



National Park Service
U.S. Department of the Interior
Organ Pipe Cactus National Monument
Ajo, Arizona

Multi-Purpose Building Construction Environmental Assessment

January 2010



Multi-Purpose Building Construction

Environmental Assessment

Summary

Organ Pipe Cactus National Monument proposes to construct a new multi-purpose building within the administrative area near the existing playground. Currently there is no place for monument residents to gather inside for community and social events, the multi-purpose building would serve this need. The building would also be used as a work-out area to help law enforcement officers meet physical fitness requirements. Many monument employees and their families are required to live in monument housing. This facility would help foster a sense of community and provide a meeting place for residents to get together as a group, especially during the hot summer months. The facility would also help improve residents' physical fitness. There are no nearby local communities that offer similar amenities.

This environmental assessment evaluates two alternatives: a no-action alternative and an action alternative. The no-action alternative describes the current condition if no multi-purpose building was constructed, and the action alternative addresses the construction of a new multi-purpose building within the administrative area next to the playground. The action alternative also addresses the use of connecting the building to existing overhead power lines and installation of a new sewer line to connect the building to the existing sewage system.

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 objectives of the proposal, 2) evaluates potential issues and impacts to Organ Pipe Cactus National Monument's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Impact topics, included in this document because the resultant impacts may be greater-than-minor, include historic structures, paleontological resources, visitor use and experience, and park operations. All other impact topics were dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document and comments were received, mostly in support of the proposed project.

Public Comment

If you wish to comment on the environmental assessment, you may post comments online at <http://parkplanning.nps.gov/orpi> or mail comments to: Superintendent; Organ Pipe Cactus National Monument, 10 Organ Pipe Drive, Ajo, Arizona, 85321.

This environmental assessment will be on public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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PURPOSE AND NEED

Introduction

Organ Pipe Cactus National Monument (OPCNM or the monument) is approximately 40 miles south of the town of Ajo, Arizona. The monument was established on April 13, 1937, to protect the life and landscape of the Sonoran Desert in southwestern Arizona. Within the national monument's boundaries is a vast collection of Sonoran Desert plants, including the organ pipe cactus, a large cactus rarely found in the United States. The monument, which encompasses more than 330,000 acres, is also home to many animals that have adapted to extreme temperatures, intense sunlight, and little rainfall. OPCNM was designated an international biosphere reserve on October 26, 1976, and about 94% of the monument (about 312,000 acres) was designated as wilderness on November 10, 1978. The monument shares 30 miles of international border with Mexico.

The purpose of this environmental assessment is to examine the environmental impacts associated with the proposal to construct a new multi-purpose building at Organ Pipe Cactus National Monument. The new building would be constructed near the playground within the administrative site footprint on a previously disturbed area. This environmental assessment was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and the National Park Service Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*).

Background

OPCNM is located in a relatively isolated area of southern Arizona. Many law enforcement personnel and their families are required to live on-site in the monument. There are approximately 30 full time residents in the monument. Monument residents have expressed a desire to have a facility where they can gather for social events, to enhance their sense of a community, and improve their levels of physical fitness. Currently, there is no suitable indoor location for residents to get together. Extreme summer temperatures preclude many residents from gathering outdoors and from strenuous outdoor exercise.

The garage of one of the residences has been temporarily converted to a workout room. This area is quite small and does not allow for more than two or three people to work out at one time. Law enforcement officers are required to maintain a high level of physical fitness. The use of the garage as a gym precludes its use as a garage for the occupants of the house.

In addition to the permanent residents of the park, there are a number of short-term residents that live in dorm-style housing. These people include seasonal workers and detailers that are in the park for a few days or up to a few months. At any given time there may be as many as 15 or more short-term residents in monument housing. A multi-purpose building would give them a place to gather without disturbing the other dorm occupants.

A multi-purpose building would give park residents a place to socialize and work out. The facility would provide kitchen and bathroom facilities, seating areas, and gym equipment. The use of the building as a workout room is intended to be temporary until more suitable facilities can be built in the future as part of a new law enforcement operations center.

Purpose and Need

The purpose of the proposal is to provide a multi-purpose building for community gatherings and fitness activities within OPCNM. The project is needed to accomplish the following objectives:

1. Provide a place for residents to get together that helps foster a sense of community within the monument.
2. Provide a suitable work-out area to help employees meet the physical fitness requirements of their positions, and provide an area for all residents to exercise.
3. Identify a location that minimizes impacts to park resources and will not result in impairment or unacceptable impacts to these resources.

Relationship to Other Plans and Policies

Current plans and policies that pertain to this proposal include the 1998 Organ Pipe Cactus National Monument *General Management Plan* (NPS 1998), and the 2006 *Management Policies* (NPS 2006). Following, is more information on how this proposal meets the goals and objectives of these plans and policies:

- The 1998 Organ Pipe Cactus National Monument general management plan called for additional staff and operational facilities, and the project is consistent with plan goals to: “Provide adequate facility resources to make the monument a workable and safe place for visitors and park personnel.”
- The proposal is consistent with goals and objectives of the *2006 National Park Service Management Policies* (NPS 2006) stating that major park facilities within park boundaries should be located so as to minimize impacts to park resources. The proposed site is on a previously disturbed area in order to minimize impacts.

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.

