

**National Park Service
U.S. Department of the Interior**



**Mammoth Cave National Park
Kentucky**

Replace Obsolete Seasonal Housing with Multiplex Housing and Amenities

**Finding of No Significant Impact
March 2024**

The Selected Alternative does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS). The Selected Alternative will not have a significant adverse effect on the human environment. There are no significant adverse effects to physical resources, water resources, natural resources, cultural resources, or other unique resources within the region. No highly uncertain or controversial impacts, unique or unknown risks, or significant cumulative effects were identified.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal actions are consistent with existing national environmental policies and objectives as set forth in section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and that they will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102 (2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared. Implementation may take place immediately after the approval and public notification of this decision.

Recommended: Barclay C Trimble Date: 3/4/2024
Barclay C. Trimble
Superintendent
Mammoth Cave National Park

Approved: _____ Date: _____
Mark A. Foust
Regional Director
Interior Region 2, South Atlantic - Gulf

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [USC] 4321 et seq); the 2020 and 2022 Council on Environmental Quality NEPA implementing regulations (40 Code of Federal Regulations [CFR] 1500-1508); the Department of the Interior NEPA regulations (43 CFR Part 46); and NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis and Decision-making* and its accompanying NPS NEPA Handbook, the National Park Service (NPS) prepared an environmental assessment (EA) to examine alternative actions and environmental impacts associated with the replacement of seasonal housing within Mammoth Cave National Park (the park). The NPS has concluded that this action will not have a significant effect on the human environment, as documented in this Finding of No Significant Impact (FONSI).

The NPS manages the park, which is home to Mammoth Cave, the longest known cave system in the world with over 420 miles of surveyed cave passages. The park is a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site, an International Dark Sky Park, as well as the core of an International Biosphere Reserve. The park welcomes more than 650,000 visitors annually and supports 100 full-time employees and 40 to 50 seasonal employees. Support of various cave tour operations and other park programs requires a dedicated group of seasonal staff, interns, and volunteers to augment the permanent personnel assigned to Mammoth Cave. The ability to provide short-term housing is essential as alternative housing options are not generally available in the area, given its remote location. Without seasonal employees, it will be impossible to meet visitor needs, support natural and cultural resource requirements, and to operate and maintain all of the park's assets. These seasonal employees, who are employed for no longer than 6 months per year, need quality and sufficient temporary housing while the interns and volunteers can be located within the park year-round.

Three buildings currently used for seasonal housing, constructed in the early 1970s, are rapidly deteriorating beyond their useful life and have an inappropriate foundation design for the high-humidity climate and soil type of their location. Their condition creates a need for continual maintenance and issues related to safety and accessibility. The quality of life of seasonal workers is also affected by overcrowding due to lack of sufficient bedrooms and interruptions due to the current location within the maintenance portion of the operations area.

The NPS prepared an EA to evaluate two alternatives: a no-action alternative and the proposed action / preferred alternative. The proposed action / preferred alternative consisted of the construction of two new multi-story living quarters along with amenities that included a supporting indoor gathering space, outdoor pavilion, and community gathering space. The preferred site location for this project is centrally located within the park and within the original Civilian Conservation Corps and Mission 66 residential areas, which is north of the current seasonal housing/maintenance area and both areas are located east of the park visitor center. This location allows for the new structures to be constructed at the north end of the

administration and housing area away from current housing (to be removed) and the maintenance operations center.

The project area is located in the administrative and housing area in the northern end of the operations area, and includes the current parking lot, a grassy area adjacent to a forested area to the north of the existing parking lot, with a gently sloping topography to the north. The site has access to sewer, water, telephone, fiber optic cable, and electrical utilities. The Administrative and Housing Area surrounding the proposed site is not affected by the maintenance activities that surround the existing seasonal quarters.

The proposed project area has been a primarily residential and housing district since the Civilian Conservation Corps (CCC) era of 1937 to 1942. The historically residential buildings in this area include CCC-era houses which are listed on the National Register of Historic Places (NRHP), the NRHP-listed park Superintendent's office, small ranch houses constructed in the late 1950s (Mission 66 residential district) and associated small scale features. Except for the CCC-era houses, most of these residential buildings have been repurposed as park administrative offices.

