.
- NEPA Coordinator, The Wilderness Society
- Ms. Susan Harding, Tour West, Inc.
- President, Tuba City Chapter, Navajo Nation
- NEPA Coordinator, U.S. Bureau Of Reclamation, Salt Lake City, UT
- Mr. Kevin Jones, U.S. Department Of The Interior, Office of the Solicitor
- NEPA Coordinator, U.S. EPA, Region VIII
- Ms. Diana Whittington, Utah Ecological Services Field Office, U.S. Fish & Wildlife Service
- Mr. Ted Rampton, UAMPS
- The Honorable Senator Jon Kyl, United States Senate
- The Honorable Senator John McCain, United States Senate
- The Honorable Representative Jim Matheson, United States House Of Representatives
- The Honorable Representative Rick Renzi, United States House Of Representatives
- The Honorable Senator Robert F. Bennett, United States Senate
- The Honorable Senator Orrin G. Hatch, United States Senate
- Mr. Bill Austin, U.S. Fish & Wildlife Service
- Director, Phoenix Field Office, U.S. Fish & Wildlife Service
- Supervisor, Utah Field Office, U.S. Fish & Wildlife Service
- NEPA Coordinator, Utah Department Of Wildlife Resources
- Mr. William Moellmer, Utah Division Of Water Quality
- Director Larry Anderson, Utah Division Of Water Resources
- NEPA Coordinator, Utah Division Of Wildlife Resources
- NEPA Coordinator, Utah State Parks - Lake Powell
- Resource Area Manager, Bureau Of Land Management, Vermillion Resource Area
- Mr. Hatch Julian, Western Watersheds Project, Inc
- Mr. Warren G. Weinel, WGW
- Mr. Scott Nesselrode, Wheel'em & Fish'em
- Mr. James Catlin, Wild Utah Project
- Director, Wilderness Society, Four Corners States Regional Office
- Ms. Elizabeth Mader, Aramark- Harrison Lodging
- Ms. Roxane George, GC Conservation Program Coordinator, Sierra Club- Grand Canyon Chapter
- Ms. Mary Jane Yazzie, Chairman, White Mesa Ute Council
- Mr. Eddie Dutchie, Jr.
- Ms. Evelyn James, Vice- President, San Juan Southern Paiute Tribe
- Mr. Johnny Lehi, Tribal President, San Juan Southern Paiute Tribe
- Mr. Wayne Taylor, Jr., Chairman, Hopi Tribe
- Mr. Leigh Kuwanwisiwma, Cultural Preservation, Hopi Tribe
- Ms. Carmen Bradley, Chairwoman, Kaibab Paiute Tribe
- Ms. Brenda Drye
- President Kelsey A. Begaye, Navajo Nation
- Mr. Richard Begay, Manager, Navajo Traditional Cultural Program

- Sirs, Navajo Mountain Chapter, Navajo Nation
- Mr. Willie Greyeyes
- Sirs, Inscription House Chapter, Navajo Nation
- Mr. David Laughter
- Sirs Shonto Chapter, Navajo Nation
- Mr. Hurbert Laughter
- Sirs Oljato Chapter, Navajo Nation
- Mr. Jim Fatt
- Dr. Max Evans, Director, Utah SHPO
- Mr. Johnny Fowler, Executive Director, Council on Historic Preservation
- Mr. John Cook Regional Director, Intermountain Region, National Park Service
- Mr. Alan Downer, Historic Preservation Office, Navajo Nation
- Mr. Ronald Maldonado, Historic Preservation Office, Navajo Nation

Chapter 7.0: Bibliography / References

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Appendix A

Legal Survey

Exhibit "A"

PARCEL 1

Following is a description of the centerline of a strip of land 25 feet in width, lying in Township 43 South, Range 9 East, Salt Lake Base Line and Meridian, San Juan County, Utah, which is more particularly described by metes and bounds as follows:

COMMENCING at a United States Coast and Geodetic Survey Brass Cap marked "Navajo Mt., 1934";

THENCE South 70°22'03" West, 51.58 feet, to an existing dirt road, the **TRUE POINT OF BEGINNING** of this description;

THENCE along the centerline of existing dirt road, North 39°59'49" West, 97.34 feet;

THENCE along the centerline of existing dirt road, North 21°18'43" East, 102.74 feet;

THENCE along the centerline of existing dirt road, North 14°05'51" East, 178.74 feet;

THENCE along the centerline of existing dirt road, North 19°47'49" West, 498.02 feet;

THENCE along the centerline of existing dirt road, North 32°27'29" West, 161.53 feet;

THENCE along the centerline of existing dirt road, North 10°06'23" East, 64.22 feet;

THENCE along the centerline of existing dirt road, North 12°19'49" West, 289.79 feet;

THENCE along the centerline of existing dirt road, North 25°42'14" West, 220.77 feet;

THENCE along the centerline of existing dirt road, North 13°17'22" West, 295.82 feet;

THENCE along the centerline of existing dirt road, North 53°43'00" West, 70.56 feet;

THENCE along the centerline of existing dirt road, North 26°47'17" West, 175.12 feet;

THENCE along the centerline of existing dirt road, North 05°29'35" West, 132.76 feet;

THENCE along the centerline of existing dirt road, North 22°47'00" West, 105.04 feet;

THENCE along the centerline of existing dirt road, North 17°59'50" West, 128.11 feet;

THENCE along the centerline of existing dirt road, North 51°16'44" West, 133.08 feet;

THENCE along the centerline of existing dirt road, South 56°16'43" West, 67.77 feet;

THENCE along the centerline of existing dirt road, North 89°58'56" West, 261.02 feet;

THENCE along the centerline of existing dirt road, North 49°06'56" West, 378.34 feet;

THENCE along the centerline of existing dirt road, North 34°37'32" West, 83.66 feet to the **POINT OF TERMINUS** of this description, from which the **POINT OF COMMENCEMENT**, a United States Coast and Geodetic Survey Brass Cap marked "Navajo Mt., 1934" bears South 29°00'32" East, 3059.27 feet.