From Section 8.2 of *Management Policies*: “To provide for enjoyment of the parks, the National Park Service will encourage visitor use activities that

- are appropriate to the purpose for which the park was established, and
- are inspirational, educational, or healthful, and otherwise appropriate to the park environment; and

- will foster an understanding of and appreciation for park resources and values, or will promote enjoyment through a direct association with, interaction with, or relation to park resources; and
- can be sustained without causing unacceptable impacts to park resources and values.”

A multi-purpose building is a common and vital structure in remote parks with required residency. Proper location, sizing, as well as construction materials and methods would ensure that unacceptable impacts to park resources and values would not occur. The proposed multi-purpose building is consistent with the park’s general management plan and other related park plans. With this in mind, the NPS finds that construction and use of a multi-purpose building is an acceptable use at Organ Pipe Cactus National Monument.

The next question is whether such use, and the associated necessary and appropriate impacts, can be sustained without causing unacceptable impacts to park resources and values. That analysis is found in the *Environmental Consequences* chapter.

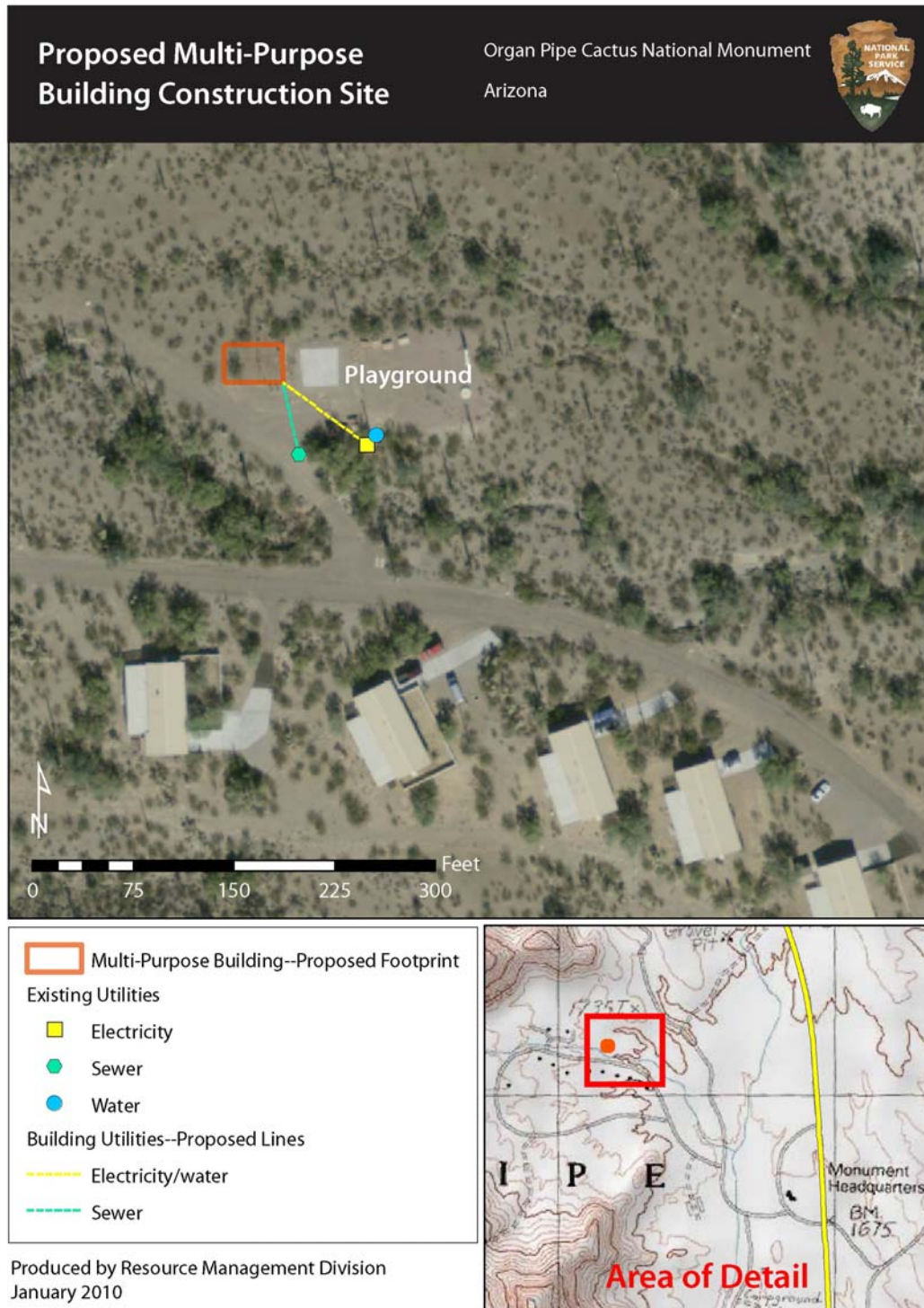
Scoping

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. Organ Pipe Cactus National Monument conducted internal scoping with appropriate National Park Service staff, as described in more detail in the *Consultation and Coordination* chapter. The monument also conducted external scoping with the public and interested/affected groups and Native American consultation.

External scoping was initiated with the distribution of a scoping letter to inform the public of the proposal to construct a new multi-purpose building, and to generate input on the preparation of this environmental assessment. The scoping letter dated November 5, 2009 was mailed to 19 area residents, agencies, news organizations, and congressional representatives. A tribal scoping letter was sent to nine representatives of local tribes.

During the 30-day scoping period, one response was received from the Hopi Tribe. The Tribe asked to be kept informed if there are any developments with respect to prehistoric cultural resources and to be notified of any inadvertent discovery of human remains. They had no objection to the proposed project.