The site is located within view of the Superintendent's House and the Mission 66-era ranch-style housing structures. The Superintendent's House and Mission 66-era structures have their own parking areas. An old wooden raptor enclosure located within the proposed project area is no longer used and was demolished in May 2023. The site is mostly screened from the recently rehabilitated CCC-era residences. Access to the entire area, including the site, is from one of two internal park roadways, depending on final site configuration.

PUBLIC INVOLVEMENT

During the NEPA process, the NPS contacted the following agencies and Tribal Historic Preservation Offices (THPOs) for consultation:

- Advisory Council on Historic Preservation (ACHP)
- Kentucky Heritage Council / State Historic Preservation Office (KYSHPO)
- Absentee-Shawnee Tribe of Indians of Oklahoma
- Alabama-Coushatta Tribe of Texas
- Alabama-Quassarte Tribal Town
- Cherokee Nation
- Chickasaw Nation
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Muscogee (Creek) Nation

- Osage Nation
- Poarch Band of Creek Indians
- Shawnee Tribe
- Thlopthlocco Tribal Town
- United Keetoowah Band of Cherokee Indians in Oklahoma

The NPS initiated consultation under NHPA Section 106 with the relevant agencies and tribes in a letter dated June 9, 2022. This letter informed the agencies and tribes that the NEPA process will be used to comply with Section 106 requirements pursuant to 36 CFR 800.8. Consultation was completed with a letter of concurrence from the KYSHPO dated June 6, 2023. Notification was provided to the THPOs listed above, and a letter of concurrence dated September 26, 2022 was received from the Eastern Shawnee Tribe of Oklahoma. The Osage Nation THPO documented objections to the proposed project in a letter dated March 17, 2023, based on the fact that the location within Mammoth Cave National Park is part of a sacred landscape. NPS immediately requested a meeting with the Osage Nation THPO in order to determine the nature of the effects. No new information was shared regarding the area or nature of effects at the meeting, and another meeting was requested by NPS at the park. The Osage Nation THPO did not respond to this meeting request. The park contacted Advisory Council on Historic Preservation (ACHP) to determine if formal consultation with ACHP will be necessary due to the objection by the Osage Nation. In August 2023, after the required 15-day review period by ACHP, ACHP chose not to consult on the project. Section 106 consultation for the proposed project was completed in August 2023.

As required by Section 7 of the Endangered Species Act, the NPS consulted with the US Fish and Wildlife Service (USFWS) on the potential effects of the proposed action on federally listed species. In their letter dated July 7, 2022, the USFWS Kentucky Ecological Services Field Office concurred that the proposed action “May affect, but is not likely to adversely affect” the Indiana bat, the gray bat, the northern long-eared bat, and the Kentucky cave shrimp; and that the requirements of Section 7 of the Endangered Species Act have been fulfilled as they relate to federally listed species.

The EA was provided for formal public and agency review for 30 days and an announcement of the review period was distributed to a variety of interested individuals, agencies, and organizations. The EA was available on the NPS Planning, Environment, and Public comment website at <https://parkplanning.nps.gov/MACASeasonalHousing/> and hard copies were available at the park’s headquarters and an open house was held on November 13, 2023. All public comments received were in support of the proposed alternative of constructing new seasonal housing and did not result in changes to the document.

SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

The NPS selected the proposed action / preferred alternative from the EA. The selected action includes construction of quarters consisting of two buildings, each two stories, with 12 bedroom/baths in each building for a total of 24 bedroom/baths, designed by the NPS as prototype #7. Amenities will include private protected storage, an outdoor pavilion, an indoor gathering space, an electric vehicle charging station, and solar panels on the roofs of the buildings.

Site development will include grading, utility connections, landscaping, and tree removal, while leaving sufficient tree buffers for the new buildings to be adequately screened from view of other buildings. Primary and secondary stormwater treatment will be constructed under the parking area, similar to treatment systems installed in other portions of the park. The treatment system will ensure that all water that seeps underground through the karst topography, and cave area located 200 feet below the site, is high quality and does not adversely affect the cave ecology and endemic species. Primary treatment first separates oil and grit from the stormwater, and secondary treatment traps suspended particulates and dissolved constituents (such as metals and oils) using filters filled with cartridges containing zeolite-perlite-activated carbon granules.