PARCEL 2

COMMENCING at the **POINT OF TERMINUS** of Parcel 1, the **TRUE POINT OF BEGINNING** of this description;

THENCE North 77°46'48" West, 37.50 feet;

THENCE North 12°13'12" East, 125.00 feet;

THENCE South 77°46'48" East, 75.00 feet;

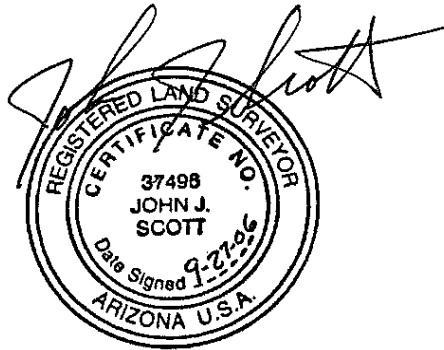
THENCE South 12°13'12" West, 125.00 feet;

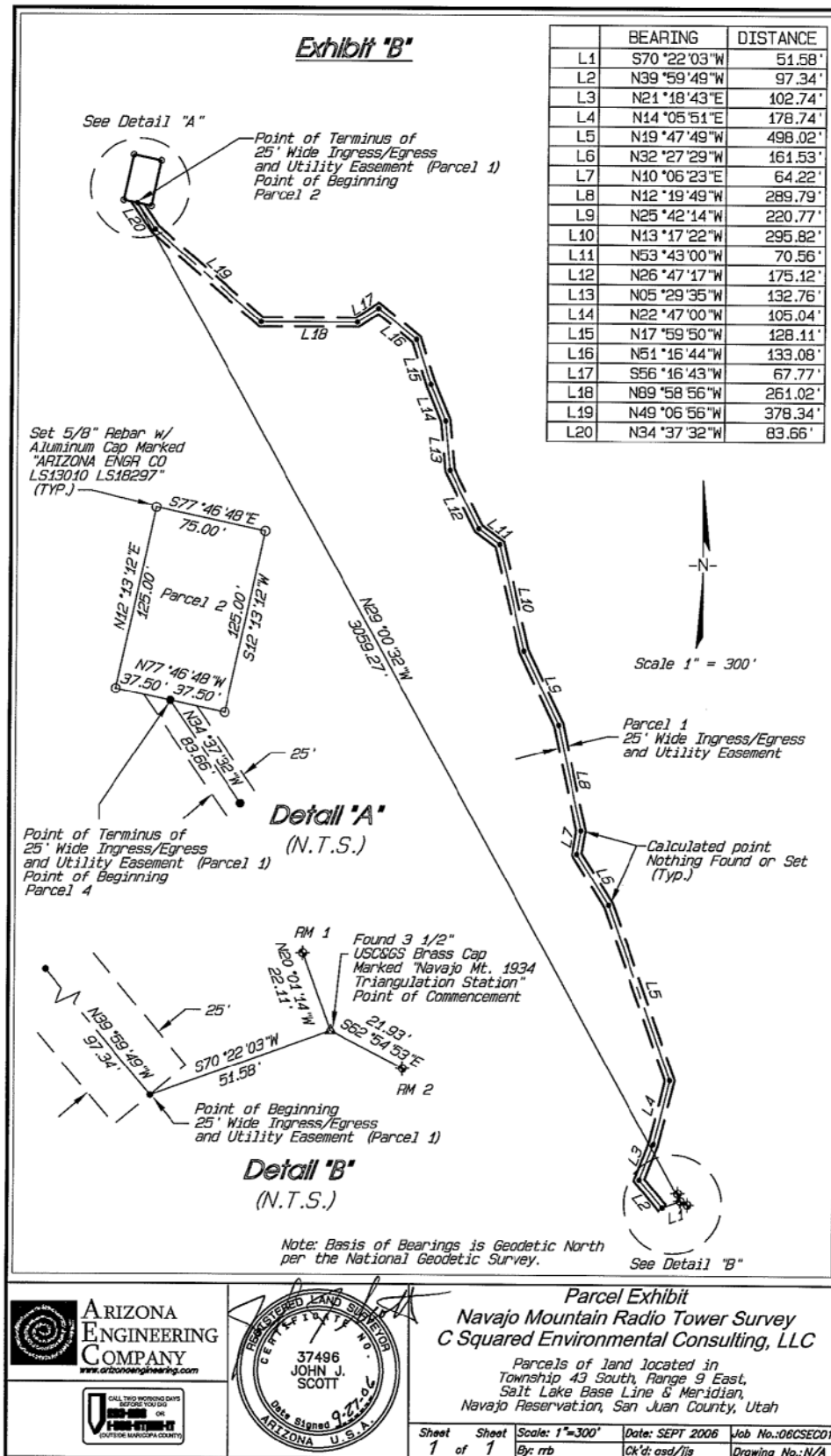
THENCE North 77°46'48" West, 37.50 feet to the **TRUE POINT OF BEGINNING** of this description.

The above described parcel of land contains 0.22 acres, (9376.4 SF) more or less.

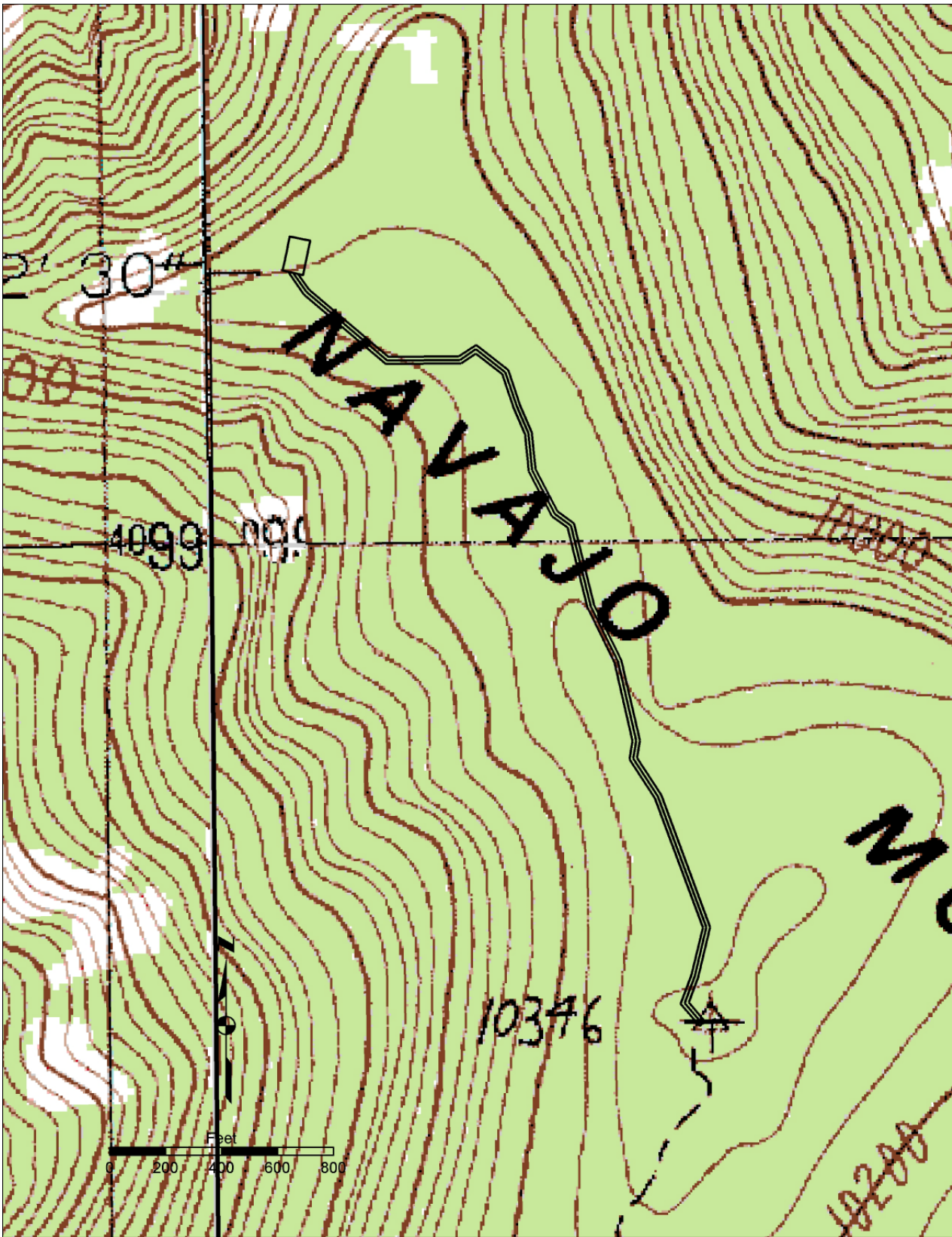
The **BASIS OF BEARINGS** for this description is Geodetic North per the National Geodetic Survey.

