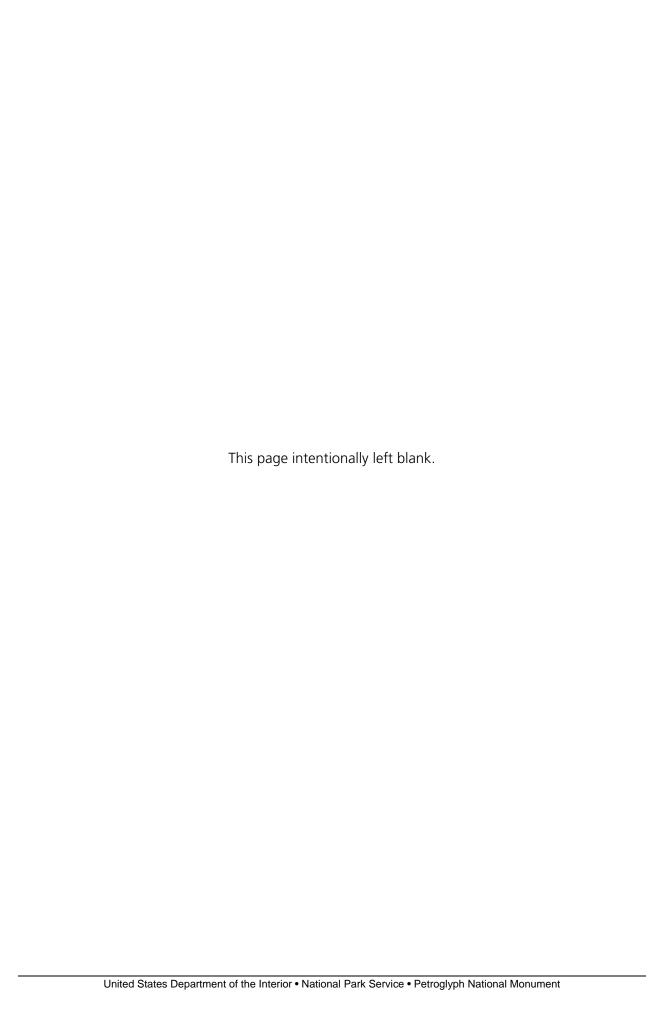


Las Imágenes Visitor Center Area Improvements Environmental Assessment/Assessment of Effect

September 2010





Las Imágenes Visitor Center Area Improvements

Environmental Assessment Assessment of Effect

PETROGLYPH

National Monument • New Mexico

Summary

Petroglyph National Monument is proposing to construct an amphitheater with associated trails and infrastructure improvements including visitor and employee trails, drainage correction and landscaping. The facility is co-located on approximately 1.75 acres at 4735 Unser Blvd. NW. The proposed projects will address current visitor needs, health and safety and drainage issues and enhance visitor experience.

All of the projects fall within the existing footprint of previous areas of disturbance. Access to the project area will be via pre-established dirt roads. Ground disturbance will be limited to previously disturbed areas. The following is a list of the proposed projects: construction of the amphitheater facility; construction of a trail from the visitor center parking lot to the amphitheater, with buried utilities (water and electrical power) underneath or immediately adjacent to the trail; rehabilitation of the area surrounding the amphitheater, including re-vegetation, restoring the grade and drainage; construction of a pedestrian trail between the Visitor Center and Lava Shadows; construction of French-type drain and/or a stem wall behind the Lava Shadows Annex; and rehabilitation of the area surrounding the Lava Shadows Annex to address ADA compliance issues.

This Environmental Assessment evaluates two alternatives; a No Action Alternative and the Preferred Alternative. The No Action alternative is used as a baseline assessment, while the Preferred Alternative addresses the completion of the projects. This Environmental Assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet project objectives, 2) evaluates potential issues and impacts to Petroglyph National Monument's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Park operations and visitor experience are the only two topics that are being addressed in this document because the resultant impact may be greater than minor. All other resource topics have been dismissed because the project will result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project.

Public Comment

If you wish to comment on the Environmental Assessment, you may mail comments to the name and address below or submit comments through the National Park Service Park Planning website at http://parkplanning.nps.gov/PETR. This Environmental Assessment will be on public review for 30 days ending 17 October 2010. Before including your address, phone number, e-mail address or other personally identifying information in your comment, you should be aware that your entire comment – including personally identifying information – may be made publicly available at any time. Although a request can be made to withhold your personal information from public review, we cannot guarantee that will be possible.

Joseph Sanchez, PhD Superintendent Petroglyph National Monument 6001 Unser Blvd NW Albuquerque, NM 87120

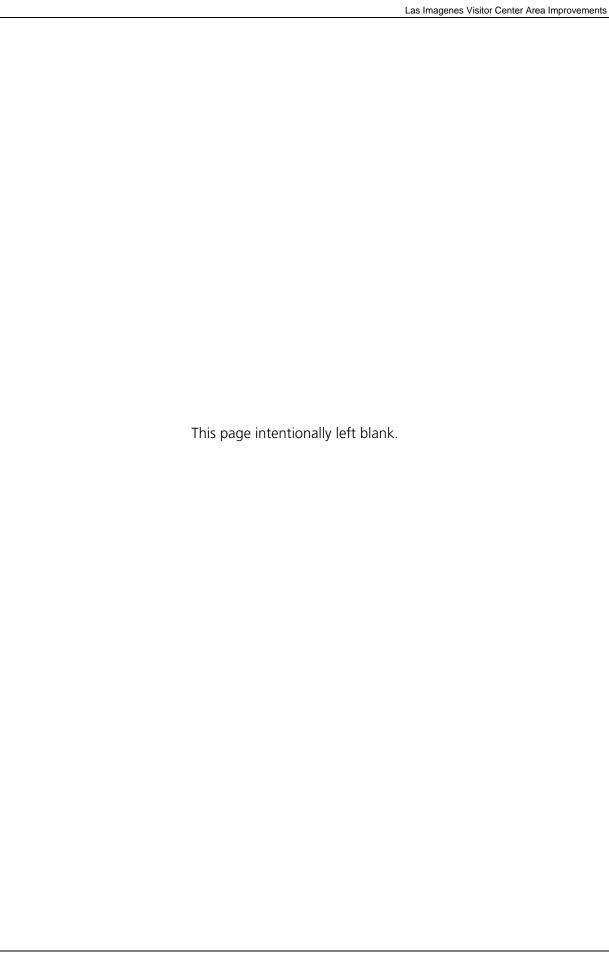


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PURPOSE AND NEED

Introduction

Petroglyph National Monument was established on Albuquerque's West Mesa on June 27, 1990 "In order to preserve, for the benefit and enjoyment of present and future generations, that area...containing the nationally significant West Mesa escarpment, the Las Imagines National Archeological District, a portion of the Atrisco Land Grant, and other significant natural and cultural resources..." The 7,200 acre Monument is jointly owned and managed by the National Park Service, the State of New Mexico and the City of Albuquerque. Monument resources include an estimated 25,000 petroglyphs, over 350 documented archeological sites and ethnographic resources important to many of the tribes of the Southwest.

This Environmental Assessment is to satisfy the requirements of the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) for evaluating proposed federal actions. The purpose of the proposal is to provide safe access for the public, a safe, healthy, and functional working environment for Monument staff and address drainage issues in compliance with the goals and objectives of current plans and policy. Current plans and policy that pertain to this proposal include the Petroglyph National Monument General Management Plan (NPS 1997), and the 2006 National Park Service Management Policies (NPS 2006). Following is more information pertaining to how this proposal meets the goals and objectives of these plans and policies:

- This project is consistent with the 1997 Petroglyph National Monument General Management Plan, which proposes to keep developed properties within the "Development Zone."
- The proposal is consistent with the goals and objectives of the 2006 National Park Service Management Policies (NPS 2006), which states that major park facilities within park boundaries should be located so as to minimize impacts to park resources.

In addition to meeting the goals and objectives of these plans and policies, this project is needed to address the following management concerns:

- To facilitate the visitor use of the Visitor Center area and provide for an appropriate venue for public programs
- Provide for safe access to facilities for the public and employees consistent with the Americans with Disabilities Act.
- Correct drainage issues associated with the Visitor Center area.