Figure 1 – Project Location



Impact Topics Retained For Further Analysis

In this section and the following section on *Impact Topics Dismissed from Further Analysis*, the NPS takes a “hard look” at potential impacts by considering the direct, indirect, and cumulative effects of the proposed action on the environment, along with connected and cumulative actions. Impacts are described in terms of context and duration. The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term, ranging from days to three years in duration, or long-term, extending up to 20 years or longer. The intensity and type of impact is described as negligible, minor, moderate, or major, and as beneficial or adverse. The NPS equates “major” effects as “significant” effects. The identification of “major” effects would trigger the need for an EIS. Where the intensity of an impact could be described quantitatively, the numerical data is presented; however, most impact analyses are qualitative and use best professional judgment in making the assessment.

The NPS defines “measurable” impacts as moderate or greater effects. It equates “no measurable effects” as minor or less effects. “No measurable effect” is used by the NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from further evaluation in an EA or EIS. The use of “no measurable effects” in this EA pertains to whether the NPS dismisses an impact topic from further detailed evaluation in the EA. The reason the NPS uses “no measurable effects” to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail in accordance with CEQ regulations at 1500.1(b).

In this section of the EA, NPS provides a limited evaluation and explanation as to why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e. no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented. There is no impairment analysis included in the limited evaluations for the dismissed topics because the NPS’s threshold for considering whether there could be an impairment is based on “major” effects.

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; 2006 *Management Policies*; and National Park Service knowledge of resources at Organ Pipe Cactus National Monument. Impact topics that are carried forward for further analysis in this environmental assessment are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (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

There are no facilities available in the monument or available in nearby communities for park residents to get together for social activities and to build a sense of community. Many staff members are required to reside in the monument. The current work out room is too small and does not allow for more than 2-3 people to work out at one time. Physical fitness is a requirement for law enforcement positions. Due to extreme summer temperatures, it is not possible for many staff members and residents to participate in strenuous outdoor exercise or other outdoor activities.

Construction of a new multi-purpose building would have a measurable effect on the monument's staff and families health and well-being by providing the opportunity to gather for community events and to use work out equipment. For these reasons, the topic of park operations has been carried forward for further analysis in this document.

Soils

According to the National Park Service's 2006 *Management Policies*, 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 building would be constructed on a previously disturbed site but would involve ground disturbance in order to dig the footers for the building. A new sewer line would be run to the building and would involve disturbance of a small area of previously undisturbed soils. Because there is the potential to have a minor impact on the soil resource this topic is carried forward for further analysis.

Impact Topics Dismissed From Further Analysis

Topography and Geology

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). There are no significant topographic or geologic features in the vicinity of the proposed building site because it is on a previously disturbed and level site. There may be minimal leveling of the area for building construction. There would be no impacts to geology and negligible to minor localized impacts if minimal leveling is required on the building site. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is 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 existing vegetation in the project area primarily consists of creosotebush, triangle bursage, with a scattering of organ pipe, saguaro and other cacti. Ironwood and palo verde trees are also present. The building construction site has been previously disturbed. No vegetation would be disturbed as part of the building construction, although there may be minor trampling of vegetation in areas adjacent to the construction site. Approximately 70 feet of an already disturbed area would be impacted for the construction of the sewer line extension. The proposed project footprint avoids organ pipe and saguaro cacti. There would be a short term

loss of up to five creosotebush that would be replaced if they don't naturally recolonize the site following disturbance. Because impacts to vegetation would be minor, this impact topic is not analyzed in detail.

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). The project area is in a heavily used administrative service area and hence is little used by the larger animals.

The location of the proposed multi-purpose building is in a previously disturbed area of the monument that contains little to no water and is generally flat with no major geologic features. The presence of humans, human-related activities, and structures have already removed or displaced much of the native wildlife habitat in the project area, which has limited the number and variety of wildlife occurrences in the area. Some smaller wildlife such as rodents, reptiles, and invertebrates could be disturbed during construction of the new multi-purpose building.

During construction, noise would also increase, which may disturb wildlife in the general area. Construction-related noise would be temporary, and existing sound conditions would resume following construction activities. Therefore, the temporary noise from construction would have a negligible to minor adverse effect on wildlife. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is 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 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). Special status species known to be present in the monument are: acuña cactus (candidate), Quitobaquito pupfish (endangered), Sonoyta mud turtle (candidate), cactus ferruginous pygmy owl (candidate), lesser long-nosed bat (endangered), and Sonoran pronghorn (endangered).

There will be no impacts to threatened, endangered, or other species of concern from the proposed project. Only the cactus ferruginous pygmy owl, lesser long-nosed bat, and possibly the Sonoran pronghorn could be expected to use the park's administrative/housing area and the project will take place within an already disturbed site. As a result no potential foraging or nesting habitat will be impacted. Because this action would not affect special status species, this topic is 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 mostly dry, except for periodic runoff during storm events. Water quality, water quantity, and drinking water are not expected to be affected by the project. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

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, §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. Because there are no wetlands in the project area and because there would be no unacceptable impacts, this topic is dismissed from further analysis in this document.

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 for the new multi-purpose building is not within a 100-year floodplain; therefore, a statement of findings for floodplains will not be prepared. Because there are no floodplains in the project area, and thus there would be no unacceptable impacts, this topic is dismissed from further analysis in this document.