For a drawing of the parcel described above, see **Exhibit B**, which by this reference is made part of this description.

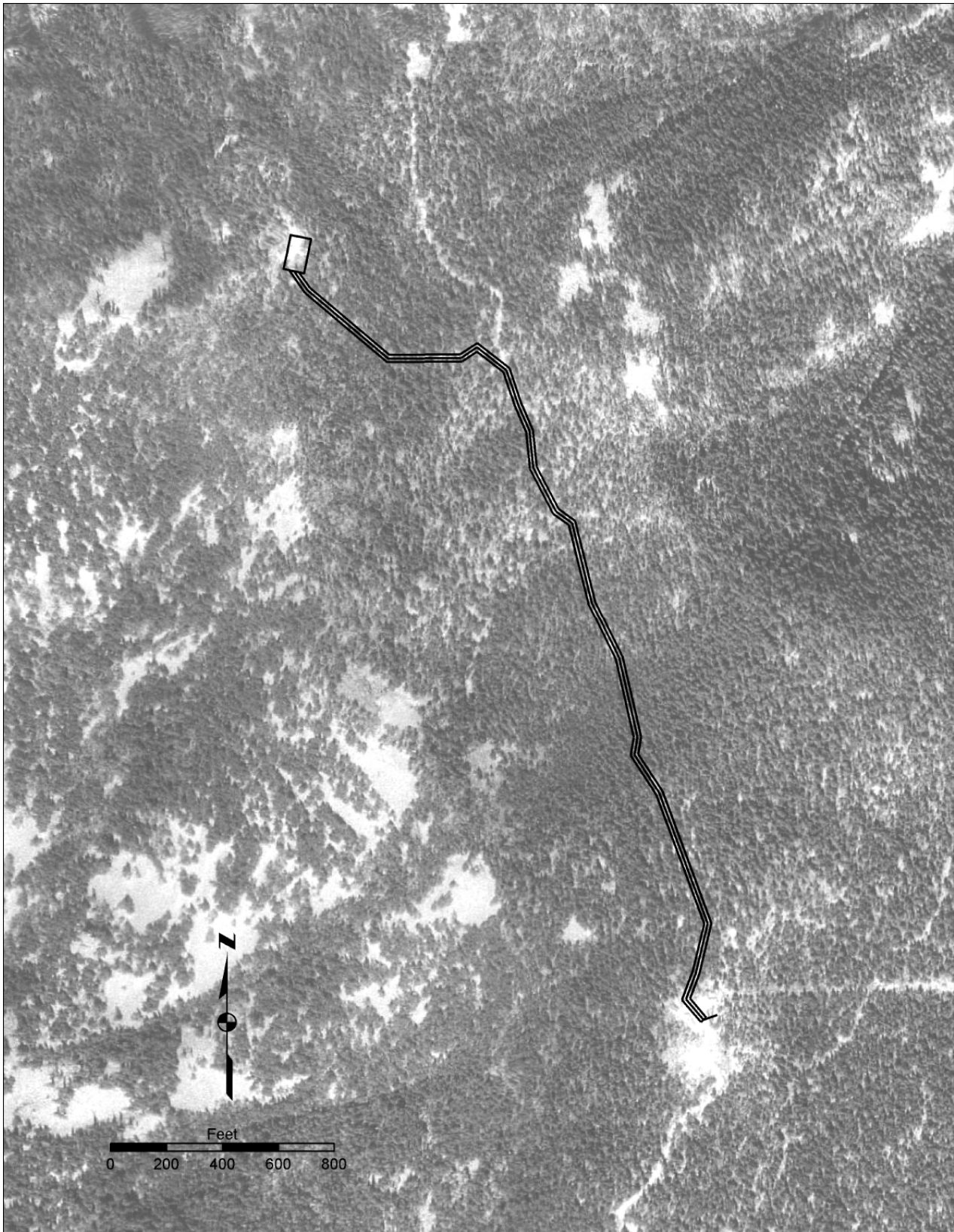




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Legal Survey on Topographic Map



Legal Survey on Aerial Photograph

Appendix B

Biological Resources

Plants of the Proposed Repeater Tower Site Vicinity and Access Road on Navajo Mountain San Juan County, Utah, Navajo Nation

ASTERACEAE (COMPOSITAE) – Sunflower Family

<i>Antennaria parvifolia</i> Nutt.	Common pussytoes
<i>Cirsium</i> sp.	Thistle
<i>Erigeron canaani</i> S. L. Welsh	Canaan daisy

BERBERIDIACEAE – Barberry Family

<i>Mahonia repens</i> (Lindl.) G. Don	Oregon grape
---------------------------------------	--------------

CAPRIFOLIACEAE – Honeysuckle Family

<i>Symphoricarpos oreophilus</i> A. Gray	Mountain snowberry
--	--------------------

CARYOPHYLLACEAE – Pink Family

<i>Pseudostellaria jamesiana</i> Torr.	James' chickweed
--	------------------

CUPRESSACEAE – Cypress Family

<i>Juniperus communis</i> L.	Common juniper
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CYPERACEAE – Sedge Family

<i>Carex</i> sp.	Sedge
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FABACEAE (LEGUMINOSAE) – Bean Family

<i>Trifolium andinum</i> Nutt. in T. & G.	Andean clover
---	---------------

GENTIANACEAE – Gentian Family

<i>Frasera speciosa</i> Douglas ex Grisebach	Elkweed
--	---------

ONAGRACEAE – Evening Primrose Family

<i>Epilobium brachycarpum</i> Presl	Autumn willowherb
-------------------------------------	-------------------

PINACEAE – Pine Family

<i>Abies concolor</i> (Gord. & Glend.) Lindl.	White fir
<i>Abies arizonica</i> Merriam	Subalpine fir
<i>Pinus flexilis</i> James	Limber pine
<i>Pseudotsuga menziesii</i> (Mirbel) Franco	Douglas fir

POACEAE (GRAMINEAE) – Grass Family

<i>Poa</i> sp.	Bluegrass
----------------	-----------

POLEMONIACEAE – Phlox Family

Phlox cluteana A. Nels.