Impairment: National Park Service's Management Policies, 2006 require analysis of potential effects to determine whether or not actions would impair park resources (NPS 2006b). 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 parks, 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 impairment, but an impact would be more likely to constitute impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

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

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, because impairment findings relates back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Background

Petroglyph National Monument staff is currently occupying the Las Imágenes Visitor Center and Lava Shadows Annex located at 4735 Unser Boulevard. The Visitor Center is also the primary contact point for visitors to the monument. Several issues have arisen regarding facilities and visitor use and experience that need to be addressed. The Visitor Center currently lacks sufficient space to provide programs for large public groups and especially large school groups. Due to alterations of the landscape prior to acquisition by the NPS, several drainage issues have arisen. Most notably is the Lava Shadows Annex where storm water will pool after large thunderstorms. Correction would require action at Lava Shadows as well as "upstream". Several trails between the buildings have started to become eroded due to repeated flood events. In addition, one of the buildings currently occupied by park staff is not ADA compliant. The area surrounding the building doors are dirt and represent an uneven walking surface and tripping hazard. Projects are needed to accomplish the following objectives:

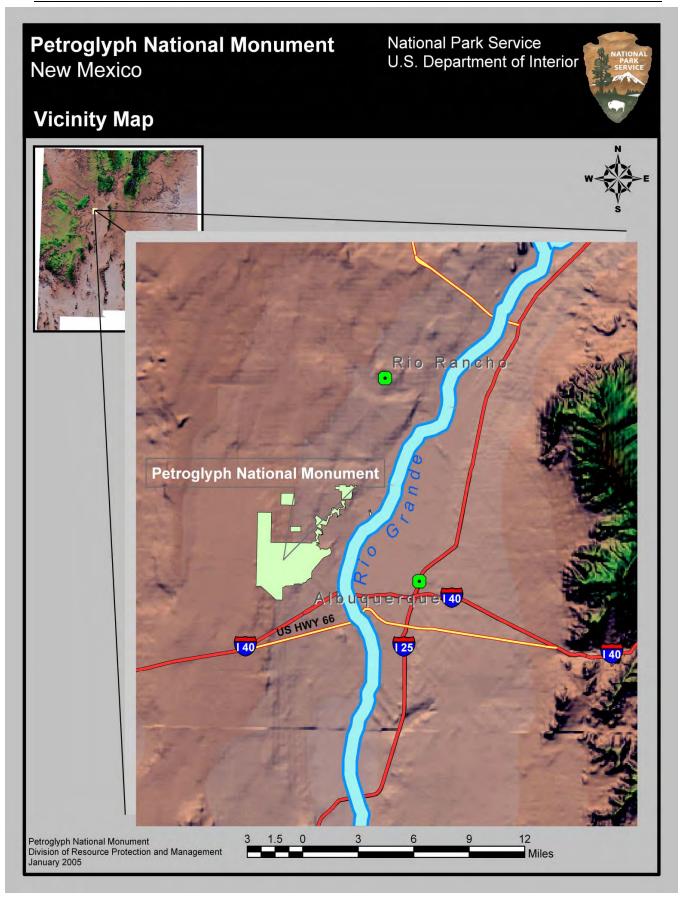
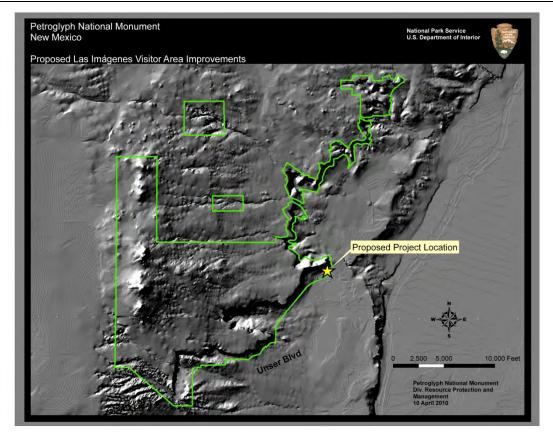
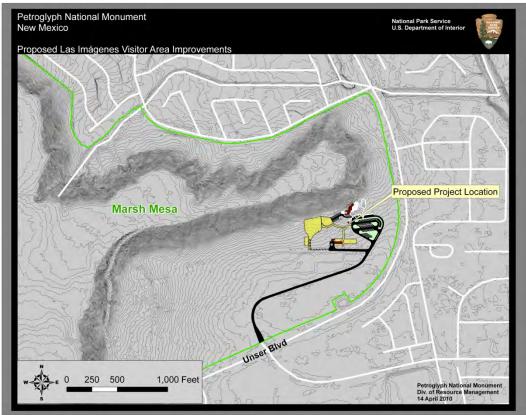


Figure 1 Map of Petroglyph National Monument





Figures 2a and 2b Location of Las Imágenes Visitor Center and Lava Shadows

Project Objectives

Based on the Purpose and Need for the project and the scoping conducted with National Park Service staff, the following objectives have been identified to support the proposal for improvement of the Visitor Center area facilities at Petroglyph National Monument:

- 1. Meet federal and state health and safety recommendations for visitors and employees.
- 2. Provide visitor use and employee facilities that meet ADA requirements.
- 3. Enhance visitor experience with the creation of a new amphitheater.
- 4. Reduce erosion associated with the Lava Shadows building and the Las Imágenes Employee Parking Lot to provide a sustainable environment for existence of these facilities.
- 5. Create and/or modify the existing trails between Las Imágenes Visitor Center and Lava Shadows to be sustainable for future use by visitors and park employees.

Relationship of the Proposed Action to Previous Planning Efforts

Completing the proposed improvements to the Visitor Center Area is consistent with the objectives of the Petroglyph National Monument General Management Plan/Development Concept Plan/Environmental Impact Statement (1999). The NPS is also preparing a Visitor Use Plan for Petroglyph, which will propose to continue Visitor Center Operations at the present location. The General Management Plan designates the area as a development zone.

Appropriate Use

Section 1.5 of Management Policies (2006), Appropriate Use of the Parks, directs that the National Park Service must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on, park resources and values. A new form of park use may be allowed within a park only after a determination has been made in the professional judgment of the park manager that it will not result in unacceptable impacts.

Section 8.1.2 Of Management Policies (2006), Process for Determining Appropriate Uses, provides evaluation factors for determining appropriate uses. All proposals for park uses are evaluated for:

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the Service; and
- whether the public interest will be served.

Park managers must continually monitor all park uses to prevent unanticipated and unacceptable impacts. If unanticipated and unacceptable impacts emerge, the park manager must engage in a thoughtful, deliberate process to further manage or constrain the use, or discontinue it.

The proposed improvements are vital components to providing a quality visitor experience, a safe working environment and mitigating damage from storm water drainage. The proper location, sizing, construction materials, methods and monitoring by qualified staff would ensure unacceptable impacts to park resources and values would not occur. The proposed improvements are consistent with the 1999 General Management Plan with the project area being designated within a development zone. It is anticipated in the pending Visitor Use Plan, a majority of the visitor programs will remain at the present location of the Visitor Center. With this consideration, the NPS finds the Visitor Center area improvements are acceptable uses at Petroglyph National Monument.

Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Petroglyph National Monument conducted internal scoping with appropriate National Park Service staff and with affected groups and agencies.

An interdisciplinary team of professionals from Petroglyph National Monument conducted internal scoping. Interdisciplinary team members met on 4 March 2010 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures.

External scoping was initiated with a site visit by a representative from The New Mexico State Historic Preservation Officer (SHPO). They expressed their eagerness to see the Environmental Assessment when it was completed. A copy of the draft EA was sent to the SHPO as well as to the 23 tribes listed in the Consultation and Coordination section for comments. Comments were solicited during external scoping until 15 August 2010. One comment was received from the Navajo Nation. No concerns or issues were raised and no other alternatives were proposed.

The undertakings described in this document are subject to §106 of the National Historic Preservation Act, as amended in 1992 (16 USC §470 et seq.). Consultations with the New Mexico State Historic Preservation Office (SHPO) have been ongoing since the inception of the project. The draft environmental assessment/assessment of effect was submitted to the SHPO for review and comment to fulfill Petroglyph National Monument's obligations under §106 (36 CFR §800.8[c], *Use of the NEPA process for section 106 purposes*). Please see Appendix C for the SHPO response.

Impact Topics Retained for Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; National Park Service 2006 Management Policies; and National Park Service knowledge of resources at Petroglyph National Monument. The Impact topics carried forward for further analysis in this Environmental Assessment/Assessment of effect are listed below along with the reasons why the impact topic is further analyzed. For the topics, the following text also describes the existing setting or baseline condition (i.e. affected environment) within the project area. This information will be used to analyze impacts against the current conditions of the project area in the Environmental Consequences chapter.