Archeological Resources

In addition to the National Historic Preservation Act and the National Park Service 2006 *Management Policies*, 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 location for the multi-purpose building was previously surveyed in 1996 (ORPI Cultural Resource Survey Report No. ORPI 1996C) and no archeological sites were identified in the immediate project area. A recon survey was performed by Staff Archeologist Connie Gibson on May 4, 2009 to verify the negative 1996 survey results. The area was found to be extremely disturbed from use as a playground, picnic, and cookout area. The Finding of Effect was No Historic Properties Affected. Therefore, the proposed project area is not expected to contain archeological deposits; however, appropriate steps would be taken to protect any archeological resources that are inadvertently discovered during construction. Because the project will not disturb any known archeological sites, the effect of the project on archeological resources is expected to be no effect or negligible. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

Ethnographic Resources

National Park Service's Director's Order-28 *Cultural Resource Management* defines ethnographic resources 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.

In consultation with Native American tribes, ethnographic resources are not known to exist in the proposed project area. Native American tribes traditionally culturally associated with the monument were apprised of the proposed project in a letter dated November 5, 2009. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

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 project area. The project area is within the footprint of the park administrative area and staff housing. Because the proposed building would not preclude the area from being designated a cultural landscape in the future, this topic is dismissed from further analysis in this document.

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. No museum collections would be impacted as a result of this proposal, and this topic has been dismissed from further analysis.

Historic Structures

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. According to the National Park Service's 2006 *Management Policies and Director's Order-28*

Cultural Resource Management, management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources (NPS 2006). The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with these policies and guidelines.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment in the consultation process. The term “historic properties” is defined as any site, district, building, structure, or object eligible or listed in the National Register of Historic Places, which is the nation’s inventory of historic places and the national repository of documentation on property types and their significance.

Section 106 compliance was undertaken in concert with the 2009 archeological reconnaissance survey by the Staff Archeologist and the previous archeological survey performed in 1996 (ORPI 1996C) with a Finding of Effect of No Historic Properties Affected. There are no historic structures in the area of potential affect for this project and the determination is that no historic properties would be affected by this proposal. Therefore, this topic has been dismissed from further analysis.

Paleontological Resources

According to 2006 *Management Policies*, paleontological resources (fossils), including both organic and mineralized remains in body or trace form, will be protected, preserved, and managed for public education, interpretation, and scientific research (NPS 2006). There are no known paleontological resources within the project area, therefore, this topic has not been analyzed in detail.

Visitor Use and Experience

According to 2006 *Management Policies*, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units (NPS 2006). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park Service 2006 *Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect (NPS 2006). The proposed multi-purpose building would be constructed in the administrative area that is closed to public access. The building would not impact visitor use and experience and this topic has been dismissed from further analysis.

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. Organ Pipe Cactus 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 §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 (EPA 2000).

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 would be temporary and localized and would likely dissipate rapidly. 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. Because there would be no lasting effects on air quality, this topic is dismissed from further analysis in this document.

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 multi-purpose building and all construction activity would occur in what can be considered the developed zone of Organ Pipe Cactus National Monument. Existing sounds in this area are most often generated from vehicular traffic (visitors and employees entering/leaving the monument), people, climate controls on the buildings, some wildlife such as birds, and wind. Sound generated by the long-term operation of the multi-purpose building 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 operation of the building is not expected to appreciably increase the noise levels in the general area.

During construction, human-caused sounds would 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. Because these effects are minor or less in degree and would not result in any long-term unacceptable impacts, this topic is dismissed from further analysis in this document.

Lightscape Management

In accordance with 2006 *Management Policies*, the National Park Service strives to preserve natural ambient lightscapes, which are natural resources and values that exist in the absence of human caused light (NPS 2006). Organ Pipe Cactus 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 subject and out of the night sky. The visitor center and the existing multi-purpose building are the primary sources of light in the monument.

The proposed action may incorporate minimal exterior lighting on the multi-purpose building, but the lighting would be directed toward the intended subject with appropriate shielding mechanisms and would be placed in only those areas where lighting is needed for safety reasons. The amount and extent of exterior lighting on the multi-purpose building would have

negligible effects on the existing outside lighting or natural night sky of the area. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

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 nearby Lukeville and Ajo, Arizona. Any increase in workforce and revenue would be temporary and negligible, lasting only as long as construction. Because the impacts to the socioeconomic environment would be negligible, this topic is 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 NRCS, the project area does not contain prime or unique farmlands (NRCS 2003). Because there would be no effects on prime and unique farmlands, this topic is dismissed from further analysis in this document.

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 Organ Pipe Cactus 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. Because there are no Indian trust resources, this topic is dismissed from further analysis in this document.

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 new multi-purpose facility would be available for use by all park staff regardless of race or income, and the construction workforces would 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. Because there would be no disproportionate effects, this topic is dismissed from further analysis in this document.

Climate Change and Sustainability

Although climatologists are unsure about the long-term results of global climate change, it is clear that the planet is experiencing a warming trend that affects ocean currents, sea levels,

polar sea ice, and global weather patterns. Although these changes will likely affect winter precipitation patterns and amounts in the parks, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and there may be variables not currently defined. Therefore, the analysis in this document is based on past and current weather patterns and the effects of future climate changes are not discussed further.

ALTERNATIVES

During October of 2009, 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. A total of three action alternatives and the no-action alternative were originally identified for this project. Of these, two of the action alternatives were dismissed from further consideration for various reasons, as described later in this chapter. One action alternative and the no-action alternative are carried forward for further evaluation in this environmental assessment. A summary table comparing alternative components is presented at the end of this chapter.