Polemonium pulcherrimum Hook.

var. *delicatum* (Rydb.) Cronq.

Navajo Mountain phlox

Pretty Jacob's ladder

PORTULACEAE – Purslane Family

Lewisia pygmaea (A. Gray) Robins.

Dwarf lewisia

PYROLACEAE – Wintergreen Family

Pyrola minor L.

Lesser wintergreen

RANUNCULACEAE – Buttercup Family

Ranunculus alismifolius Geyer

Plantain buttercup

SALICACEAE – Willow Family

Populus tremuloides Michx.

Salix sp.

Aspen

SAXIFRAGACEAE – Saxifrage Family

Lithophragma tenellum Nutt in T. & G.

Ribes leptanthum A. Gray

Slender woodland aster

Trumpet gooseberry

SCROPHULARIACEAE – Figwort Family

Castilleja linariifolia Benth.

Pedicularis centranthera A. Gray

Penstemon navajoa N. Holmgren

Linearleaf paintbrush

Pinyon- juniper lousewort

Navajo Mountain penstemon

**Fauna of the Proposed Repeater Tower Site Vicinity on Navajo Mountain
San Juan County, Utah, Navajo Nation**

Birds

Aeronautes saxatalis	White- throated swift
Colaptes auratus	Common flicker
Corvus corax	Common raven
Sialia currucoides	Mountain bluebird

Mammals

Bos sp.	Cattle
Canis latrans	Coyote
Equus sp.	Horse
Lynx rufus	Bobcat
Odocoileus hemionus	Mule deer
Sciurus griseus	Western gray squirrel
Ursus americanus	Black bear



**THE
NAVAJO
NATION**

P.O. Box 9000 • WINDOW ROCK, ARIZONA • 86515

PRESIDENT
JOE **SHIRLEY, Jr.**
VICE PRESIDENT
FRANK J. **DAYISH,**

23 May 2006

File#06GHE06

Taft Blackhorse, Jr., Owner
GreatHouse Environmental
P.O. Box 919
Fort Defiance, AZ 86504

SUBJECT: PROPOSED INSTALLATION OF A REPEATER TOWER AND ASSOCIATED FACILITIES
LEGAL DESCRIPTION T43S, R13E
SAN JUAN COUNTY, UT

Mr. Blackhorse:

The following information on species of concern¹ is provided in response to your 27 April 2006 request concerning the subject project, which consists of proposed installation of a repeater tower and associated facilities in a 140-foot square area on Navajo Mountain.

Known to occur within one mile of the project site:

1. Falco peregrinus (Peregrine Falcon); NESL group 4; MBTA.
2. Microtus mogollonensis (mexicanus) (Mogollon [or Mexican] vole); NESL group 4.
3. Ovis canadensis (Bighorn Sheep); NESL group 3.
4. Sauromalus ater (Chuckwalla); NESL group 4.

Known to occur within three miles of the project site:

1. Strix occidentalis lucida (Mexican Spotted Owl); NESL group 3; ESA threatened; MBTA.

Potential for Puccinellia parishii should be evaluated if wetland conditions exists that contain white alkaline crusts.

Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts.⁴ Further questions pertaining to surveys should be referred to Species Account. Surveyors on the Navajo Nation must be permitted by the Director, NFWD. Contact

¹"Species of concern" include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL), federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate or NESL group 4 status; please be aware of these species during surveys and inform the NFWD of observations. Documentation that these species are more numerous or widespread than currently known, and addressing these species in project planning and management is important for conservation and may contribute to ensuring they will not be uplisted in the future. Species without ESA or NESL legal protection (e.g., NESL group 4 species) are only included in responses on a regular basis and may not be included in this response. Please refer to the NESL for a list of group 4 species; contact me if you need a copy.

⁴ Available upon request free of charge by contacting Data Manager at 871-6489

Jeff Cole at (928) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NFWD Zoologist (David Mikesic) for animals at 871-7070, and Botanist (Daniela Roth) for plants at (928)523-8445. Questions regarding biological evaluation should be directed to Rita Whitehorse-Larsen (Environmental Reviewer) at 871-7060.

Does the project design include guy wires for structural support? If so, and if bird species may occur in relatively high concentrations in the project area, then guy wires should be equipped with highly visual markers to reduce the potential mortality due to bird-guy wire collisions. Examples of visual markers include aviation balls and bird flight diverters. Birds can be expected to occur in relatively high concentrations along migration routes (e.g., rivers, ridges or other distinctive linear topographic features) or where important habitat for breeding, feeding, roosting, etc. occurs. The U.S. Fish and Wildlife Service recommends marking guy wires with at least one marker per 100 meters of wire.


Potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory maps are not yet available for the Utah portion of the Navajo Nation, therefore, field surveys should be completed to determine whether wetlands are located close enough to the project site(s) to be impacted. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. For more information contact the Navajo Environmental Protection Agency's Water Quality Program.

The information in this report was identified by the NFWD's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is strongly recommended. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NFWD's information is continually updated, any given information response is only wholly appropriate for its respective request.

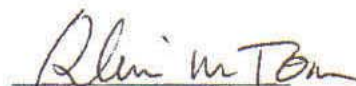
For a list of sensitive species on the Navajo Nation in addition to the species listed on the Navajo Endangered Species List (NESL) please refer to our website at www.navajofishandwildlife.org.

An invoice for this information is attached.

If you have any questions I may be reached at (928) 871-6472.


Sonja Detsoi, Wildlife Tech.
Natural Heritage Program
Department of Fish and Wildlife

CONCURRENCE


Gloria M. Tom, Director
Department of Fish & Wildlife
Division of Natural Resources

xc: file/chrono

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

COMPLIANCE	<input checked="" type="checkbox"/>
CONDITIONAL COMPLIANCE	<input type="checkbox"/>

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: GHE-06-010

DESCRIPTION: Repeater Tower Site

LOCATION: Navajo Mountain

REPRESENTATIVE: Taft Blackhorse

ACTION AGENCY: Great House Env.