Park Operations

The proposed improvements will have a measureable impact on routine park operations and employee health and safety. For this reason, the topic of park operations has been carried forward for further analysis in this document.

Visitor Use and Experience

The proposed improvements will have a measurable impact on visitor use and experience. For this reason, the topic of visitor use and experience has been carried forward for further analysis in this document.

Impact Topics Dismissed From Further Analysis

Issues and concerns affecting this project were identified by NPS specialists, as well as from the input of other federal, state, and local agencies. After public scoping, issues and concerns were distilled into distinct impact topics to facilitate the analysis of environmental consequences, which allows for a standardized comparison between alternatives based on the most relevant information. The impact topics were identified on the basis of federal laws, regulations, and orders; NPS *Management Policies* (2006); and NPS knowledge of limited or easily impacted resources. The rationale for dismissing these specific topics is stated for each resource.

Topography, Geology, and Soils

According to the National Park Service's 2006 Management Policies, the National Park Service will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2006). These policies also state that the National Park Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The proposed project to construct the amphitheater, a trail, install underground utilities, improve or create pedestrian trails, pour concrete around the Lava Shadows Annex and install a French-type drain and/or a raised earthen wall will disturb soils. All vehicular traffic will be restricted to existing roads and construction of the amphitheater will be kept within a previously disturbed area. The planned installation of a visitor trail between the Las Imágenes Visitor Parking Lot and the proposed amphitheater as well as the improvement of an existing trail between the Las Imágenes Visitor Center and Lava Shadows are in areas that have in recent years exhibited erosion. It is the intent of this project to preserve and protect geologic resources, allow natural processes to continue in a sustainable manner that will protect these resources, while enhancing the visitor's experience, preserving existing park facilities and reducing adverse effects from previous and present human activities.

Given that there are no significant topographic or geologic features in the project area, and that the area has been heavily disturbed, the proposed actions will result in negligible to minor, temporary effects to topography, geology, and soils. Because these effects are minor or less in degree, this topic has been dismissed from further analysis in this document.

Vegetation

According to the National Park Service's 2006 Management Policies, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). The area of potential effect is limited on diversity since it has been previously disturbed due to plowing and the previous presence of a private residence. Much of the vegetation is non-native, a remnant of the removed residence. The proposed project will have a restoration component, which should return the area to an ecologically functional state. Because the effects are minor or less in degree, this topic is dismissed from further analysis in this document.

Wildlife

According to the National Park Service's 2006 Management Policies, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2006). Wildlife commonly found in the Monument includes coyotes, ground squirrels, cottontails, woodrats, mice, and over 30 species of birds. There are also numerous insect species, and 17 species of reptiles. While the installation of a visitor trail, improvement of an administrative trail, installment of utilities and creation of a French drain will likely have little to no effect on wildlife, the proposed installation of the amphitheater will permanently remove a 1.40 acre area footprint of habitat. The area proposed to receive habitat loss was previously a modern house which was razed and the area plowed for leveling. Today this area is predominately occupied by a small number of rodents, insects and lizards. Given this area's previously disturbed nature, its limited number and variety of native wildlife, it has been determined that this project will have only a minor effect on the native wildlife of the area. Because the effects to wildlife and wildlife habitat from the proposed project are minor or less in degree, this topic has been dismissed from further analysis in this document.

Special Status Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service (or designated representative) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the 2006 Management Policies and Director's Order 77 Natural Resources Management Guidelines require the National Park Service to examine the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species (NPS 2006). Petroglyph National Monument has conducted inventories for vascular plants and all vertebrate taxa. For the purposes of this analysis, the U.S. Fish and Wildlife Service list of sensitive species for Bernalillo County (see Appendix A) was used to determine if any sensitive species occur within the Monument. None of the listed species have ever been documented as residents of the National Monument or have been observed in the immediate area. At best, the Bald Eagle has been observed flying high overhead, but never actively using the Monument. Two of the Species of Concern are known from the Monument, the Western Burrowing Owl (Athene cunicularia hypugea) and the Slate Millipede (Comanchelus chihuanus). Of the two species, only the Slate Millipede is known to be a resident. One of the preparers of this document is the subject matter expert on the Slate Millipede and has conducted surveys in the area of the Visitor Center and has not observed or otherwise documented

the millipede near the project area. The project area is not suitable habitat for any of the sensitive species. Since the millipede and owl are not known to inhabit the area of potential effect, there should be no effect on the two species of concern.

Further protection under the Migratory Bird Treaty Act makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition, this act serves to protect environmental conditions for migratory birds from pollution or other ecosystem degradations. Some migratory birds may be potential transients of the general area, but the immediate project area contains little to no suitable habitat for migratory birds. There are no known nesting sites in this area, and these lands are not vital for foraging or roosting. Construction-related noise could potentially disturb transient bird species, but these adverse impacts would be 1) temporary, lasting only as long as construction, and 2) negligible, because suitable habitat for transient birds is found throughout the region.

Because no threatened, endangered, or other species of concern are known to occur in the project area, the topic of special status species was dismissed from further analysis.

Water Resources

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The proposed project area does not contain surface waters, and is dry. Water quality, water quantity, and drinking water will not be affected by the project. Because the project results in negligible effects to water resources, this topic has been dismissed from further consideration.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in *2006 Management Policies* and Director's Order 77-1 *Wetlands Protection*, strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In accordance with DO 77-1 *Wetlands Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a Statement of Findings for wetlands.

No wetlands are located in the project area; therefore, a Statement of Findings for wetlands will not be prepared, and the impact topic of wetlands has been dismissed.

Floodplains

Executive Order 11988 Floodplain Management requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The National Park Service under 2006 Management Policies and Director's Order 77-2 Floodplain Management will strive to preserve floodplain values and minimize hazardous floodplain conditions. According to Director's Order 77-2 Floodplain Management, certain construction within a 100-year floodplain requires preparation of a Statement of Findings for floodplains.

The project area is not located within a 100-year floodplain. Therefore a Statement of Findings for floodplains will not be prepared, and the topic of floodplains has been dismissed.

Archeological Resources

Section 106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 et seq.); the National Park Service's Director's Order 28 Cultural Resource Management Guideline; and National Park Service 2006 Management Policies (NPS 2006b) require the consideration of impacts on historic properties that are listed on or eligible to be listed in the National Register of Historic Places. The National Register is the nation's inventory of historic places and the national repository of documentation on property types and their significance. The above-mentioned policies and regulations require federal agencies to coordinate consultation with State Historic Preservation Officers regarding the potential effects to properties listed on or eligible for the National Register of Historic Places. For the purposes of the following discussion, cultural resources include archeological resources, historic structures, cultural landscapes, ethnographic resources, and museum collections.

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve historic properties for the enjoyment of present and future generations. Management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources. The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the *2006 Management Policies* and the appropriate Director's Orders.

In addition to the National Historic Preservation Act and the National Park Service 2006 Management Policies (NPS 2006), the National Park Service's Director's Order 28B Archeology, affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park System reflect a commitment to the conservation of archeological resources as elements of our national heritage.

The proposed project area has been extensively disturbed through plowing, grading, leveling and application of fill material. Despite the disturbance, the project area was previously surveyed by the

Petroglyph National Monument Resource Management Division, and no archeological sites were identified in the immediate project area. Therefore, the area of potential effect is not expected to contain archeological deposits; however, appropriate steps would be taken to protect any archeological resources that are inadvertently discovered during construction or known to be in close proximity to the area of potential effect. All excavation activities related to this project will be monitored by the Petroglyph National Monument Resource Management Division. Should any inadvertent discoveries be encountered this project will be halted and the appropriate Federal, Tribal, State and Local agencies will be notified. Under Section 106 of the National Historic Preservation Act, this project is considered to be "no historic properties affected." Because the project will not disturb any known archeological sites, the level of effect of this project on archeological resources is expected to be negligible, and this topic has been dismissed from further analysis.

Historic Structures

According to the National Park Service's Director's Order 28 *Cultural Resource Management*, the term "historic structures" refers to both historic and prehistoric structures, which are defined as constructions that shelter any form of human habitation or activity. Based on a review by the Petroglyph National Monument Resource Management Division the project area does not contain any historic structures, buildings, objects, or sites that are eligible for the National Register of Historic Places. Therefore, the topic of historic structures has been dismissed from further consideration.