Alternatives Carried Forward

Alternative A – No-Action

Under this alternative, the multi-purpose building would not be constructed. There would not be a facility for monument's residents to use for a community building and social gatherings. Residents would not have an indoor facility to use during extreme summer temperatures. Employees would continue to use inadequate facilities for their work out area until proposed facilities could be built in the future.

Alternative B – Construct New Multi-Purpose Building

This alternative consists of constructing a new multi-purpose building within the existing administrative area of the park. It would be located on a previously disturbed area adjacent to the playground to allow for outdoor children's activities in addition to the indoor meeting space. This general area was previously disturbed as it was used in the past as playground and picnic area. There is an existing power line adjacent to the site.

Building Features – The new multi-purpose building would be modular construction and measure approximately 1200 square feet. The interior of the building would include: a kitchen, bathroom, and open area suitable for work-out equipment, dining tables and chairs, or games.

Use/Operation of the Facility – The multi-purpose building would primarily be used by monument employees for community events, indoor recreation and as a temporary work-out facility. There would be a kitchenette provided for food preparation. Tables and chairs would be in an open space for dining, games and other social events. The building would be available for all monument employees and visiting staff. A portion of the building would be used for gym equipment. The building would not be open to the public.

- **Utilities** - The building would be served by existing utilities near the site, including: sewer, electric, and propane. Connecting these existing utilities to the new multi-purpose building would entail excavation and placement of additional underground piping/wiring, and digging of a sewer line connection. Propane may be made available to the building by installation of a small propane tank. Water is already available on site.
- **Access** - Access to the new multi-purpose building would be via the existing administrative road.
- **Parking** - The site of the new multi-purpose building is near an existing parking lot currently used by employees to access the existing playground. Many residents are within walking distance of the building.
- **Revegetation** – Approximately five creosotebush plants would be impacted during construction. All areas disturbed by construction of the new building would be revegetated

and recontoured to the style of the native landscape. Native vegetation, rocks, or other natural features would be used, as appropriate.

- **Construction Staging** – To implement this alternative, a previously disturbed area and the playground would be used for construction staging, material stockpiling, and equipment storage. This area is within the administrative area, away from visitor use areas.

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 inconsistent with the intent and effects of the selected alternative, then additional compliance would be completed, as appropriate.

Mitigation Measures

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

- To minimize the amount of ground disturbance, staging and stockpiling areas would be in previously disturbed sites, away from visitor use areas. All staging and stockpiling areas would be returned to pre-construction conditions following construction.
- Construction zones would be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would 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.
- Revegetation and recontouring of disturbed areas would take place following construction and would be designed to minimize the visual intrusion of the structure. Revegetation efforts would strive to reconstruct the natural spacing, abundance, and diversity of native plant species using native species. All disturbed areas would be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. Weed control methods would be implemented to minimize the introduction of noxious weeds.
- If erosion reduction is needed, appropriate measures will be installed.
- Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
- To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time.
- Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the monument Staff Archeologist would be consulted to assess the discovery. If the discovery is found to be significant, the Staff Archeologist may 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) would be followed.

- The National Park Service would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.
- Construction workers and supervisors would be informed about the special sensitivity of monument's values, regulations, and appropriate housekeeping.
- According to 2006 *Management Policies*, the National Park Service would strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts. Development would 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 would emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The National Park Service also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology.

Alternatives Considered and Dismissed

The following two alternatives were considered for project implementation, but were dismissed from further analysis:

- **Utilizing Other Existing Space** – This alternative investigated the use of existing administrative space. Park offices are filled to capacity and the park lacks sufficient housing. Therefore, the conversion of any existing housing or office space was eliminated from consideration.
- **Alternative Locations for a New Multi-Purpose Building** – There are no other disturbed areas within the park's administrative area suitable for construction of the multi-purpose building. The intent was to locate the building near the existing playground to allow for outdoor children's activities in addition to the indoor meeting space. Using any other site would have involved construction on previously undisturbed areas and would have needed road and power line access thereby increasing costs and impacts to park resources.

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 – Summary of Alternatives and How Each Alternative Meets Project Objectives

| Alternative Elements | Alternative A – No Action | Alternative B – Construct New Multi-Purpose Building |
|---|---|--|
| Provide a multi-purpose building for park residents | No building would be provided | A new multi-purpose building would be constructed, measuring approximately 1200 square feet. |
| Connect the building to existing utilities | No utility connections would be needed. | The building would be connected to an existing overhead power line. A segment of connecting sewer line would be installed to connect to the existing sewage system. A small propane tank may be installed. |
| Project Objectives | Meets Project Objectives? | Meets Project Objectives? |
| A place for monument residents to gather | There would not be an indoor area with kitchen facilities for park residents to gather for social activities and community support. | Park residents would have a place for social functions and an enhanced sense of community. |
| Fitness Activities | Gym equipment would remain in the existing and inadequate garage space. Access to equipment would be limited to 2-3 people at one time. | Gym equipment would be more available and accessible to residents because of the additional space in the new building. |
| Minimal impacts to monument resources | There would be no new impacts to resources. | Ground disturbance is minimized. Some excavation would be required to connect the new building with the existing sewer line. |

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 |
|------------------------|--|--|
| Soils | No disturbance of soils. | The construction area is previously disturbed. There would be new disturbance from excavation of footers for the building. There would be minor disturbance of previously undisturbed soils for the installation of a connecting sewer line. |
| Park Operations | Minor adverse impacts to park operations because the goal of providing a place for increased community activities and physical training would not be realized. | Moderate beneficial effects from an improved community environment within the monument, improved morale, improved employee retention, and improved health from better access to work out facilities. |

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 would promote the national environmental policy as expressed in NEPA’s §101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically 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 non-renewable resources.