B.R. REPORT TITLE / DATE / PREPARER: BE/Arnold Clifford? Aug. 29, 2006

SIGNIFICANT BIOLOGICAL RESOURCES FOUND:

POTENTIAL IMPACTS

TRIBAL ENDANGERED SPECIES (G2 & G3) TAKEN: Penstemon navajoa - surveys negative at repeater site, by Arnold Clifford

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES:

CONDITIONS OF COMPLIANCE*:

FORM PREPARED BY / DATE:

COPIES TO: (add categories as necessary)

- ☐ Navajo Environmental Protection Agency
- ☐ U.S. Fish and Wildlife Service, NM Field Office
- ☐ U.S. Fish and Wildlife Service, AZ Field Office

- ☐ BIA Navajo Region, Environmental Services
- ☐ U.S. Fish and Wildlife Service, UT Field Office
- ☐ (Other)

2 NTC § 164 Recommendation:

Signature

Date 05 Feb. 2007

- ☒ Approval
- ☐ Conditional Approval (with memo)
- ☐ Disapproval (with memo)
- ☐ None (with memo)

Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife

Appendix C

Cultural Resources

Proposed Guidelines for the Treatment of Discovery Situations

In all discovery situations, the existing ground surface in the vicinity of the discovery will be mapped to show the relationship of the discovery to the project area, topographic features, cultural features, and surface artifacts. The map will be prepared using, at a minimum, a compass and measuring tape; at the option of the archaeologist, a GPS unit, a transit, a plane table and alidade, or other surveying equipment may be used. Beyond that, specific types of features will be treated as follows.

ASH STAINS: The location will be mapped, the feature will be profiled and photographed, and charcoal fragments will be collected for radiocarbon dating. If it appears that the feature can be dated through radiocarbon analysis, artifacts, or stratigraphy, and if the ash stain is dense enough and dark enough to be likely to yield botanical remains, pollen and flotation samples will be collected and analyzed. At the discretion of the archaeologist, in consultation with NNHPD, radiocarbon samples will be analyzed.

HEARTHES: The location will be mapped, the feature will be profiled and photographed, and charcoal fragments will be collected for radiocarbon dating. If it appears that the feature can be dated through radiocarbon analysis, archaeomagnetism, artifacts, or stratigraphy, and if the stain is dense enough and dark enough to be likely to yield botanical remains, a flotation sample will be collected and analyzed. Since burning destroys pollen, no pollen samples will be collected from hearths. At the discretion of the archaeologist, in consultation with NNHPD, radiocarbon samples will be analyzed.

MIDDENS: The location will be mapped, and the feature will be profiled and photographed. Charcoal fragments will be collected for radiocarbon dating. Pollen and flotation samples will be collected and analyzed. If natural stratigraphy is present in middens, samples will be collected according to natural stratigraphy and not from arbitrary levels. In order to recover data on the stratification of artifacts in the midden, at least a 1m- by- 1m column, located immediately adjacent to the area disturbed by construction, will be hand excavated in levels of no greater than 10 cm thick, and all excavated fill will be screened through mesh no larger than ¼ inch. Auger holes will be placed every 2.5 to 5 m along the unexcavated portion of the right- of- way for a sufficient distance to define the boundary of the midden and ascertain whether or not additional features are present. Because middens are generally associated with substantial occupations and other features, consultation with NNHPD will be required after the initial recording is completed.

PIT HOUSES AND BURIED SURFACE STRUCTURES (PUEBLOS AND FIELD HOUSES): The location will be mapped, and the exposed feature will be profiled and photographed. Charcoal fragments and any wood samples will be collected for radiocarbon and dendrochronological analysis. Charcoal and wood samples of adequate size and quality will be submitted for dendrochronological analysis; charcoal will be radiologically analyzed only if the feature cannot be dated by other means. Pollen and flotation samples will be taken from the floor, subfloor pits, hearths, and other appropriate contexts, and will be analyzed.

Auger holes will be placed every 1.5 to 5 m along the unexcavated portion of the right- of- way for a sufficient distance to define the boundary of the feature and to ascertain whether or not additional features are present. Because dwellings usually yield substantial amounts of significant information, and because they are usually associated with other features, consultation with NNHPD will be required after the initial recording is completed. In general, however, additional excavation of these types of features (beyond the initial recording described above) will occur only if the feature is likely to sustain additional damage from erosion, construction, or maintenance.

PREHISTORIC BURIALS: Prehistoric burials will be completely excavated, mapped, profiled, and photographed. Charcoal, pollen, and flotation samples will be collected when appropriate from burials, and associated artifacts and features. Charcoal will be submitted for analysis if the burial cannot be dated by other means. Pollen and flotation samples will be analyzed along with skeletal remains and artifacts.

HISTORIC AND UNDATED GRAVES: The Navajo Nation burial policy will be followed in these cases. Human remains and grave goods will be treated in accordance with the Navajo Nation policy on burials and human remains.

CULTURAL RESOURCES COMPLIANCE FORM
HISTORIC PRESERVATION DEPARTMENT
PO BOX 4950
WINDOW ROCK, ARIZONA 86515

ROUTING: COPIES TO

UT SHPO
XX REAL PROPERTY MGT/330
GHE

NNHPD NO. HPD-06-931

OTHER PROJECT NO.

GHE-06-010

PROJECT TITLE: A Cultural Resources Inventory of a Proposed Repeater Tower and Associated Facilities, Navajo Mountain, San Juan County, Utah

LEAD AGENCY: BIA/NR

SPONSOR: Glen Canyon National Recreation Area, National Park Service, PO Box 1507, Page, Arizona 86040

PROJECT DESCRIPTION: The proposed undertaking will involve the construction of a radio repeater site. Access to the site will be from an existing dirt road. The repeater is extendable to an overall height of 100-ft as a self-supporting metal lattice tower, and to accommodate construction of a 24-ft by 40-ft building to house related equipment, and a helipad. The facility will be located on a 0.25 acre fenced in area. Ground disturbance will be intensive & extensive with the use of heavy equipment.

LAND STATUS: Tribal Trust
CHAPTER: Navajo Mountain

LOCATION: Unplatted & Projected T43S R9E; Navajo Begay Quadrangle, San Juan County, Utah SLPM

PROJECT ARCHAEOLOGIST: Taft Blackhorse Jr.
NAVAJO ANTIQUITIES PERMIT NO.: B06434

DATE INSPECTED: 08/23/06

DATE OF REPORT: 08/24/06

TOTAL ACREAGE INSPECTED: 1.0 ac

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND:

(1) Traditional Cultural Property (TCP) & (1) Isolated Occurrence (IO)

LIST OF ELIGIBLE PROPERTIES:

(1) TCP

LIST OF NON-ELIGIBLE PROPERTIES:

(1) IO

LIST OF ARCHAEOLOGICAL RESOURCES:

None

EFFECT/CONDITIONS OF COMPLIANCE: No historic properties affected.

TCP: While Navajo Mountain is considered a sacred place, this repeater tower will have no effect on this TCP.

In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7132.