Ethnographic Resources

Per the National Park Service's Director's Order 28 *Cultural Resource Management*, ethnographic resources are defined as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the National Park Service should try to preserve and protect ethnographic resources.

Ethnographic resources are not known to exist in the proposed project area based on the lack of cultural materials present. In addition, Native American tribes traditionally associated the Monument were apprised of the proposed project in a letter dated 23 June 2010. The tribes made no substantive comments regarding impacts to ethnographic resources. Therefore, this topic has been dismissed from further consideration.

Cultural Landscapes

According to the National Park Service's Director's Order 28 *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. A cultural landscape inventory has not been conducted for the Monument, however the existing features within the general area including the Visitor Center, Lava Shadows Annex, major arterial highway, housing neighborhoods and multiple sets of high tension power lines, make the proposed improvements an insignificant contribution to the cultural landscape. Therefore, this topic has been dismissed from further consideration.

Museum Collections

According to Director's Order 24 *Museum Collections*, the National Park Service requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections. The Monument's Museum Collections are properly curated in another building and the proposed project is not anticipated to add items to the collection or impact the existing collection in any way. Therefore, the topic of museum collections has been dismissed from further consideration.

Air Quality

The Clean Air Act of 1963 (42 U.S.C. 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. Petroglyph National Monument is designated as a Class II air quality area under the Clean Air Act. A Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter as specified in Section 163 of the Clean Air Act. Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts.

Construction activities such as hauling materials and operating heavy equipment could result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area. Any exhaust, emissions, and fugitive dust generated from construction activities will be temporary and localized, and would likely dissipate rapidly because air stagnation within the Albuquerque area is rare. In an effort to be a "good neighbor," any soil disturbing activities will be accompanied by the application of water to reduce the amount of fugitive dust. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction. The Class II air quality designation for Petroglyph National Monument would not be affected by the proposal. Therefore, air quality has been dismissed as an impact topic.

Soundscape Management

In accordance with 2006 Management Policies and Director's Order 47 Sound Preservation and Noise Management, an important component of the National Park Service's mission is the preservation of natural soundscapes associated with national park units (NPS 2006). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

The proposed location for the new amphitheater and all construction activity would occur in what can be considered the developed zone of Petroglyph National Monument. Existing sounds in this

area are most often generated from vehicular traffic (on surface streets and the major arterial highway), people, construction activities outside of the Monument, air traffic and wind. Sound generated by the long-term occupation of the improved facilities may include climate controls such as heating or air conditioning units and people using the building. Because the area already contains man-made noises, the long-term occupation of the facilities is not expected to appreciably increase the noise levels in the general area.

During construction, human-caused sounds will likely increase due to construction activities, equipment, vehicular traffic, and construction crews. Any sounds generated from construction would be temporary, lasting only as long as the construction activity is generating the sounds, and would have a negligible to minor adverse impact on visitors and employees. Therefore, the topic of soundscape management was dismissed as an impact topic.

Lightscape Management

In accordance with 2006 Management Policies, the National Park Service strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human caused light (NPS 2006). Petroglyph National Monument strives to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. The Monument also strives to ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended area and out of the night sky. Extensive regional pollution of the natural night sky already exists due to the city of Albuquerque.

The proposed action may incorporate minimal exterior lighting on both facilities, but the lighting will be directed downward with appropriate shielding mechanisms, and will be placed in only those areas where lighting is needed for safety reasons. The amount and extent of exterior lighting on the amphitheater and access trails will have negligible effects on the existing outside lighting or night sky of the area; therefore, this topic has been dismissed.

Socioeconomics

The proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a negligible beneficial impact to the economies of Albuquerque, New Mexico due to minimal increases in employment opportunities for the construction workforce and revenues for local businesses and governments generated from these additional construction activities and workers. Any increase in workforce and revenue, however, would be temporary and negligible, lasting only as long as construction. Because the impacts to the socioeconomic environment would be negligible, this topic has been dismissed.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to the USDA, the project area does not contain prime or unique farmlands (Hacker, 1977). Therefore, the topic of prime and unique farmlands has been dismissed.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources at Petroglyph National Monument. The lands comprising the Monument are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, the project will not have any effects on Indian trust resources, and this topic 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 all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because the improved facilities will be available for use by all park staff regardless of race or income, and the construction workforces will not be hired based on their race or income, the proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities. Therefore, environmental justice has been dismissed as an impact topic in this document.

ALTERNATIVES CONSIDERED

During March 2010, an interdisciplinary team of National Park Service employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need*, and a list of alternatives that could potentially meet these objectives.

One action alternative and the No Action Alternative were identified for this project, which are carried forward for further evaluation in this Environmental Assessment. A summary table comparing alternative components is presented at the end of this chapter.

Alternative A – No Action

Under this alternative, none of the projects would be completed. The proposed amphitheater would not be built and the proposed sidewalk running from the proposed amphitheater to the Visitor Parking Lot would not be constructed. Public events will continue to be held at the present Las Imágenes Visitor Center. The trail running from Lava Shadows would be left as is and would remain unsustainable, ultimately eroding and becoming an arroyo. The patio for the facility at Lava Shadows would remain in violation of the American Disabilities Act. Likewise storm water runoff would continue to run down slope and pool at the Lava Shadows building which would possibly result in mold or causing damage to the building's foundation. Should the No-Action Alternative be selected, the National Park Service would respond to future needs and conditions of the facilities without major actions or changes in present course of action.

Alternative B – Construct an Amphitheater and Associated Improvements

This alternative consists of completing the list of proposed projects below. A diagram illustrating the general area and approximate locations and sizes of the proposed projects is included as Fig. 3. The following text further describes the components of Alternative B:

- **Construction of an amphitheater** The amphitheater facility would be constructed on the west side of the Las Imágenes Visitor Center. This will be used for public interpretive events. The facility will be approximately 0.66 acres in size and equipped with electric, water, and communication lines. Architecture and height will be similar to that of the existing buildings. Improvements around the proposed facility may include landscaping, access trails and wayside exhibits.
- Construction of a trail between the Las Imágenes Visitor Parking Lot to the proposed amphitheater This trail will be paved, and will be ADA compliant. The path will be 315' in length and 8' in width.
- Construction of storm water culverts Small storm water culverts may be installed under the paved trail that will be between the Las Imágenes Visitor Parking Lot and the proposed amphitheater. Installation of these culverts will prevent the path from being washed out or damaged due to excessive rain. Likewise this will permit rain water from pooling on the side walk which could pose a hazard to visitors.
- Upgrading of an existing trail between the Las Imágenes Visitor Center and Lava Shadows A trail currently exists between the Las Imágenes Visitor Center and Lava Shadows. This path is slowly becoming incised and uneven due to erosion and is unsustainable in its current form. This trail will be paved and will be approximately 160 feet in length and 8 feet in width. Due to steep elevational rise, it was not possible to make this trail ADA compliant without severe environmental effects.
- Construction of trench under or adjacent to the trail between the Las Imágenes Visitor
 Center and installation of utilities for the proposed amphitheater A small trench is
 proposed that will be run from alongside the amphitheater trail. This trench will have utilities
 such as water, electric and telecommunication utilities installed therein to facilitate
 amphitheater operations.
- Construction of a trench and installation of a tap water line under or adjacent to the trail between the Las Imágenes Visitor Center and Lava Shadows A trench is proposed that would lead to an existing water line between Lava Shadows and the Las Imágenes Visitor Center. This trench would run alongside or under the proposed trail between the aforementioned facilities. This proposed trench would have a waterline that would supply the water line running to the amphitheater.
- Lava Shadows Sidewalk Improvements Several areas around the Lava Shadows building are uneven and need to be surfaced for safe walking access. Concrete sidewalks would be poured surrounding the building to interconnect with trails to the Visitor Center and the proposed amphitheater facility.
- **Landscaping and Drainage** Some minor landscaping and vegetation may be required at and surrounding the amphitheater, and adjacent to the new and improved trails. Some locations

may require culverts and/or diverters where erosion has been identified and where water will naturally merge and the aforementioned trails.

• French-type Drain and/or Stem Wall – To handle storm run-off behind the Lava Shadows Annex. This will prevent pooling behind the building and seepage into the crawlspace beneath the building. It will also eliminate excess moisture issues under the building. This will assist with maintenance of the building and provide for a safe working environment for employees stationed within the building.