The conceptual layout of the selected alternative will include the two housing buildings situated at roughly 90 degrees from each other, nested into the woodland area, an outdoor patio, an indoor gathering space, and a two-way loop driveway with 28 parking spaces in front of the housing and an additional 30 spaces that can be readily used by park personnel working in the administrative buildings across from the proposed site. The proposed loop driveway also facilitates access for emergency vehicles while providing sufficient space for ADA-compliant parking near the buildings. Trees will be retained as much as possible and disturbed areas will be replanted and landscaped.

RATIONALE FOR DECISION

The Selected Alternative will provide safe living arrangements for park employees and allows for future generations to continue to serve as stewards of Mammoth Cave National Park. The new buildings will have solar panels and/or electricity for primary energy sources incorporated into the design. Emissions created during construction activities will be temporary. Therefore, this project should have fewer emissions than the existing seasonal housing. Additionally, as a certified International Dark Sky Park, the park will ensure that all new light fixtures and bulbs are compliant with dark sky friendly lighting standards. In conclusion, the selected alternative provides a high level of protection of natural and cultural resources while providing for a safe and healthy working experience and fully meeting the purpose and need for the project.

ALTERNATIVES CONSIDERED

In addition to the selected action, the EA analyzed the no-action alternative. The no action alternative is briefly described below.

The No Action Alternative represents the current situation of deteriorating employee residence conditions. The No Action Alternative would allow existing circulation, viewsheds, and vegetation to be maintained as currently managed, and would not alter the integrity of any of individual properties or districts. However, the current housing buildings are in extreme need of constant maintenance and would not be habitable within a few years without a major rehabilitation project as the floor joists are substantially rotten and need to be replaced which could include removing the entire home structure.

The level of maintenance and support activities, including use of buses and heavy equipment during the day, has grown substantially since the quarters were constructed. This has resulted in a conflict between operational needs of the maintenance area and the rest and expected living experience of those in seasonal housing. These units also fail to meet Director's Order #36 *National Park Service Housing Management* guidelines specifically the existing housing does not meet the standards in 6.1: "safe and sanitary" and "cost-effective to maintain." The units also do not conform to accessibility standards as listed in 6.1.1. and the incorporated by reference: Director's Orders ##16A and 42, and RM 36. Because of the increasing maintenance costs, lack of accessibility, and poor living conditions due to noise and location in the maintenance area, this option does not meet the purpose and need and thus was not selected.

SIGNIFICANCE CRITERIA REVIEW

Potentially Affected Environment

Only one topic was addressed in the EA, the cultural landscape of the alternatives required detailed analysis due to the NRHP listed Superintendent's House, Residential Area District, and Maintenance Area District along with the park's designation as a UNESCO World Heritage site. All other resource topics were dismissed from further evaluation in the document because the associated impacts will be negligible or less.

Impacts to rare, threatened and endangered species, and species of special interest will be temporary to short-term and negligible to minor. Impacts to air quality, archeological resources, lightscapes/dark sky policies, socioeconomic status of local community, soundscapes, visitor experience, water resources, wilderness areas, climate, rare plants, erosion, viewsheds, and paleontological resources will be negligible and adverse temporarily, and minor and beneficial in the long-term. The specifics of each of these topics and the degree of effects of the selected action are discussed further in the following section.

Degree of Effects of the Action

The NPS considered the following actual or potential project effects in evaluating the degree of the effects (40 CFR 1501.3(b)(2)) for the selected action.

Beneficial and Adverse, Short-term, and Long-term Effects of the Proposed Action

The NPS did not identify any significant impacts to resources that would require analysis in an environmental impact statement. The impacts of the selected action, including direct, indirect, and cumulative effects do not reach the level of a significant effect. The construction of multiplex housing, indoor gathering area, and parking included in the selected action will result in both beneficial and adverse impacts, as described below.

Degree to Which the Proposed Action Affects Public Health and Safety.

During the construction of the project, heavy equipment may present safety concerns for staff and contractors, resulting in short-term minor adverse impacts. The entire Operations Area where seasonal employees are currently housed and the proposed area for new seasonal housing are not adjacent to the Visitor Center area or any visitor areas or trails, so no park visitors will be impacted. Entrance into the Operations Area is posted for Authorized Personnel Only, which does not include park visitors. Once construction is completed, the selected alternative will have long-term beneficial impacts on the health and safety of staff and seasonal employees and help to prevent hazardous conditions from dilapidated living arrangements.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:

There are no prime farmlands, wetlands, or wild and scenic rivers that will be affected by implementation of the selected alternative. Based on the results of surveys, the park has determined that there are no archeological features within the direct area of potential effect.