FORM PREPARED BY: TAMARA BILLIE

FINALIZED: October 5, 2006

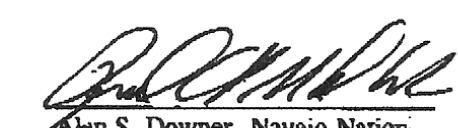
Notification to

Proceed Recommended:

Yes XX No

Conditions:


Yes No XX


Alan S. Downer, Navajo Nation
Historic Preservation Officer

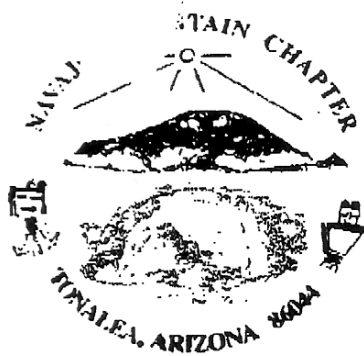
10/5/06
Date

Navajo Region Approval:

Yes X No


Acting Regional Director

10/18/06
Date



Leo Manheimer
President

Robert Johnson Sr.
Vice-President

Ella Jean Badoni
Secretary/Treasurer

Kent Graymountain
Grazing Committee Member

Willie Greyeyes
Council Delegate

**RESOLUTION OF THE
NAVAJO MOUNTAIN CHAPTER
THE NAVAJO NATION
NM#06-233/2005**

RECOMMENDING THE NATIONAL PARK SERVICE, GLEN CANYON NATIONAL RECREATION AREA OBTAIN A LEASE FROM THE NAVAJO NATION TO CONSTRUCT AND ESTABLISH A RADIO TOWER AND TRANSMITTER ON NAVAJO MOUNTAIN.

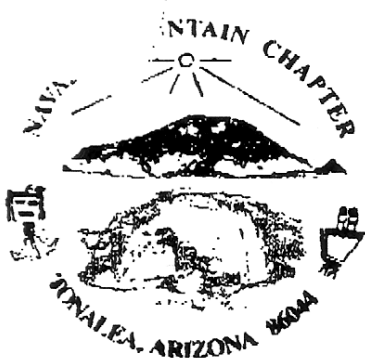
WHEREAS:

1. The Navajo Mountain Chapter is a certified Chapter of the Navajo Nation pursuant to the authority of the Navajo Nation Council; therefore, a governing body to act on behalf of its community; and,
2. The National Park Service, Glen Canyon National Recreation Area and the Rainbow Bridge National Monument borders the Navajo Mountain Chapter of the northern section of the Navajo Indian Reservation; and,
3. The National Park Service provides a variety of recreational experiences and settings for visitors to the National Recreation Area and National Monument, while maintaining safety, natural and cultural resource protection, emergency response, along with search and rescue, and other life threatening situations; and,
4. The present location of the radio tower and transmitter is inadequate and has experienced interference from other telecommunication operators on the mountain. Therefore, the National Park Service, Glen Canyon National Recreation Area, Page, Arizona has submitted a revocable joint use permit (RJUP) to construct, operate and maintain a radio tower and transmitter on Navajo Mountain attached hereto as Exhibit "A"; and,
5. The proposed radio tower, parking space, radio building will occupy .25 (104ft. by 104 ft. site) acre, of Navajo Tribal Trust Lands, San Juan County, Utah; and,
6. The Navajo Mountain Chapter further requests a waiver of filling, processing and field clearance fee on behalf of the Glen Canyon National Recreation Area.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The Navajo Mountain Chapter hereby acknowledges and recommends to the Resource Committee of the Navajo Nation Council to approve a Revocable Joint Use permit for Glen Canyon National Recreational Area to utilize .25 acre of the Navajo Tribal Trust Land for construction, operation and maintenance of a radio tower and transmitter.

P.O. Box 10070 • Tonalea, Arizona 86044 • (520) 672-2857 • FAX (520) 672-2448
navajomountainchapter@hotmail.com



Leo Manheimer
President

Robert Johnson Sr.
Vice-President

Ella Jean Badoni
Secretary/Treasurer

Kent Graymountain
Grazing Committee Member

Willie Grayeyes
Council Delegate

CERTIFICATION

We the undersigned hereby certify that the foregoing resolution was duly considered at the duly called authorized Chapter Meeting held at Navajo Mountain Nation (Utah), at which a quorum was present and that same was passed by a vote of 28 in 00 opposed and 00 abstained, this 26 day of June, 2005.

Motion: Morris Burns Second: Buck Navajo Sr.

Willie Grayeyes
Council Delegate
The Navajo Nation

Leo Manheimer
President

Robert Johnson Sr.
Vice-President

Ella Jean Badoni
Secretary Treasurer

Kent Graymountain
Grazing Committee Member



GreatHouse
Environmental

PO Box 919
Fort Defiance, AZ 86504
Tel. 928.729.5668
Fax. 928.729.5006
tblackhorse@getgh.com

June 21, 2006

Mr. Ronald Maldonado, Program Manager
Cultural Resources Compliance Section
Historic Preservation Department
PO Box 4950
Window Rock, AZ 86515

*PRM 7-7-06
Cancer w/fining*

RE: Navajo Mountain-- Interviews for a Proposed Repeater Station

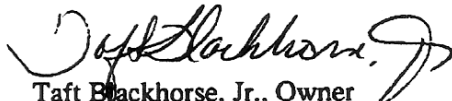
Dear Mr. Maldonado,

GreatHouse Environmental, LLC (GHE) appreciates the opportunity to discuss with you the proposed National Park Service (NPS) Repeater Station project on top of Navajo Mountain. A cultural resources inventory for a portion of this project was completed by Lily Nelson in October 1998 and documented in HPD-05-910: *"A Cultural Resource Inventory for a Proposed Radio Tower Installation and Access Road on Naatsis'aan (Navajo Mountain), San Juan County, Utah."* Ms. Nelson conducted an inventory roughly eight miles of dirt access road off of Navajo Route 16 to the summit of the mountain, and for a 40-foot by 40-foot repeater site. Several interviews were conducted by Ms. Nelson (1998) to determine the affect Navajo Mountain of its Traditional Cultural Property. The interviewees overwhelming *'expressed a similar concern that the construction of another tower on the mountain would adversely effect and further erode its sacred qualities . . . (Management Summary and Recommendation)'* Hence, a Cultural Resources Compliance Form was issued for the project by the NNHPD on November 14, 2005 indicating that "while Navajo Mountain is considered a sacred place, the radio tower will have no effect on the TCP." From the data base of the Traditional Cultural Program, two scared sites, TCP 240: Enemy Mountain Sitting, and TCP 957: Upon Rock Spring, were identified and located outside the proposed area greater than 100 meters.

As per our discussion of June 19, 2006, we concluded that the current survey effort would not require additional interviews, since this new undertaking is merely a small expansion of the 1998 Nelson investigation. Glen Canyon National Recreation Area has decided to increase the size of the repeater site to a 104-foot by 104 foot area to accommodate construction of a 24 x 40 foot building to house related equipment (e.g., radio electronics and transformer), the repeater tower itself, and a helipad. Therefore, GHE will not conduct additional interviews for the completion of this project.

Again, thank you for the opportunity to discuss this important project.