This alternative is based on preliminary designs and best information available at the time of this writing. Specific distances, areas, and layouts used to describe the alternative are only estimates and could change during final site design. If changes during final site design are not consistent with the intent and effects of the selected alternative, then additional compliance would be completed, as appropriate.

Mitigation Measures

The following mitigation measures have been developed to minimize the degree and/or severity of adverse effects, and will be implemented during construction of the action alternative, as needed:

- To minimize the amount of ground disturbance, staging and stockpiling areas will be located in previously disturbed locations within the project area and will be located to minimize the impacts to visitors and employees.
- Construction zones will be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing will define the construction limits and confine activity to the minimum area required for construction. All protection measures will be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
- Fugitive dust generated by construction will be controlled by spraying water on the construction site if necessary.
- To reduce noise and emissions, construction equipment will not be permitted to idle for long periods of time.
- To minimize possible petrochemical leaks from construction equipment, the contractor will regularly monitor and check construction equipment to identify and repair any leaks.
- Any existing facilities and or nearby structures not planned for improvements would not be impacted by the construction.
- Construction workers and supervisors will be informed about special status species. Contract provisions will require the cessation of construction activities if a species were discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measures determined necessary to protect the discovery.
- Should construction unearth previously undiscovered cultural resources, work will be stopped in the area of any discovery and the Monument will consult with the state historic preservation

officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, Post *Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.

- The National Park Service will ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites, or historic properties. Contractors and subcontractors will also be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction.
- To minimize the potential for impacts to park staff, variations on construction timing may be considered. One option includes conducting the majority of the work in the off-season (winter) or shoulder seasons. Another option includes implementing daily construction activity curfews such as not operating construction equipment between the hours of 6 PM to 7 AM in summer (May September), and 6 PM to 8 AM in the winter (October April). The National Park Service will determine this in consultation with the contractor.
- Construction workers and supervisors will be informed about the special sensitivity of Monument's values, regulations, and appropriate housekeeping.
- According to 2006 Management Policies, the National Park Service will strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts. Development will not compete with or dominate Monument's features, or interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity associated with wetlands. To the extent possible, the design and management of facilities will emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, and recycling. The National Park Service also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems that emphasize the use of renewable energy sources.

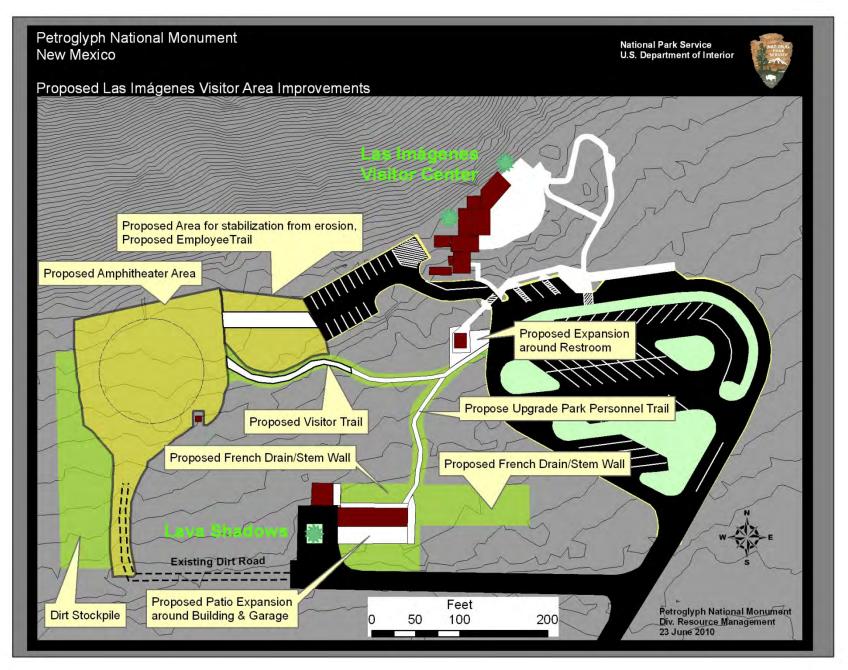


Figure 3 Diagram of Proposed Project Locations (shown in yellow)

Alternative Summaries

Table 1 summarizes the major components of Alternatives A and B, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative B meets each of the objectives identified for this project, while the No Action Alternative does not address all of the objectives.

Table 1 – Alternatives Summary and Extent to Which Each Alternative Meets Project Objectives

Alternative A – No Action

Alternative B – Proposed Improvement Projects Completed

The proposed facility additions and improvements would not be completed. An amphitheater just southeast of Las Imágenes Visitor Center would not be constructed. No trail would be created between the Las Imágenes Visitor Center Parking Lot and the proposed Amphitheater. No modifications would be conducted on the existing trail between Lava Shadows and the Las Imágenes Visitor Center. This trail would remain unsustainable and would ultimately become incised due to erosion. No French drain would be installed between Lava Shadows and the Las Imágenes Visitor Center. As a result rainwater will continue to run down slope into the Lava Shadows facility which will ultimately undermine the foundation of this facility or will introduce mold that could have a health risk to the employees of Petroglyph National Monument. Additionally the patio of Lava Shadows would not be resurfaced and will remain a tripping hazard and will not be ADA compliant. Unsustainable drainages south of the Las Imágenes Visitor Center will continue to erode and may in the future adversely damage the employee parking lot at the aforementioned visitor center.

The proposed facility improvements would be completed and would involve the construction of an amphitheater south east of the Las Imágenes Visitor Center. A trail with culverts and landscaping would be constructed between the Las Imágenes Visitor Center and the Visitor Center Parking Lot. A trench would be created and conduit and pipes containing utilities for the amphitheater would be installed. A French-type drain and/or stem wall would be installed between the visitor center and Lava Shadows. The trail between these facilities would be paved and would be ADA compliant. The brick patio at Lava Shadows would be removed and replaced with concrete and made in compliance to ADA specifications. Some landscaping, drainage modification and re-vegetation may be undertaken around the proposed amphitheater, trails, Lava Shadows entrance and employee parking lot at Las Imágenes Visitor Center to improve the visitor's experience and to make these areas sustainable for the future.

Meets Project Objectives?

Meets Project Objectives?

No. Continuing the existing conditions would not provide for improving the visitor experience, or for providing for a safer work environment and would remain out of compliance regarding the American Disabilities Act. Additionally, NPS property would continue to be subjected to the elements and remain in an unsustainable state that will ultimately require even greater repairs or replacement in the future.

Yes. Completing the proposed projects would provide for an employee work area that meets current health and safety recommendations, protects NPS property and provide visitors with an enjoyable and informed experience. This alternative minimizes environmental impacts to the extent possible, and will not result in impairment to any park resources.

Table 2 summarizes the anticipated environmental impacts for Alternatives A and B. Only those impact topics that have been carried forward for further analysis are included in this table. The *Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 2 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No Action	Alternative B – Preferred Alternative
Park Operations	The No Action Alternative will have a moderate adverse impact on current park operations because issues with erosion and uneven walking surfaces will not be addressed. This will require additional maintenance for the Lava Shadows Annex to address mold and the building foundation and to mitigate tripping hazards from uneven walking surfaces. Cumulatively, these effects will have a moderate impact to park operations when considered with other past, present, and reasonably foreseeable future actions.	Completion of the Proposed Improvement Projects under the Preferred Alternative will have a moderate beneficial impact on park operations because the projects will eliminate maintenance activities such as storm drainage repair and impacts to the Lava Shadows Annex. Adverse effects to park operations will occur during construction which will require employees to accommodate construction of the amphitheater and improvements, but will be temporary lasting only as long as construction. Cumulatively, the improvements associated with this alternative will have a moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.
Visitor Use and Experience	The No Action Alternative will not measurably change current visitor use and experience because visitor use will continue as it has in the recent past. Cumulatively, these effects will have a negligible impact to visitor use and experience when considered with other past, present, and reasonably foreseeable future actions.	Completion of the Proposed Improvement Projects under the Preferred Alternative will have a moderate beneficial impact on visitors because the projects will provide a safer venue for interpretive programs, as well as resolve unsustainable erosion issues that have a visual effect on the landscape. Minor effects to visitors may occur during construction which will require visitors to adjust to construction of the amphitheater and improvements, but will be temporary lasting only as long as construction. Cumulatively, the improvements associated with this alternative will have a moderate beneficial effect on visitor use and experience when considered with other past, present, and reasonably foreseeable future actions.