Both alternatives essentially meet the evaluation criteria. Alternative B best meets the second and fifth criteria because it would provide space for the monuments residents' to gather for social events and to exercise. This would result in an enhanced sense of community, increased physical fitness, a more productive workforce and better sharing of life's amenities.

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. 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 would occur as a result of implementing the proposed project. Topics analyzed in this chapter include paleontological resources, visitor use and experience, and park operations. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource 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:
 - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
 - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
 - *Direct*: An effect that is caused by an action and occurs in the same time and place.
 - *Indirect*: 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 pre-construction conditions following construction.
 - *Long-term* 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 Impact Scenario

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 alternative.

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 Organ Pipe Cactus National Monument and, if applicable, the surrounding region. Because the scope of this project is relatively small, the geographic and temporal scope of the cumulative analysis is similarly small. The geographic scope for this analysis includes actions within the monument's administrative site boundary, 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:

- Proposed Law Enforcement and Resource Offices - The monument has proposed two new buildings to provide office space for law enforcement and resources staff. This project is in the preliminary planning stages and no designs for the buildings have been selected. The construction of these buildings will most likely be adjacent to the current maintenance area within the administrative area. If constructed, it will involve ground disturbance, removal of vegetation, and changes to park operations.
- SBInet Tower 204 – The Department of Homeland Security is in the process of public review of an environmental assessment for the construction of seven towers within the boundary of OPCNM. Tower 204 would be constructed within the administrative site boundary on the hill above the water tower that supplies the offices and buildings. Ground disturbance is minimal. Tower 204 will be maintained by the Department of Homeland Security.
- Administrative Area Sewage Treatment System – The existing sewage treatment system for the administrative area is inadequate. An expansion of the system is required to meet existing and future sewage treatment needs. The sewage treatment system is currently being designed. It is not known at this time if the septic system will be upgraded on the existing site, or if a totally new system will need to be constructed.
- Visitor Services Improvements - The monument is in the process of designing and assessing improvements to visitor services including the re-construction of ramadas and improvement to the Twin Peaks Campground Dump Station. These projects are in various stages of planning and implementation.
- Chip Sealing of Park Roads – Chip sealing of approximately five miles of road within the administrative site boundaries was recently completed. This project repaired roads and did not result in any increase in the footprint of road infrastructure within the monument's administrative area.

Park Operations

Affected Environment

There are approximately 30 long-term residents within OPCNM. Many law enforcement officers and their families are required to live in park housing. Residents have expressed a desire for more community based activities within the monument. Law enforcement personnel are required to maintain high levels of physical fitness. Currently, the monument has limited gym equipment in a garage. The space is small and has room for only 2-3 people at one time. Because of extreme summer temperatures, it is not possible for all residents to recreate or exercise outdoors during this time. Residents have also expressed a desire for additional opportunities to maintain their physical fitness throughout the year. For the purpose of this analysis, the human health and safety of park employees is also evaluated. The methodology used to assess potential changes to park operations is defined as follows:

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 would 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:

| | |
|--------------------|---|
| <u>Negligible:</u> | 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. |
| <u>Minor:</u> | 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. |
| <u>Moderate:</u> | 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. |
| <u>Major:</u> | 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 would have a minor to moderate adverse, long-term impacts on park operations at OPCNM. The monument would continue to lack a communal facility for residents to meet and recreate indoors. The monument would not meet its goal of providing an indoor area for social events that would increase the resident's sense of belonging to a community. Monument residents have expressed a desire for increased opportunities to socialize and participate in community events that is not currently available due to the monument's remote location. Without the proposed building, employee retention would continue to be problematic and some employees may choose to transfer to locations where these amenities are available. This results in a temporary reduction in staffing levels and increased recruitment costs.

Cumulative Effects: Any project that occurs in the monument has some effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on employees and park operations. The lack of any community amenities is having a minor to moderate adverse effect on park operations from the lack of retention of qualified employees and residents' low morale. Cumulatively, there would be a moderate adverse effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

Conclusion: The impact of not having a multi-purpose building for community events and fitness activities results in a decreased sense of community, reduced employee retention and morale, decreased physical fitness of employees, and a minor to moderate adverse impact on park operations. Cumulatively, these effects would have a minor to moderate impact on park operations when considered with other past, present, and reasonably foreseeable future actions.

Impacts of Alternative B (Preferred Alternative)

The construction of a new multi-purpose building under preferred alternative would provide a meeting place for park residents to get together and build a sense of community. The building would be used for social gatherings, recreation and for fitness activities. The building would contain kitchen and bathroom facilities. Much of the building will be an open area for fitness equipment and/or tables and chairs for dining, games and other recreation activities. Monument staff and family members have expressed a desire for a place for social and fitness activities. OPCNM is in an isolated location and there are no nearby communities that offer community activities. Park residency is required for many park law enforcement staff. This multi-purpose building is intended to respond to resident's requests and the monument's goal of enhancing a sense of community within the monument. The facility would provide for increased space for work-out equipment.