The proposed project will be sited adjacent to but outside the boundaries, as currently defined, of the Mammoth Cave Housing Area for the Superintendent's House, the CCC Residential Area District, and the Mission 66 Residential District. During construction and staging, there will be temporary impacts to the viewshed, traffic circulation, and use. These will be minimized to the extent possible through careful planning during implementation of construction. The proposed project will not alter the integrity of any of the existing individual properties or districts. The compatible design features avoid adverse impacts to the integrity of these historic properties and the characteristics of the area and districts, while maintaining the integrity of the current setting, design, location, association, and feeling. Therefore, park personnel determined that the proposed action would have "No Adverse Effect" to the cultural landscape and historic properties with KYSHPO concurrence on this determination.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources:

The selected alternative will have no adverse effects on archeological resources, historic structures and districts, or cultural landscapes.

Archeology

Phase I archaeological surveys were conducted at the proposed project site in 2002 by the University of Kentucky Program for Archeological Research (KAS) and additional shovel tests conducted by the park archeologist in 2022. Based on the results of these two surveys, the park determined that there are no archeological features within the direct area of potential effect (APE). No further work was recommended for archaeological studies within the proposed project APE and KYSHPO concurred with that determination. In a letter dated June 6, 2023, KYSHPO concurred that the selected alternative would have “No Adverse Effect” to properties listed or proposed to be listed on the NRHP.

Cultural Landscape

The proposed project will be sited outside the boundary, as currently defined, of the Mammoth Cave Housing Area subdistrict of the Park Operations Cultural Landscape. The Housing Area sub-district consists of three NRHP sub-districts: the Superintendent’s House, the CCC Residential Area District, and the Mission 66 Residential District. During construction and staging, there will be temporary impacts to the viewshed, traffic circulation, and use. These will be minimized to the extent possible through careful planning during implementation of construction. The properties at the proposed site will retain integrity in location, design, setting, materials, workmanship, feeling, and association. The proposed project will not alter the integrity of any of these individual properties or districts.

The project will have the potential to affect the cultural landscape of the Mammoth Cave Housing Area and its sub-districts due to the visibility of the project. The administration and housing area component landscape includes resources significant according to the integrity and character of the current setting as detailed below, and the overall composition of the component landscape reflects original design and the residential setting within surrounding woodland is maintained.

Buildings and Structures: Because the new buildings will reflect similar building materials and the integration of new buildings into the spatial organization set by the CCC design to reflect the historic character, the new buildings will not look out of place amongst the existing buildings.

Circulation: Circulation of traffic through the residential areas will remain unchanged. The north parking lot is a non-contributing element, and building to the north of the lot will not alter the historic circulation of either historic district nor of the Superintendent’s House.

Land Use: Land use will remain unchanged. The area was built exclusively for residential purposes and the new housing will maintain the same function, regardless of some of the existing buildings being converted to office space, which did not alter the NRHP eligibility of the area or the Historic Districts.

Natural Systems: The existing residential area was laid out in response to the gently sloping topography, with the Superintendent's House on a high point, and the CCC residential housing on another high point. The roads follow the topography. That area has not been significantly graded and topography retains integrity, with no changes from the new housing.

Spatial Organization: The three components of the Residential Area will retain their original setting. They are enclosed by surrounding forest, creating a separation between housing and the rest of the park. The proposed housing will not alter the separation of residences and park visitors and operations.

Small Scale Features: In the housing area, culverts and recent signs make up small scale features that are part of the characteristics of the area. The stone and piped culverts are potentially contributing to the Mission 66 district. The new construction will not alter these features.

Topography: The terrain is defined by an overall slope from east to west, with the Superintendent's House on the highest point to provide a view of the area. The new housing will be placed to the immediate north of the CCC housing and to some of the Mission 66 housing. It will not alter the topography and will not affect the topographical significance of the Superintendent's House.

Vegetation: The area was planned with mowed lawns and surrounding woodlands, which all potentially contribute to the historic districts and historic properties, and retain their integrity. The proposed housing will be placed along the northern edge of the woodlands and will not alter the existing vegetation around the CCC and Mission 66 houses or the Superintendent's House.