Identification of the Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative A, No Action, meets four of the above six evaluation factors because it retains facilities that do not meet OSHA health and safety standards in terms of employee safety and that do not take full advantage of the recycling of depletable resources. While it minimizes potential impacts to significant park resources, it does not achieve a balance between these resources and the health and safety of Monument staff. This alternative also does not meet the criteria for improving renewable resources because the infrastructure is not in place to make maximum use of renewable resources.

Alternative B is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative B, Construct an Amphitheater and Associated Improvements, will provide a working environment for Monument staff that meets health and safety recommendations, while minimizing environmental impacts to the extent possible. The improvements will be completed to maximize the use of recycling and to get maximum benefit from renewable resources.

Because it meets the Purpose and Need for the project, the project objectives, and is the environmentally preferred alternative, Alternative B is also recommended as the National Park Service Preferred Alternative. For the remainder of the document, Alternative B will be referred to as the Preferred Alternative.

ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that will occur as a result of implementing the proposed project. The topics analyzed in this chapter are park operations and visitor use and experience. Direct, indirect, and cumulative effects, as well as impairment are analyzed for the topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

• **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:

- -<u>Beneficial</u>: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- -<u>Adverse</u>: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- -<u>Direct</u>: An effect that is caused by an action and occurs in the same time and place.
- -<u>Indirect</u>: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact will occur. Are the effects site-specific, local, regional, or even broader?
- **Duration** describes the length of time an effect will occur, either short-term or long-term:
 - -Short-term impacts generally last only during construction, and the resources resume their preconstruction conditions following construction.
 - -<u>Long-term</u> impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.
- *Intensity* describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this Environmental Assessment.

Cumulative Effects: The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the No Action and Preferred Alternatives.

Cumulative impacts were determined by combining the impacts of the Preferred Alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Petroglyph National Monument and, if applicable, the surrounding region. The geographic scope for this analysis includes elements mostly within the Monument's boundaries, while the temporal scope includes projects within a range of approximately ten years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis, listed from past to future:

• Construction of the entrance road to Las Imágenes Visitor Center, 1994: The entrance road to the Visitor Center was relocated to comply with the development of Unser Blvd. The access road had to be moved approximately 0.40 miles south to intersect with Western Trail, the closest intersection for Unser Blvd.

- Construction of the Las Imágenes Visitor Center and Employee Parking Lot, 2005: The visitor center and employee parking lots were improved and paved with asphalt.
- **Development of Fire Management Plan, 2005:** The Monument's Fire Management Plan was completed in June 2005. The plan calls for the continued total suppression of wildfire due to the close proximity of the Monument to the City of Albuquerque. Site specific, mechanical fuel reduction projects may also be undertaken as part of the fire management program.
- Planning for Visitor Use Plan, 2005 -- 2010: The Monument began gathering information for preparation of a Visitor Use Plan. Planning is currently underway and a draft Visitor Use Plan is expected in 2010.
- **Planning for new Visitor Center, Future:** The Monument has a line-item construction project request in place for a new Visitor Center, but it is currently a low priority and no action is anticipated within the next 5 to 10 years. Improvements to the existing Visitor Center will be incorporated into the overall planning for a new Visitor Center to ensure that all functions and future Monument needs are addressed.
- Construction of the Rinconada Parking Lot, June 2010: The Monument improved the parking lot at Rinconada Canyon to accommodate the use of the area and improve ADA accessibility. As part of the construction, excess dirt from the project was stored in a previously disturbed area near the Las Imágenes Visitor Center. The dirt is proposed for use in the amphitheater construction.
- Construction of the La Cuesta Parking Lot and Resurfacing of the Visitor Center
 Entrance Road, 2010. A project in the planning stages in conjunction with Federal Highways.
 A small parking lot will be constructed near the entrance gate to the visitor center to safely
 accommodate after-hours visitors and visitors wishing to take pictures of the entrance sign. The
 Visitor Center Entrance Road will also be resurfaced. The resurfacing will be in the same
 footprint as the existing road.
- **Replacement of the Lava Shadows Front Walkway**. A project to replace fractured brick with concrete to eliminate tripping hazards and allow for ADA access to the building.

Impact Analysis

Park Operations

Intensity Level Definitions

Implementation of a project can affect the operations of a park such as the number of employees needed; the type of duties that need to be conducted; when/who will conduct these duties; how activities should be conducted; and administrative procedures. The methodology used to assess potential changes to park operations are defined as follows:

Negligible: Park operations would not be affected or the effect would be at or below the lower

levels of detection, and would not have an appreciable effect on park operations.

Minor: The effect would be detectable, but would be of a magnitude that would not have

an appreciable adverse or beneficial effect on park operations. If mitigation were needed to offset adverse effects, it would be relatively simple and successful.

Moderate: The effects would be readily apparent and would result in a substantial adverse or

beneficial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and

would likely be successful.

Major: The effects would be readily apparent and would result in a substantial adverse or

beneficial change in park operations in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not

be guaranteed.

Impacts of Alternative A (No Action Alternative)

The No Action Alternative will not measurably change current park operations at Petroglyph National Monument. The existing facilities will continue to function as such. The amphitheater would not be constructed nor the trail between the amphitheater and the Las Imágenes Parking Lot. The area around the Lava Shadows Annex would not be replaced and would continue to be a tripping hazard and remain non-compliant with the Americans with Disabilities Act. The French Drain and/or stem wall would not be installed between Lava Shadows and Las Imágenes Visitor Center and rainwater will continue to run down to Lava Shadows. The impact from this would be mold, and the foundation and structure could be undermined due to excessive moisture and erosion. The existing trail between Lava Shadows and Las Imágenes Visitor Center would remain in an unsustainable condition and would eventually incise, become a rill and possibly head cut and form an arroyo.

<u>Cumulative Effects</u>: Any project that occurs in the Monument has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction of this chapter will have some degree of effect on employees and park operations. Planning projects such as the development of a Fire Management Plan, development of a Visitor Use Plan and Visitor Center Planning typically involve the majority of Monument staff to contribute their expertise and assistance. Under this alternative, park operations associated with the current and future use of the existing facilities would increase due to erosion by repetitive thunderstorm damage and worsening fractures and unevenness in the landscape; therefore, park operations would increase when considered with other past, present, and reasonably foreseeable future actions.

<u>Conclusion</u>: The No Action Alternative will have a moderate adverse impact on current park operations because issues with erosion and uneven walking surfaces will not be addressed. This will require additional maintenance for the Lava Shadows Annex to address mold and the building foundation and to mitigate tripping hazards from uneven walking surfaces. Cumulatively, these effects will have a moderate impact to park operations when considered with other past, present, and reasonably foreseeable future actions.

Impacts of Alternative B (Preferred Alternative)

The completion of the proposed improvement projects will require maintenance and upkeep; however the majority of the area is already maintained. Less maintenance would be required after thunderstorm events to address damage from storm drainage. A minor, short-term impact may

occur due to construction activities including relocating parking and additional maintenance until permanent landscaping is installed. Once the proposed projects are completed, normal workloads and patterns should return with a slight adjustment for the improved facilities. Construction noise and dust may also adversely affect the Monument's employees but these inconveniences will be temporary, lasting only as long as construction.

<u>Cumulative Effects</u>: As described under Alternative A, any project that occurs in the Monument has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction of this chapter will have some degree of effect on employees and park operations. Planning projects such as the development of a Fire Management Plan, development of a Visitor Use Plan and Visitor Center Planning typically involve the majority of Monument staff to contribute their expertise and assistance. Park operations associated with the current and future use of the facilities will be improved to a moderate degree, which will cumulatively have a moderate beneficial impact to park operations when considered with other past, present, and reasonably foreseeable future actions.

<u>Conclusion</u>: Completion of the Proposed Improvement Projects under the Preferred Alternative will have a moderate beneficial impact on park operations because the projects will eliminate maintenance activities such as storm drainage repair and impacts to the Lava Shadows Annex. Adverse effects to park operations will occur during construction which will require employees to accommodate construction of the amphitheater and improvements, but will be temporary lasting only as long as construction. Cumulatively, the improvements associated with this alternative will have a moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

Visitor Use and Experience

Intensity Level Definitions

Implementation of a project can affect the visitor experience of a park such as the type of facilities available to visitors and the experience they have at the facility. The methodology used to assess potential changes to visitor use and experience are defined as follows:

Negligible: Visitor use and experience would not be affected or the effect would be at or below

the lower levels of detection, and would not have an appreciable effect on visitor

use and experience.