The building would help increase a sense of community amongst monument residents and allow for increased social activities. It would also allow for additional opportunities for fitness activities resulting in increased health of employees and their families. It is predicted that improved living conditions within the park that would result in improved employee recruitment and retention, as well as improved morale of existing residents at OPCNM. Therefore, the impacts of this alternative on park operations would be moderate, long-term and beneficial.

Cumulative Effects: Any project that occurs in the monument has some effect on park operations; therefore, most of the actions listed in the cumulative impact scenario in the introduction of this chapter would have some degree of effect on employees and park operations. The construction of a multi-purpose building will have a beneficial cumulative effect on park operations by helping retain qualified employees and improving residents' morale. Cumulatively, there would be a moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

Conclusion: Construction of a new multi-purpose building under the preferred alternative would have a moderate benefit on monument residents because the new building would provide a safer and healthier work environment, as well as provide residents an opportunity for enhanced social interactions, increased sense of community, and additional opportunities for physical fitness. Cumulatively, the improvements associated with this alternative would have a minor to moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

Soils

Affected Environment

The soils of proposed project area are classified as Antho soils, very gravelly variant. This soil does not have limitations for construction. The proposed project area is level with little potential for accelerated erosion and there is no need for borrow material to level the construction site. All staging of construction materials is limited to the previously disturbed area.

Intensity Level Definitions

Impact intensities for soils were derived from the available soils information and park staff observations of the effects on soils from past activities.

| | |
|--------------------|--|
| Negligible: | The impact is at the lowest levels of detection and causes very little or no physical disturbance/removal, compaction, unnatural erosion, when compared with current conditions. |
| Minor: | The impact is slight but detectable in some areas, with few perceptible effects of physical disturbance/removal, compaction, or unnatural erosion of soils. |
| Moderate: | The impact is readily apparent in some areas and has measurable effects of physical disturbance/removal, compaction, or unnatural erosion of soils. |
| Major: | The impact is readily apparent in several areas and has severe effects of physical disturbance/removal, compaction, or unnatural erosion of soils. |

Impacts of Alternative A (No-Action Alternative)

The no-action alternative would result in no impacts to the soil resources of the monument. There would be no excavation or construction activities.

Cumulative Effects: Some of the projects listed under the cumulative effects section would result in soil disturbance. The proposed new law enforcement and resources buildings would involve some level of new soil disturbance, adjacent to already disturbed areas. The visitor

service improvements such as re-construction of ramadas are on previously disturbed areas. The improvement of the campground dump station may result in additional soil disturbance immediately adjacent to the existing disturbed area. The administrative area sewage treatment infrastructure will impact the soil resource. It is not known if it will impact disturbed or undisturbed soils. There would be no additional impact to the soil resource from the no action alternative. Because there is no impact to the soil resource under this alternative, it would not incrementally add to the overall cumulative effect.

Conclusion: The no-action alternative would result in no impacts to the soils because no ground disturbing activities would be conducted. As such, this alternative would not contribute to any cumulative disturbance of soil and geology resources, when considered with other past, present, and reasonably foreseeable future actions.

Impacts of Alternative B (Preferred Alternative)

The preferred alternative would result in minor, adverse, and localized impacts to soils. Soils on the footprint of the proposed building and adjacent areas have been previously disturbed. There would be additional disturbances on these areas from excavation of footers for the multi-purpose building. A sewage line is needed to connect the building to the existing sewage system. This would involve the excavation of 100 feet of previously undisturbed soils. The impacts are predicted to be short-term as the area will be restored following construction.

Cumulative Effects: The impacts from the preferred alternative would be negligible to minor in the context of the overall cumulative effect. Under this alternative there is a minor impact to soils, however, this impact is localized to a very small area and the disturbance would be restored following construction.

Conclusion: The preferred alternative would result in minor, localized impacts to soils on the construction site and sewer line. Because these impacts are restricted to a relatively small area, contributions to any cumulative effects to soils would be negligible when considered with other past, present, and reasonably foreseeable future actions.

Unacceptable Impacts

As described in *Purpose and Need*, the NPS must prevent any activities that would impair park resources and values. The impact threshold at which impairment occurs is not always readily apparent. Therefore, the Service will apply a standard that offers greater assurance that impairment will not occur. The Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. Park managers must not allow uses that would cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resources and values are acceptable. Virtually every form of human activity that takes place within a park has some degree of effect on park resources or values, but that does not mean the impact is unacceptable or that a particular use must be disallowed. To determine if unacceptable impacts could occur to the resources and values of the parks, the impacts of proposed actions in this environmental assessment were evaluated based on monitoring information, published research, and professional expertise, and compared to the guidance on unacceptable impacts provided in *Management Policies* 1.4.7.1 that defines unacceptable impacts as impacts that, individually or cumulatively, would:

- Be inconsistent with a park's purposes or values, or

- Impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- Create an unsafe or unhealthful environment for visitors or employees, or
- Diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
- Unreasonably interfere with:
 - o Park programs or activities, or
 - o An appropriate use, or
 - o The atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park.
 - o NPS concessioner or contractor operations or services.

By preventing unacceptable impacts, park managers also ensure that the proposed use of park resources will not conflict with the conservation of those resources. In this manner, the park managers ensure compliance with the Organic Act's separate mandate to conserve park resources and values. Using the guidance above (see bullets), the following text analyzes the potential for unacceptable impacts for all alternatives carried forward in this Environmental Assessment.