Views: Three views that contribute to the historic characteristics of the House area include the entry view of the Residential Area District, the view of the Mission 66 housing from Maintenance Road, and the view from the Superintendent's House over the Housing Area. These views have not significantly changed since the area was originally planned and constructed for housing and retain their integrity. The proposed housing will not alter the entry view or the view from Maintenance Road. It will be visible from the Superintendent's House. However, the view of the new property from the Superintendent's House will be obstructed by the current wood line. The original view was altered by the construction of the Mission 66 housing as well as the north parking lot. The proposed housing will not alter the view over the CCC or Mission 66 housing from the Superintendent's House.

The compatible design features avoid adverse impacts to the integrity of these historic properties and the characteristics of the area and districts, while maintaining the integrity of the current setting, design, location, association, and feeling. Therefore, park personnel determined that the proposed action will have No Adverse Effect to the cultural landscape. The KYSHPO provided concurrence with the finding via the June 6, 2023 letter.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:

In compliance with Section 7 of the Endangered Species Act, informal consultation was initiated with the Kentucky Ecological Field Office of the USFWS in June 2022. Potential effects to 17 listed species were considered for this project. These species include two federally endangered bats (gray bat and Indiana bat), one federally threatened bat (northern long-eared bat), 11 federally endangered species of freshwater mussels, one federally threatened crustacean (Kentucky cave shrimp), and one federally endangered fish (diamond darter) with unoccupied critical habitat.

The focus of this informal consultation involved the three species of bat, because the aquatic species are all related to cave and river habitats that will not be adversely impacted by the proposed project (i.e., mussels in the Green River, the Kentucky cave shrimp in the caves; and diamond darter fish). The park made the determination that the project is not likely to adversely affect the Kentucky cave shrimp because of primary and secondary stormwater treatment and protection created by the overlying sandstone layer. The project will have “no effect” on any of the mussel species or the darter because of the distance of the project area from aquatic habitat for these species.

An estimated 10 to 20 trees that could provide marginal roosting habitat for bats will be removed in order to construct the new seasonal housing. However, the intent is that all trees will be removed only between November 15 and March 31 to avoid directly affecting bat roosting activity, but if removal is outside this timeframe, established procedures included in the park’s USFWS *Endangered Species Act (ESA) Section 7 Programmatic Informal Consultation & Concurrence* (programmatic agreement with the park) and per Operating Procedures, Section H, Chapter I, “Hazardous Tree and Vegetation Management Plan for Developed Areas within Mammoth Cave NP”; and “Biological Opinion for the Effects of the Hazard Tree Removal and Vegetation Management Program to the Indiana Bat at Mammoth Cave National Park, Kentucky” will be followed before any removal occurs. With this mitigation, the park determined that the proposed work is “not likely to adversely affect” any of the listed bat species. In their letter dated July 7, 2022, the USFWS Kentucky Ecological Services Field Office concurred that the proposed action “May affect, but is not likely to adversely affect” the Indiana bat, the gray bat, the northern long-eared bat, and the Kentucky cave shrimp; and that the requirements of Section 7 of the Endangered Species Act have been fulfilled as they relate to federally listed species.

CONCLUSION

As described above, the selected action does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement. The selected action will not have a significant effect on the human environment in accordance with section 102(2)(c) of NEPA. Based on the foregoing, the National Park Service has determined that an environmental impact statement is not required for this project and, thus, will not be prepared.

Attachment A: Response to Public Comments

Environmental Assessment (EA) Replace Obsolete Seasonal Housing with Multiplex Housing and Amenities Mammoth Cave National Park

Public Scoping Comment Analysis Report

1 Visitor Center Parkway
Mammoth Cave, Kentucky 42259-0007
Barren, Edmonson, and Hart Counties, Kentucky



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INTRODUCTION: WHAT IS PUBLIC SCOPING?

Public scoping is the process by which the National Park Service (NPS) solicits public input on the scope of issues and alternatives to be addressed in a National Environmental Policy Act (NEPA) document, such as an Environmental Assessment (EA). Public scoping is conducted early in the NEPA planning process and is not a single event or meeting. Tools such as mailings and/or meetings may be used to educate the public on the project and on the planning process guiding the preparation of an EA. After the public scoping period ends, the NPS uses an established protocol to analyze and summarize the public comments received during the scoping period. This report describes the public scoping process for the Mammoth Cave National Park (MACA) Replace Deteriorating Seasonal Housing Units EA and presents the analysis and summary of public comments received.