Minor: The effect would be detectable, but would be of a magnitude that would not have

an appreciable adverse or beneficial effect on visitor use and experience. If

mitigation were needed to offset adverse effects, it would be relatively simple and

successful.

Moderate: The effects would be readily apparent and would result in a substantial adverse or

beneficial change to visitor use and experience in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse

effects and would likely be successful.

Major:

The effects would be readily apparent and would result in a substantial adverse or beneficial change visitor use and experience in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not be guaranteed.

Impacts of Alternative A (No Action Alternative)

The No Action Alternative will not measurably change current visitor use and experience at Petroglyph National Monument. The existing facilities will continue to function as such. The amphitheater would not be constructed nor the trail between the amphitheater and the Las Imágenes Parking Lot. Visitors will continue to attend interpretive programs and events in the front of the Las Imágenes Visitor Center or at the library of the visitor center. The area around the Lava Shadows Annex would not be replaced and would continue to be a tripping hazard and remain inaccessible to visitors with mobility impairments.

<u>Cumulative Effects</u>: Any project that occurs in the Monument must be assessed for its impacts to visitors. Planning projects such as the development of a Visitor Use Plan and Visitor Center Planning can affect visitors by altering trails and resource access. Under this alternative, visitor use and experience associated with the current and future use of the existing facilities are not expected to change; therefore, visitor use and experience would not appreciably change when considered with other past, present, and reasonably foreseeable future actions.

<u>Conclusion</u>: The No Action Alternative will not measurably change current visitor use and experience because visitor use will continue as it has in the recent past. Cumulatively, these effects will have a negligible impact to visitor use and experience when considered with other past, present, and reasonably foreseeable future actions.

Impacts of Alternative B (Preferred Alternative)

The completion of the proposed improvement projects under the Preferred Alternative would improve the visitor's experience at Petroglyph National Monument with the creation of an amphitheater and visitor trails. The construction of connecting trails would provide visitors a consistent view to the landscape and elimination of drainage issues would reduce visual impacts to visitors. The improvement projects will upgrade an existing trail and area surrounding the Lava Shadows Annex and allow access for visitors with mobility impairments. Petroglyph will have a venue for interpretive programs for the public and large school groups. During construction, it is possible that visitor access and parking may need to be altered; however these actions should not disrupt the visitor use and experience. Once the proposed projects have been completed, normal patterns should return. Construction noise and dust may also adversely affect the Monument's visitors but these inconveniences will be temporary, lasting only as long as construction. The minor, short-term, adverse effects of construction activities would be offset by the moderate, long-term, beneficial effects of improved facilities and access.

<u>Cumulative Effects</u>: Any project that occurs in the Monument must be assessed for its impacts to visitors. Planning projects such as the development of a Visitor Use Plan and Visitor Center Planning can affect visitors by altering trails and resource access. Under this alternative, visitor use and experience associated with the completion of the proposed projects would have a moderate beneficial impact by providing an appropriate venue for interpretative programs that is currently

not available. Therefore, visitor use and experience would benefit moderately when considered with other past, present, and reasonably foreseeable future actions.

<u>Conclusion</u>: Completion of the Proposed Improvement Projects under the Preferred Alternative will have a moderate beneficial impact on visitors because the projects will provide a safer venue for interpretive programs, as well as resolve unsustainable erosion issues that have a visual effect on the landscape. Minor effects to visitors may occur during construction which will require visitors to adjust to construction of the amphitheater and improvements, but will be temporary lasting only as long as construction. Cumulatively, the improvements associated with this alternative will have a moderate beneficial effect on visitor use and experience when considered with other past, present, and reasonably foreseeable future actions.

CONSULTATION AND COORDINATION

External Scoping

External (public) scoping was conducted to inform various agencies about the proposal to complete the improvement projects at Petroglyph National Monument and to generate input on the preparation of this Environmental Assessment. This effort was initiated with a site visit by a representative of the New Mexico State Historic Preservation Office and the distribution of the draft EA to the SHPO and the tribes listed below.

Affiliated Native American Groups

Jicarilla Apache Tribe	Sandia Pueblo	Taos Pueblo	Navajo Nation
Mescalero Apache Tribe	San Felipe Pueblo	Tesuque Pueblo	Navajo Nation Council
Acoma Pueblo	San Ildefonso Pueblo	Zia Pueblo	All Indian Pueblo Council
Cochiti Pueblo	San Juan Pueblo	Laguna Pueblo	Five Sandoval Indian Pueblos
Isleta Pueblo	Santa Ana Pueblo	Pojoaque Pueblo	Eight Northern Indian Pueblos
Jemez Pueblo	Santa Clara Pueblo	Picuris Pueblo	Hopi Tribe
Nambe Pueblo	Santo Domingo Pueblo	Zuni Pueblo	

Only one tribal response to the scoping letter was received (attached in Appendix C) from the Navajo Nation. They stated no resources would be impacted by the proposed project. The NM SHPO also responded that register listed or eligible resources would not be impacted by the proposed project (see Appendix C).

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Petroglyph National Monument. Interdisciplinary team members met on 4 March 2010 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits to view

and evaluate the proposed construction site. The results of the March 2010 meeting are documented in this Environmental Assessment.

Environmental Assessment Review and List of Recipients

The Environmental Assessment will be released for public review on 16 September 2010. To inform the public of the availability of the Environmental Assessment, the National Park Service will publish and distribute a letter or press release to various agencies, tribes, and members of the public on the National Monument's mailing list, as well as place an ad in the local newspaper. Copies of the Environmental Assessment will be provided to interested individuals, upon request. Copies of the document will also be available for review at the Monument's visitor center and on the Internet at http://parkplanning.nps.gov/.

The Environmental Assessment is subject to a 30-day public comment period ending 17 October 2010. During this time, the public is encouraged to submit their written comments to the National Park Service address provided at the beginning of this document or through the above listed website. Following the close of the comment period, all public comments will be reviewed and analyzed, prior to the release of a decision document. The National Park Service will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the Environmental Assessment, as needed.

List of Preparers

Preparers (developed EA content):

- Michael F. Medrano, Chief, Division of Resource Management, National Park Service, Petroglyph National Monument, Albuquerque, NM
- Ronald C.D. Fields, Archeological Technician, National Park Service, Petroglyph National Monument, Albuquerque, NM

Consultants (provided information):

National Park Service, Petroglyph National Monument, Albuquerque, New Mexico

- Gabe Gonzales, Work Leader
- Andre Perera, Chief, Division of Facility Management
- Diane Souder, Chief, Division of Interpretation and Outreach

REFERENCES

USDA 1977	Hacker et al. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico.
NPS 1996	General Management Plan and Development Concept Plan, Petroglyph National Monument.
NPS 1999	Brandi, J.M., E.J. Brunnemann, M.F. Medrano, M.F. Schmader. Results of the 1992 1994 NASI Archeological Survey for Petroglyph National Monument.
NPS 1999	Resource Management Plan, Petroglyph National Monument.
NPS 2006	Management Policies, National Park Service, U.S. Department of the Interior, December 2006.

APPENDICES

Appendix A – Species Lists

Listed and Sensitive Species in Bernalillo County			Total Number of Species: 17
Common Name	Scientific Name	<u>Group</u>	<u>Status</u>
Bald eagle	Haliaeetus leucocephalus	Bird	Delisted Monitored
Black-footed ferret	Mustela nigripes	Mammal	Endangered, Experimental Pop. Non- essential
Mexican spotted owl	Strix occidentalis lucida	Bird	Threatened
New Mexican meadow jumping mouse	Zapus hudsonius Iuteus	Mammal	Candidate
Rio Grande silvery minnow	Hybognathus amarus	Fish	Endangered
Southwestern willow flycatcher	Empidonax traillii extimus	Bird	Endangered
Yellow-billed cuckoo	Coccyzus americanus	Bird	Candidate

Species of Concern

Common Name	Scientific Name	Group	<u>Status</u>
Millipede	Comanchelus chihuanus	Arthropod - Invertebrate	Species of Concern
American peregrine falcon	Falco peregrinus anatum	Bird	Species of Concern
Arctic peregrine falcon	Falco peregrinus tundrius	Bird	Species of Concern
Baird's sparrow	Ammodramus bairdii	Bird	Species of Concern
Black tern	Chlidonias niger	Bird	Species of Concern
Mountain plover	Charadrius montanus	Bird	Species of Concern
Northern goshawk	Accipiter gentilis	Bird	Species of Concern
Western burrowing owl	Athene cunicularia hypugea	Bird	Species of Concern
Pecos River muskrat	Ondatra zibethicus ripensis	Mammal	Species of Concern
Townsend's big-eared bat	Corynorhinus townsendii	Mammal	Species of Concern

Species review by RCDF on 4/2/2010.