Best regards,



Taft Blackhorse, Jr., Owner
GreatHouse Environmental, LLC

Appendix D

Public and Agency Scoping Documentation

Public Scoping Postcard

The closing date was later extended to December 6, 2006, on the NPS Planning, Environment and Public Comment website listed near the end of the postcard.



National Park Service
U.S. Department of the Interior

928-608-6333 – Phone
928-608-6259 – Fax

Glen Canyon National Recreation Area
691 Scenic View Drive
P.O. Box 1507
Page, Arizona 86040

The National Park Service (NPS) has initiated work on an Environmental Assessment (EA) and is seeking public and agency input for the proposed Navajo Mountain Narrow Bandwidth Radio Repeater project to determine if the project could potentially result in any significant impacts to the natural or human environment. The EA will evaluate potential impacts to the natural, cultural, and human environment from construction and operations activities related to the proposed action and will be available for public review in early 2006. The NPS is seeking comments from the public and agencies to help identify issues and concerns for the planning process and the EA analysis.

The purpose of the project is to provide reliable radio communications between park staff throughout the Glen Canyon National Recreation Area. Current radio facilities on Navajo Mountain are unreliable and cannot reach many areas of the park. The proposed new radio facility would be located on the northwestern edge of the summit plateau. The new facility would consist of a 100-foot self-supported tower and a small shelter to house the radio equipment.

At this time, we are initiating a public scoping period that will be open for 30 days. During this scoping period, the public is invited to identify any issues or concerns they may have with the proposed project so that they may be appropriately considered in the EA. Additional information may be found and comments may be submitted online at: <http://parkplanning.nps.gov/glca> or by mailing them to: Navajo Mountain EA at the address above.

All scoping comments must be received by November 6, 2006.



National Park Service
U.S. Department of the Interior

Glen Canyon National
Recreation Area

691 Scenic View Dr.
P. O. Box 1507
Page, Arizona 86040

Barbara Wilson
928-608-6260

GLENN CANYON – NEWS RELEASE

Contacts:

Devin Kennemore: dkennemore@csquaredllc.com

Chad Nelson: chad_nelson@nps.gov

GLENN CANYON NATIONAL RECREATION AREA (GLCA) ANNOUNCES OPPORTUNITY FOR PUBLIC INPUT FOR NAVAJO MOUNTAIN NARROW BANDWIDTH RADIO REPEATER PROJECT

Glen Canyon National Recreation Area (GCNRA) has initiated work on an environmental assessment (EA) and is seeking public input for the proposed Navajo Mountain Narrow Bandwidth Radio Repeater project to determine if the project could potentially result in any significant impacts to the natural or human environment.

Radio communication within the GCNRA plays a critical role in law enforcement, emergency response, and operations and maintenance activities by the National Park Service (NPS). For this reason the NPS has had a radio signal repeater located on the top of Navajo Mountain since 1978. This repeater, however, is unreliable and cannot reach many areas of the park. The proposed new radio facility would be located on the northwestern edge of the summit plateau of Navajo Mountain. The new facility would consist of a 100-foot self-supported tower and a small shelter to house the radio equipment. This facility would be located on a 0.22-acre rectangular parcel of land and surrounded by a chain-link security fence.

At this time, we are initiating a public scoping period that will be open for 30 days. During this scoping period, the public is invited to identify any issues or concerns they may have with the proposed project so that they may be appropriately considered in the EA. Additional information may be found and comments may be submitted online at: <http://parkplanning.nps.gov/glca> or by mailing them to: Navajo Mountain EA at the address above.

- NPS -

GLCA 2006-xx

EXPERIENCE YOUR AMERICA

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

Public Scoping Comments

The following comments were received by the GCNRA during the public scoping period, which was open from October 4, 2006 through December 6, 2006.

Dennis D. Dudley
PO Box 1507
Page, AZ 86040

I suggest you paint the tower and objects 'flat black' in color, to reduce the visual impact. In my experiences with the USFS and BLM towers, this color was the most successful in helping towers have the least amount of visual impact. Make sure it is a high quality- 'Consumer Report' rated primer & paint for the material used in constructing the tower. Make sure the agreement specifies maintenance and regular repainting when required by NPS.

Jim P. Morgan
5622 Old Ranch Road
Park City, UT 84098

All for it. Anything to promote better communication in GCNRA. Distances are great and emergency responses are faster with better communication.

Dale Oestmann
PO Box 871
Pine, AZ 85544

The tower should be built. Emergency communications are very unreliable on the lake. in addition, it should enhance cell phone communications to emergency service providers.

Bill Sipes
4501 S 2700 W
Salt Lake City, UT 84119

The State of Utah support this effort to establish a communications site at this location and can provide some resources to this effort. There is a critical need to continue improvement of communications infrastructure and the Navajo Mtn site is critical to the state and particularly to this region. This is needed for the continuing public safety and emergency services communications that is so lacking in this region.

Anonymous
Fountain Hills, AZ 85268

I am in favor of increasing communication capabilities in and around Lake Powell. I do a lot of houseboating all over Lake Powell and find communication abilities lacking. Therefore, please continue with the radio repeater site project on Navajo Mountain. Thank you.

Oct-31-2006 10:18am From:GLEN CANYON XEROX ROOM

9286086258

T-313 P.002/003 F-258

Kaibab Band of Paiute Indians

Charley Bullets
Kaibab Paiute Cultural Resource, Coordinator
H.C. 65 Box 2
Fredonia Az, 86022



October 9, 2006

Glen Canyon National Recreation Area
Navajo Mountain EA
691 Scenic View Drive
P.O. Box 1507
Page, Arizona 86040

Dear: National Park Service, NPS

The meeting last week on the Proposed Bandwidth Radio Repeater project was and interesting one. I would like to submit my concern on the proposed project.

The Mountain know as Navajo Mountain is located on traditional Southern Paiute Territorial Lands. The Southern Paiute people still to this day call it Paiute Mountain back before the Navajo arrived the Paiute people used the Mountain. Our Healers and Holy man used Paiute Mountain to get closer to our creator. Since the Mountain is the only highest thing with in the area.

Putting another Radio Repeater on the Mountain will only increase Tourist traffic through what is now a Quiet and peaceful place. The Glen Canyon National Recreation Area will get more complaints of Trash being left behind from the surrounding Navajo Communities. The Repeaters sound like a good thing but it's an open invitation to cellular companies. We all now it's the highest bidder who gets what they want. With the location being on the Navajo Reservation what's to say in a few years that the tower is just another base to add more Repeaters.

So in ending I feel the Repeater will only cause Problems for the surrounding Communities. Also the location of the Repeater on Navajo Mountain is going to be located on the Northern side. If this is the case, what's to say that in the Future Navajo Mountain has more Repeaters put up? And are added on the East and west sides of the Mountain how's that for a slap in the face to the Paiute people who strongly believe in our Sacred Directions.