PUBLIC SCOPING FOR THE MACA REPLACE DETERIORATING SEASONAL HOUSING UNITS EA

A public scoping period for the EA was open from October 30 to November 29, 2023. A press release was posted on the park's website. A copy of the newsletter was posted on the park's website, as well as on the NPS's Planning, Environment, and Public Comment (PEPC) website. During this time, the public was encouraged to submit comments on the scope of the planning process (purpose, need, objectives, or any issues associated with the plan) through the PEPC website (<https://parkplanning.nps.gov/MACASeasonalHousing/>). During the scoping period, sixteen pieces of correspondence were received and entered into the PEPC system. The PEPC system serves as a database where the NPS can analyze and summarize public scoping comments.

DEFINITION OF TERMS

Primary terms used in the document are defined below.

Correspondence: A correspondence is the entire document received from a commenter. This includes letters, e-mails, written comment forms, comments entered directly into PEPC, and any other written comments provided either by postal mail or in person at the park.

Comment: A comment is a portion of the text within a correspondence that addresses a single subject. It could include such information as an expression of support or opposition for an alternative, additional data regarding the existing condition, or suggestions for resource topics to be considered.

Code: A category or grouping centered on a common subject. The codes were developed during the scoping process and were used to track major subjects. Each comment is assigned at least one code.

Concern: Concerns are statements that summarize the issues identified by each code. Each code was further characterized by concern statements to provide a better focus on the content of comments. Some codes required multiple concern statements, while others did not. In cases where no comments were received on an issue, the issue was not identified or discussed in this report.

Quotes: Representative quotes have been taken directly from the text of the correspondence received from the public and further clarify the concern statements. Quotes have not been edited for grammar.

METHOD OF COMMENT ANALYSIS

As stated above, sixteen pieces of correspondence were received during the public scoping comment period. Correspondence was received by one of the following methods: hard copy letter via postal mail, hard copy letter delivered in person at the park, e-mail, or correspondence entered directly into the internet-based PEPC system. Letters received by e-mail, through the postal mail, or submitted in person at the park were entered into the PEPC system for analysis.

Once all the correspondence was entered into PEPC, each was read, and specific comments within each correspondence were identified. Sixteen comments were derived from the correspondence received. When identifying comments, every attempt was made to capture the full breadth of comments submitted. For categorization purposes, each comment was given a code to identify the general content of a comment and to group similar comments together. A total of three codes were used to categorize the public scoping comments received. An example of a code developed for this project is PN2000 – Purpose and Need: Park Purpose and Significance. It should be noted that the issues brought up in the public scoping comments are unlikely to be the only issues considered in the EA. Issues to be considered in the EA will be informed not only by the public comments but by a number of other sources as well, including information on site conditions; federal laws, regulations, executive orders (EO), NPS Management Policies 2006 (NPS 2006), and director’s orders; and staff knowledge of the park’s resources.

HOW WILL THE COMMENTS BE USED?

As described above, all comments are categorized under codes. No substantive comments were made and no concerns were raised in any of the comments, so Concern Statements were not developed.

GUIDE TO THIS REPORT

This report has a single section. The Content Analysis Report is provided in the following section of this document.

Content Analysis Report: This is a basic report produced from PEPC that provides information on the numbers and types of comments received, organized by code and by various demographics. The first table below summarizes the number of correspondences by geographic origin (by state). All correspondence was received from government agencies, organizations, or individuals within the United States. The next table displays the number of correspondences by organization type (i.e., organizations, governments, individuals, etc.), followed by a table that summarizes the comments received by code or topic. The last table displays the number of correspondences by correspondence type (i.e., amount of comments received through PEPC, e-mail, hard copy letters, etc.).