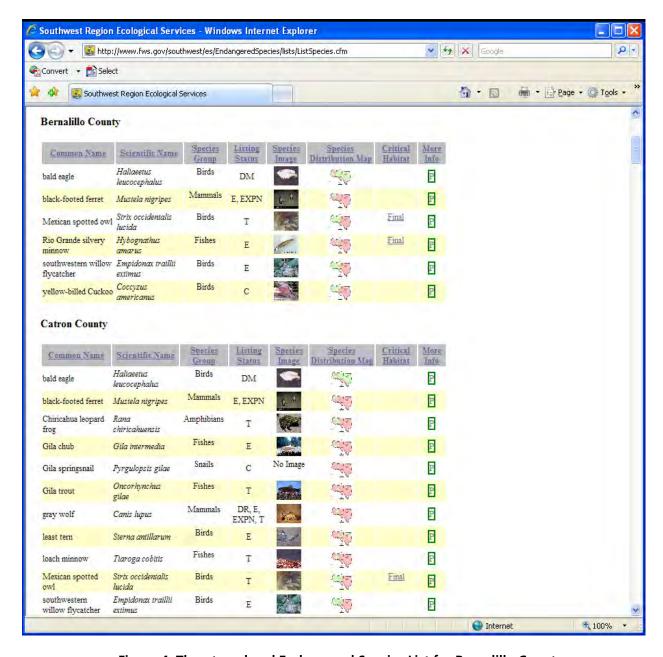


Figure 4. Threatened and Endangered Species List for Bernalillo County

Species review by RCDF on 4/2/2010.

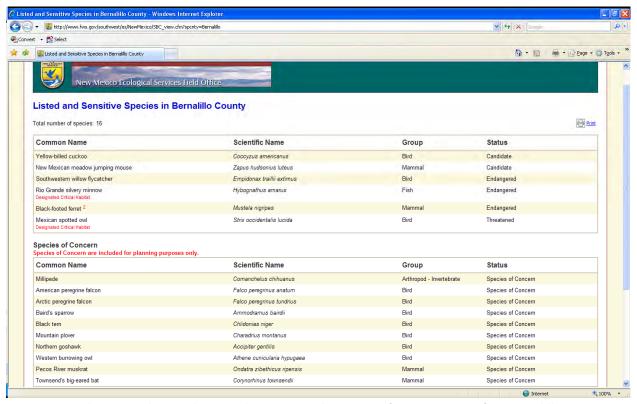


Figure 5. Threatened or Endangered Species and Species of Concern Lists for Bernalillo County

Appendix B – Supporting Photographs



Figure 6. Stormwater Drainage Pooling Behind the Lava Shadows Annex

Appendix C – Sample Letters and Responses

Sample Tribal Consultation Letter



United States Department of the Interior NATIONAL PARK SERVICE

INTERMOUNTAIN REGION Petroglyph National Monument 6001 Unser Blvd., NW Albuquerque, New Mexico 87120

In reply refer to: H4217(PETR)

June 24, 2010

Chairman Leroy Ned Shingoitewa Hopi Tribal Council P.O. Box 123 Kykotsmovi, Arizona 86039

Dear Chairman Shingoitewa:

In accordance with Section 106 of the National Historic Preservation Act of 1966, amended, and the Advisory Council's regulations, 36 CFR Part 800, we seek your comments and consultation regarding this proposed undertaking. Petroglyph National Monument has completed a draft environmental assessment (draft EA) for the proposed construction of an amphitheater and infrastructure improvements to the Visitor Center area of Petroglyph National Monument located at the corner of Unser Boulevard and Western Trail NW in Albuquerque, New Mexico. This undertaking is proposed in order to meet management goals for the improvement of visitor experience and employee health and safety. The draft EA is being provided on a CD included with this letter. Comments will be accepted until the end of the public comment period, but would be most helpful if they can be received by July 12, 2010. The draft EA is scheduled to be released to the public on or about July 15, 2010 with a 30-day public comment period following.

The Visitor Center area of Petroglyph National Monument has been previously surveyed for cultural resources and none exist in the area of potential effect. We are proposing this undertaking as a no effect project. All of the proposed improvements fall within the footprint of the existing disturbance and there will not be any disturbance to any historic structures or other properties eligible for or currently listed on the National Register. Please send any comments on this proposed project to my attention at the above address.

If you have any questions about the enclosed draft EA, or if you require a hard copy of the document, please contact the Chief of Resource Management, Mike Medrano at 505-899-0205, ext 334. Any written comments or concerns about the project can be sent to the superintendent at the above address or via email to PETR Superintendent@nps.gov.

Sincerely,

Joseph P. Sánchez, Ph.D. Superintendent

Enclosure

Response from The Navajo Nation



megrano-

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

August 5, 2010

Joseph P. Sanchez, Superintendent National Park Service, Intermountain Region Petroglyph National Monument 6001 Unser Blvd., NW Albuquerque, New Mexico 87120

8/13/10

Dear Mr. Sanchez:

Our apology for an oversight and missing the deadline date of our response to your request, and that the Navajo Nation Historic Preservation Department – Traditional Culture Program (NNHPD-TCP) is in receipt of Petroglyph National Monument's proposed project. Petroglyph National Monument has completed a draft environmental assessment for the proposed construction of an amphitheater and infrastructure improvements to the visitor center at the corner of Unser Blvd., and Western Trail NW in Albuquerque, New Mexico.

After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area will not impact Navajo traditional cultural properties. The NNHPD-TCP, on behalf of the Navajo Nation has no concerns at this time.

However, the determination made by the HPD-TCP does not necessarily mean that the Navajo Nation has no interest or concerns with the proposed project. If the proposed project inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony the HPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA).

The HPD-TCP appreciates the National Park Service's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have any additional concerns and/or questions, do not hesitate to contact me electronically at tonyjoe@navajo.org or telephone at 928-871-7750. Mr. Kelly Francis will be taking over all Section 106 Consultations soon within the near future.

Sincerely,

Tony H. Joe, Jr., Supervisory Anthropologist (Section 106 Consultations) Historic Preservation Department – Traditional Culture Program

'AUG 1 1 2010

TCP

CP 10-609

CC: Office File/Chrono

Response from NM SHPO



In reply refer to: H4217(PETR)

June 24, 2010

United States Department of the Interior

NATIONAL PARK SERVICE INTERMOUNTAIN REGION Petroglyph National Monument 6001 Unser Blvd., NW Albuquerque, New Mexico 87120



Dr. Jan Biella
New Mexico State Historic Preservation Officer
New Mexico Historic Preservation Division
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr. Biella:

In accordance with Section 106 of the National Historic Preservation Act of 1966, amended, and the Advisory Council's regulations, 36 CFR Part 800, we seek your comments and consultation regarding this proposed undertaking. Petroglyph National Monument has completed a draft environmental assessment (draft EA) for the proposed construction of an amphitheater and infrastructure improvements to the Visitor Center area of Petroglyph National Monument located at the corner of Unser Boulevard and Western Trail NW in Albuquerque, New Mexico. This undertaking is proposed in order to meet management goals for the improvement of visitor experience and employee health and safety. The draft EA is being provided on a CD included with this letter.

The Visitor Center area of Petroglyph National Monument has been previously surveyed for cultural resources and none exist in the area of potential effect. We are proposing this undertaking as a no effect project. All of the proposed improvements fall within the footprint of the existing disturbance and there will not be any disturbance to any historic structures or other properties eligible for or currently listed on the National Register. Please send any comments on this proposed project to my attention at the above address.

If you have any questions about the enclosed draft EA, please contact the Chief of Resource Management, Mike Medrano at 505-899-0205, ext 334. Any written comments or concerns about the project can be sent to the superintendent at the above address or via email to PETR_Superintendent@nps.gov.

Sincerely,

Joseph P. Sanchez, Ph.D.

Superintendent

Enclosure

No Historic Properties Affected.

for NM State Historic Preservation Officer

AUG 3 1 2010