Thank you very much for giving me the time to express my concerns.

Charley Bullets, 
KPT Cultural Resource, Coordinator

Cc;
Par Castro, KPT Tribal Chairman
LeAnn Skrzynski, KPT Environmental Director

Tribal Affairs

HC 65 Box 2
Pipe Spring, Arizona 86022

Phone (520) 643-7245
Fax (520) 643-7260



United States Department of the Interior

NATIONAL PARK SERVICE
Glen Canyon National Recreation Area
P.O. Box 1507
Page, Arizona 86040



IN REPLY REFER TO:

December 6, 2006

Ms. Ona Segundo, Chairwoman
Kaibab Paiute Indian Tribe
HC 65, Box 2
Fredonia, Arizona 86022

Dear Ms. Segundo:

The Glen Canyon National Recreation Area's Environmental Specialist and myself would like to be considered to be on your tribal council meeting's agenda to present information on the proposed Navajo Mountain Radio Tower/Transmitter Station.

The presentation will only take about 15 minutes (including time for questions and comments) and it will not require actions by the Council.

If you have any questions, please contact me at 928-608-6276.

Sincerely,

Pauline Wilson
American Indian Liaison

cc:
Chief, Interpretation & Resource Management, Glen Canyon NRA
Network Administer, Glen Canyon NRA
Environmental Specialist, Glen Canyon NRA
CSquared Environmental Consulting, LLC

**Trip Report
December 21, 2006
Pauline Wilson, American Indian Liaison**

AREA VISITED:

The Kaibab Paiute Band of the Paiute Indian Tribes of Utah, residing on their Indian Reservation in Pipe Springs, Utah.

PURPOSE:

Provide updated information to the Kaibab Paiute Tribe of the proposed Navajo Mountain Radio Repeater Project.

PRINCIPAL PARTICIPANTS:

Present were the Kaibab Paiute Tribal Council; community members approximately 15 people, and representing Glen Canyon NRA were Environmental Specialist Barbara Wilson and me.

ISSUES DISCUSSED:

We presented to the Kaibab Paiute Tribal Council the following information on the proposed Navajo Mountain Radio Repeater Project.

- Currently, we are sharing a tower with the Arizona Department of Public Safety (DPS) located on the south side of Navajo Mountain. And we recently requested of the Navajo Nation Navajo Mountain Chapter that we would like to obtain permission to relocate to the North side of the Navajo Mountain.
- The proposed site has already been cleared and graded by the Utah Beehive Telephone Company without consent by the Navajo Nation or the Bureau of Indian Affairs. Therefore, the Navajo Nation along with Navajo Mountain Chapter cited moratorium on all future requests of authorization for a site on the mountain.
- Background about the initial proposal in 1995 and reasons we decided not move forward the first time (a couple native people informed the Principal Investing the cultural resources that they were not consulted of the proposed project).
- We are currently working on this proposal due the fact that the laws changed, we are now required to go with a narrow bandwidth radio. The new facility would consist of a 100 foot tower and a small shelter to house radio equipment. The facility would be located on a .22 acre parcel of land secured by a chain link security fence. Navajo Mountain is located on the Navajo Indian Reservation.
- At the present time NPS would be the only ones on the tower, however, if other agencies propose to share our tower, we would refer them to the go to the Navajo Nation, Navajo Mountain Chapter for approval.
- This same information was shared with the Rainbow Bridge National Monument's Native American Consultation Committee (NACC) on the October 6, 2006 annual meeting of the committee.

- Immediately following, Glen Canyon NRA received a letter from Mr. Charles Bullets, whom was present for the annual NACC meeting representing the Kaibab Paiute Indian Tribe opposing the proposed Navajo Mountain Radio Repeater Project. (Council members wanted to see the letter, and only the Tribal Chairwoman had received a copy of the letter).
- We showed them a map for the line of site on the proposed Navajo Mountain Radio repeater, and stated that visional view of the site from Rainbow Bridge National Monument had been considered as an important factor.

RECOMMENDATIONS/DECISIONS:

The Kaibab Paiute Tribal Council recommended that we contact the San Juan Southern Paiute and other bands of Paiutes that may have interest in the areas of Navajo Mountain, Rainbow Bridge and the proximity surrounding the proposed radio repeater site.

OBSERVATIONS:

- The Kaibab Paiute Tribal Council had not seen the letter that Mr. Charles Bullets wrote to the Glen Canyon National Recreation Area with his opposition to the proposed radio repeater project.
- The tribe also wanted other bands of Paiutes to be informed of the proposal, especially the San Juan Southern Paiute Tribe.

**Trip Report
January 14, 2007
Pauline Wilson, American Indian Liaison
Glen Canyon National Recreation Area**

AREA VISITED:

The Paiute Indian Tribe of Utah, Kanosh Paiute Band on the Kanosh Paiute Indian Reservation of Kanosh, Utah near Cedar City, Utah.

PURPOSE:

Provide information to the tribe on the proposed Navajo Mountain Radio Repeater Project.

PRINCIPAL PARTICIPANTS:

Present were the Kanosh Paiute Tribal Council (Phil Pikyavit, Cecil Levi, Ralph Pikyavit, Marlene Pikyavit, and Margret Teller); community members approximately 15 people, along with two people from the Natural Resources Conservation Service discussing the tribe's farm bill and other issues.

ISSUES DISCUSSED:

I presented to the Kanosh Paiute Tribal Council the following information of the proposed Navajo Mountain Radio Repeater Project.

- The Glen Canyon National Recreation Area's news release on the Navajo Mountain Radio Repeater Project (describes the project very well).
- Radio communication within the Glen Canyon National Recreation Area plays a critical role in law enforcement, emergency response, and operations and maintenance activities by the National Park Service.
- Showed them the line of site for proposed Navajo Mountain Radio Repeater and the location of Rainbow Bridge National Monument.
- Showed them a photograph of the current site that we are sharing with the Arizona Department of Public Safety (DPS) and a photo of the proposed site. I stated that the proposed site had already been cleared by the Beehive Telephone Company without consent of the Navajo Nation years prior to our proposal.
- We are currently working on this proposal due to the fact that the laws changed; we are now required to go with a narrow bandwidth radio. The new facility would be located on a .22 acre parcel of land secured by a chain link security fence.
- The National Park Service would be the only ones on the tower; however, if other agencies propose to share our tower, we would refer them to go to the Navajo Nation, Navajo Mountain Chapter for approval.

RECOMMENDATION/DECISIONS:

- Council Chairman Phil Pikyavit stated that he supports the proposed development if it will improve radio communication for the life, health and safety of people. He was pleased that Glen Canyon NRA is making every effort for public input, especially the Paiute Indian Tribes of Utah; the different bands.

OBSERVATIONS:

There did not seem to be any other issues or concerns with the proposed project. I gave each council member copies of what I presented at their meeting, along with the park address and email that comments may be submitted to.