CONTENT ANALYSIS REPORT

Correspondence Distribution by State

State	Percentage	Number of Correspondences
KY	68.8 %	11
NC	12.5 %	2
AL	6.3 %	1
GA	6.3 %	1
SC	6.3 %	1
Total	—	16

Correspondence Signature Count by Organization Type

Organization Type	Number of Correspondences
NPS Employee	1
Unaffiliated Individual	15
Total	16

Correspondence Distribution by Code

(Note: Each correspondence may have multiple codes. As a result, the total number of Correspondence may be different than the actual comment totals)

Code	Description	Correspondences
PN2000	Purpose And Need: Park Purpose And Significance	14
ED1000	Editorial	1
PO3000	Park Operations: Study Area	1

Correspondence Distribution by Correspondence Type

Type	Number of Correspondences
Web Form	15
Other	1
Total	16

ATTACHMENT B: DETERMINATION OF NON-IMPAIRMENT

THE PROHIBITION ON IMPAIRMENT OF PARK RESOURCES AND VALUES

NPS *Management Policies 2006*, section 1.4.4, explains the prohibition on impairment of park resources and values: “While Congress has given the Service management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the 1916 Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them. The impairment of park resources and values may not be allowed by the Service unless directly and specifically provided for by legislation or by the proclamation establishing the park. The relevant legislation or proclamation must provide explicitly (not by implication or inference) for the activity, in terms that keep the Service from having the authority to manage the activity so as to avoid the impairment.”

WHAT IS IMPAIRMENT?

NPS *Management Policies 2006*, Section 1.4.5, “What Constitutes Impairment of Park Resources and Values,” and Section 1.4.6, “What Constitutes Park Resources and Values,” explain impairment. “Impairment is an impact that, in the professional judgment of the responsible NPS manager, will harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values.” Section 1.4.5 of NPS *Management Policies 2006* states:

“An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or*
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or*
- identified as a goal in the park’s general management plan or other relevant NPS planning documents as being of significance.*

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

An impact that may, but would not necessarily, lead to impairment may result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park.”

Per section 1.4.6 of *NPS Management Policies 2006*, park resources and values at risk for being impaired include:

- *the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;*
- *appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;*
- *the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and*
- *any additional attributes encompassed by the specific values and purposes for which the park was established.*

From the 2014 *Foundation Document: Mammoth Cave National Park, Kentucky* the park's purpose is:

...to preserve, protect, interpret, and study the internationally recognized biological and geologic features and processes associated with the longest known cave system in the world, the park's diverse forested, karst landscape, the Green and Nolin rivers, and extensive evidence of human history; and to provide and promote public enjoyment, recreation, and understanding.

NON-IMPAIRMENT DETERMINATION FOR THE SELECTED ACTION

This determination of non-impairment has been prepared for the NPS selected action described in the finding of no significant impact for the *Replace Obsolete Seasonal housing with Multiplex Housing and Amenities Environmental Assessment*. For the selected action, a determination of non-impairment is typically made for each of the impact topics carried forward for detailed analysis in the EA.

HOW IS AN IMPAIRMENT DETERMINATION MADE?

Section 1.4.7 of *Management Policies 2006* states, "[i]n making a determination of whether there would be an impairment, an NPS decision-maker must use his or her professional judgment."

This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969; consultations required under Section 106 of the National Historic Preservation Act; relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.

Management Policies 2006 further define “professional judgment” as “a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker's education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities related to the decision.”

The *Replace Obsolete Seasonal housing with Multiplex Housing and Amenities Environmental Assessment* analyzes impacts to the following resources: cultural landscapes. The 2011 *Guidance for Non-Impairment Determinations and the NPS NEPA Process* states that:

The impairment determination does not include discussion of impacts to visitor experience, socioeconomics, public health and safety, environmental justice, land use, park operations, etc., as those do not constitute impacts to park resources and values subject to the non-impairment standard. As a result, for purposes of this document, impairment findings are required for the cultural landscape.

As a result, for purposes of this document, impairment findings are required for the cultural landscape. Other resource impacts (e.g., soil disturbance during construction, stormwater control, tree removal) are acknowledged and mitigated/minimized through best management practices as described in the EA. Further, these will not impair Park resources or values as defined above.

NON-IMPAIRMENT DETERMINATION FOR THE SELECTED ALTERNATIVE

This non-impairment determination has been prepared for the NPS selected alternative described on pages 19–20 of the EA/AOE. A non-impairment determination is made for all relevant resource impact topics analyzed in detail for the selected alternative.