- Neither alternative would result in impacts that, individually or cumulatively, are inconsistent with the park's purposes or values. Alternative B, (preferred), the construction of a multi-purpose building within the existing administrative area would result in very localized impacts on soils, vegetation and wildlife. Alternative A (no action) would have no impacts on resources.
- Neither alternative impedes the attainment of the parks' desired future conditions as this project is consistent with previous planning efforts. The monument's goal is to provide a greater sense of community and well-being amongst monument residents by providing a multi-purpose building for social and fitness activities. While Alternative A (No Action) would delay this action, it could still be considered in the future. Alternative B (Preferred) would construct a new multi-purpose building which is consistent with the monument's goal to provide additional opportunities for community building for monument residents.
- Under either alternative, visitors would continue to have opportunities to enjoy, learn about, or be inspired by park resources and values. Neither alternative would change the overall opportunities available to visitors including interpretive talks, evening programs, hours of operation, scenic drives, or access to facilities.
- Both alternatives provide for employee work facilities that do not unreasonably interfere with park programs, an appropriate use, the natural atmosphere, or concessioner activities. Alternative A (No Action) would not involve construction-related activities, thereby maintaining the existing conveniences and current atmosphere. During construction of the multi-purpose facility under Alternative B (Preferred), there would be short-term temporary disturbance to park staff as a result of noise, dust, and construction equipment; however, these inconveniences would be limited to the construction period only.

Overall, the analysis of effects on resources, park operations, and the soil resources indicated that there are no major adverse effects under either alternative; effects were analyzed as negligible to moderate. Based on this, and the above analysis, there would be no unacceptable

impacts from Alternative A (No Action) or Alternative B (Preferred).

Impairment

National Park Service's *Management Policies, 2006* require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

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

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects. This EA identifies less than major effects for all resource topics. Guided by this analysis and the Superintendent's professional judgment, there would be no impairment of park resources and values from implementation of either alternative.

CONSULTATION AND COORDINATION

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Organ Pipe Cactus National Monument and the Southern Arizona Office. Interdisciplinary team members met on November 2, 2009 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

External scoping was conducted to inform the public about the proposal to construct a new multi-purpose building at Organ Pipe Cactus National Monument and to generate input on the preparation of this environmental assessment. A scoping letter dated November 5, 2009 was mailed to 19 area residents, agencies, news organizations, and congressional representatives. A tribal scoping letter was sent to nine representatives of four local tribes. The public was given 30 days to comment on the project. During the scoping period, one letter was received from the Hopi Tribe commenting on the project.

Agency Consultation

In accordance with the Endangered Species Act, the National Park Service reviewed the U.S. Fish and Wildlife Service list of federally listed special status species, and the Arizona Game and Fish Department list of state-listed species. No listed species are known to inhabit the proposed project area or any areas adjacent to the construction site, therefore, there would be *no effect* to federally or state listed species. Both agencies were notified of the project as part of the scoping process. Because of the *no effect* determination, no additional consultation was required.

In compliance with Section 106 of the National Historic Preservation Act, the National Park Service abides by a service-wide 2008 Programmatic Agreement signed by the Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers that specifies when a park is required to consult with the State Historic Preservation Officer (SHPO) when considering the effects of a project on any historic properties in the vicinity, and offering the SHPO the opportunity to comment on the effects of the project. In cases where there is a professional archeological survey performed on the subject land parcel, and the results are negative, the Finding of Effect is No Historic Properties Affected, and project proponents are not required to consult with the SHPO; instead, a project summary is presented to the SHPO at an annual meeting (streamlined review). The proposed construction of the multipurpose building was determined to be a 'No Historic Properties Affected' undertaking and no additional consultation is required with the Arizona SHPO at this time. The project will be discussed at the annual NPS-SHPO meeting.

Native American Consultation

Four Native American tribes were contacted at the beginning of this project to determine if there were any ethnographic resources in the project area and if they wanted to be involved in the environmental compliance process, including:

- Salt River Pima-Maricopa Indian Community
- Hopi Tribe
- Gila River Indian Community

- Tohono O’odham Nation

One of these tribes responded--the Hopi Tribe who affirm their cultural and ancestral affiliation with the Hohokam prehistoric culture that was located in the general monument area. Their letter asked that they be kept informed if there are any discoveries of prehistoric cultural resources; if cultural features are uncovered that work would stop and the State Historic Preservation Office would be consulted; and if Native American human remains or funerary objects are encountered that the finds would be immediately reported. They voiced no objection to the proposed project.

Environmental Assessment Review and List of Recipients

The environmental assessment will be released for public review in January, 2010. To inform the public of the availability of the environmental assessment, the National Park Service will publish and distribute a letter to various agencies, tribes, and members of the public on the park’s mailing list. 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/orpi>.

The environmental assessment is subject to a 30-day public comment period. 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. 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

- Lee Baiza, Superintendent
- Mark Sturm, Chief of Resource Management
- Connie Gibson, Archeologist
- Michele Girard, Southern Arizona Office

REFERENCES

- NPS 2006 *Management Policies*, National Park Service, U.S. Department of the Interior, December 2006.
- NPS 1998 General Management Plan, Organ Pipe Cactus National Monument, 1998.
- NPS 1996 Cultural Resources Survey Report No. ORPI 1996C. On file at the Organ Pipe Cactus National Monument Cultural Resources Office, Ajo, Arizona.
- NPS 2009 *Assessment of Actions Having an Effect on Cultural Resources*. PEPC Project No. 28669. On file at the Organ Pipe Cactus National Monument Cultural Resources Office, Ajo, Arizona and accessible on the NPS PEPC website as an NHPA compliance document.