Cultural Landscapes

There will be no impairment to the park's Park Operational Cultural Landscape and its sub-districts including the Mammoth Cave Housing Area which includes the Superintendent's House, the CCC Residential Area District, and the Mission 66 Residential District. A Fundamental value of the park as identified in the 2014 *Foundation Document: Mammoth Cave National Park, Kentucky* is “scientific exploration and discovery”, “twelve thousand years of human interaction with the lands” and “opportunities for connection to the resources”. This human interaction on the land includes the development of the park for tourism, this has occurred in Mammoth Cave with the development of tourist trails, above ground with tourist amenities such as cabins, hotel, visitor center, and the CCC and Mission 66 eras of park development that included the housing of park staff who help connect visitors to the resources.

Under the NPS selected alternative, new, non-historic structures will be introduced into the cultural landscape with the construction of two multiplex park housing, gathering spaces, and parking. However, the changes under the selected alternative will not alter the historic integrity such that the landscape can no longer convey its significance. The proposed housing will not

disrupt any historic views within the project area nor alter land use patterns because the area has historically been used for staff lodging. The park consulted with KYSHPO and THPOs, with KYSHPO concurrence that this project would “not adversely affect” the cultural landscape.

There may be some minor changes to pedestrian and vehicular circulation patterns within the cultural landscape under the selected alternative depending on the final design of the road leading into the new multiplex housing area. However, the existing roads and contributing features of the landscape will not be modified with this action.

A forested area along the edge of the existing Mammoth Cave Housing Area will be removed with this project and new greenspaces opened up around the selected housing. Removal of some mature trees will result in a loss of vegetation, which is also considered a contributing resource to the cultural landscape; however, the number of trees to be removed will be relatively very small when compared to the overall forested area that will remain. In consultation with KYSHPO this removal of trees would “not adversely affect” the cultural landscape.

Because the selected alternative will be designed with a “compatible design” that follows the Secretary of the Interior’s Standards, it will avoid having adverse impacts on the integrity of the existing historic properties in the Administration and Housing Area, as confirmed by KYSHPO.

SUMMARY

The cultural impacts anticipated as a result of implementing the selected action on resources or values 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 to opportunities for enjoyment of the park, or identified as significant in the park, general management plan, or other relevant NPS planning documents will not rise to levels that will constitute impairment of park values and resources in Mammoth Cave National Park.

ATTACHMENT C - MITIGATIONS/BEST MANAGEMENT PRACTICES (BMPS)

A variety of mitigation measures will be instituted as the actions are taken to implement this alternative. The NPS will implement an appropriate level of monitoring throughout the construction process to help ensure that protective measures are being properly implemented and are achieving their intended results.

Although the exact mitigation measures to be implemented will depend upon the final design and approval of plans by relevant agencies, the following is a list of actions that could take place:

- Instruct all contractor employees on the sensitivity of the general environment and monitor their activities by NPS staff in order to mitigate and minimize potential impacts on natural and cultural resources during construction. Corridors for construction vehicle movement will be established and defined on the ground. Staging of construction equipment will be restricted to the road corridor, parking lots, and other identified previously disturbed areas to avoid impacts on natural and cultural resources.
- Clearly state all protection measures in the construction specifications and instruct workers to avoid conducting activities beyond the fenced construction zone.
- Fence all areas in order to keep related disturbances within an NPS-defined and minimal impact area required for construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive uses, the use of the best available noise control techniques wherever feasible, the use of hydraulically or electrically powered impact tools when feasible, and location of temporary noise sources as far from sensitive uses as possible.
- Minimize soil erosion by limiting the time that soil is left exposed and by applying other erosion control measures, such as erosion matting and silt fencing in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Remove invasive plants from construction areas using approaches prescribed in the NPS Integrated Pest Management Program.
- Implement measures to prevent invasive plants from returning to sites where they have been removed, such as ensuring that construction-related equipment arrives at the site free of mud or seed-bearing materials and certifying that all seeds and straw material are weed-free.
- Rehabilitate areas that are disturbed, either during construction or areas that were previously disturbed, with NPS-approved vegetation, as per NPS standards and consistent with the cultural landscape report.
- Immediately implement NHPA Section 106 procedures if any unknown significant archeological resources are uncovered during ground-disturbing activities. If previously unknown archeological resources are discovered during construction, all work in the immediate vicinity of the discovery shall be halted until the resources are identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement Among the NPS (US Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.
- Tree removal should not take place during the bat roosting season from April 1–November 14. If it is determined that a tree needs to be removed during this time, the park’s Science and Resources Management Division will be consulted prior to taking action.