



## **OZARK NATIONAL SCENIC RIVERWAYS HOUSING REPLACEMENT AND ENVIRONMENTAL ASSESSMENT**



**OZARK NATIONAL SCENIC RIVERWAYS**  
**April 2017**

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## 1.0 PURPOSE AND NEED

### 1.1 Introduction

The National Park Service (NPS) is proposing to replace obsolete park housing at three locations within Ozark National Scenic Riverways (park), Big Spring Duplex #473 housing, Alley Spring Duplex #523 housing, and Alley Spring #508 housing. The NPS also proposes to upgrade housing units at Round Spring (#236, #237, and #238) to increase bedroom capacity and accessibility. This environmental assessment (EA) analyzes the impacts of the identified alternatives on the environment and has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (40 CFR 1508.9), NPS Director's Order 12 (NPS 2011) and the NPS NEPA Handbook (NPS 2015a).

### 1.2 Park Background and Location

Ozark National Scenic Riverways was established by an Act of Congress in 1964 (Public Law 88-492) to protect 134 miles of the Current and Jacks Fork Rivers in the Ozark Highlands of southeastern Missouri. As stated in the enabling legislation, the purpose of the park is: "... conserving and interpreting unique scenic and other natural values and objects of historic interest, including preservation of portions of the Current River and the Jacks Fork River in Missouri as free-flowing streams, preservation of springs and caves, management of wildlife, and provisions for use and enjoyment of the outdoor recreation resource thereof by the people of the United States ..." (Map #1: Park and Project Overview)

### 1.3 Project Background

This project includes four housing areas. Three are, or were, no longer able to function as residences due to chlordane contamination and all have, or had, significant deficiencies in functionality and accessibility. The four areas include:

**Big Spring #473 Housing:** This multi-unit housing structure was constructed in 1976. These quarters provided critical housing until recently for permanent and seasonal park personnel from all divisions working in the Lower Current District of the park. Contamination with chlordane about 30 years ago for termite eradication made the structure uninhabitable. Also, deficiencies to this facility were numerous. It was demolished on June 15, 2016.

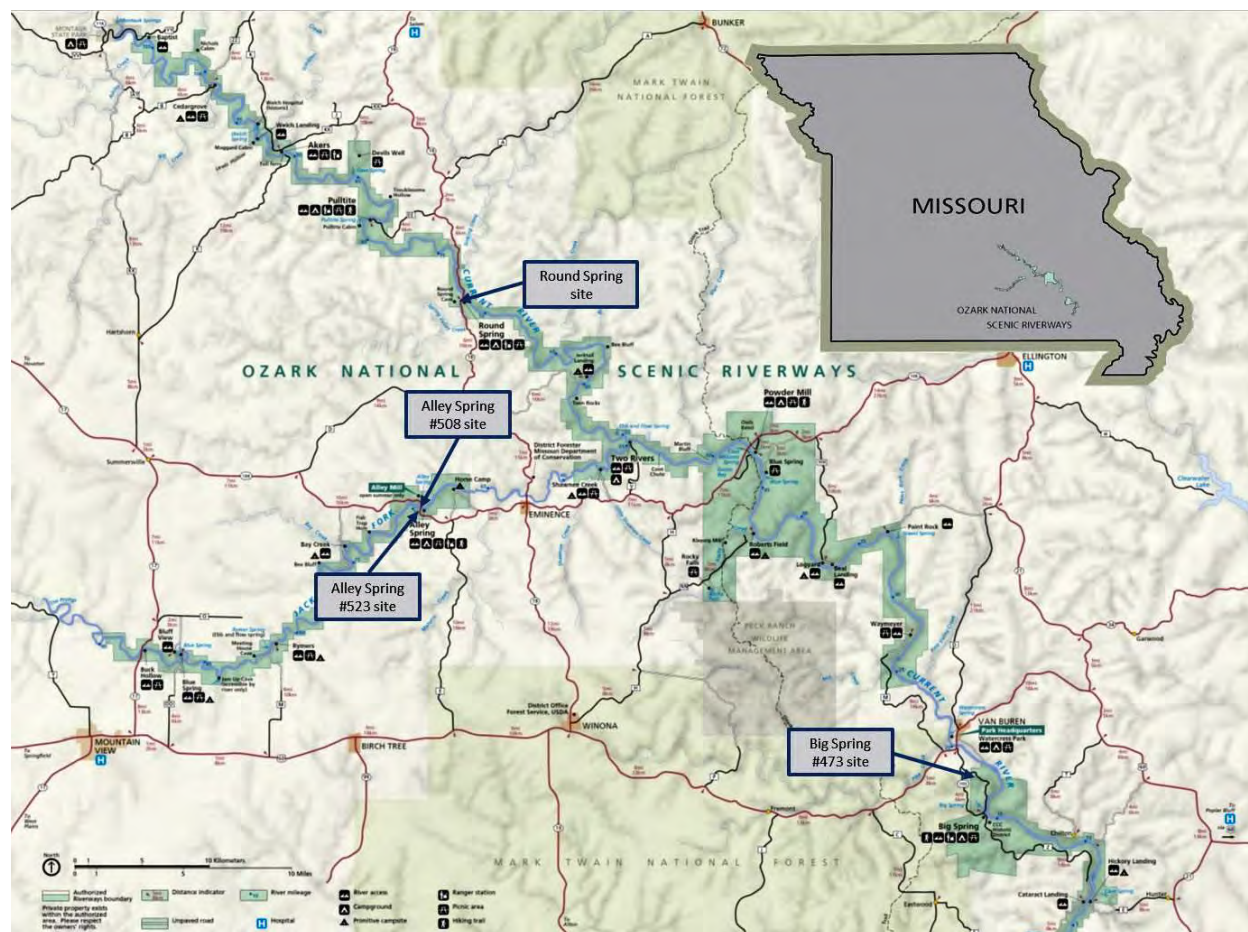
**Alley Spring #523 Housing:** This multi-unit housing structure was also constructed in 1976. These quarters provided critical housing until recently for permanent and seasonal park personnel from all divisions working in the Jacks Fork District of the park. It is currently being used for ranger activities as office space (day-use only), but at some time in the indefinite future it will be demolished and replaced with new housing. Contamination with chlordane about 30 years ago for termite eradication has made the structure uninhabitable as housing and deficiencies to this facility are numerous.

#### **Alley Spring #508 Housing:**

This structure was originally constructed in 1912-1913 as a two-room school, remodeled for housing in 1968, and then remodeled again in 1986 for office use. Because of chlordane contamination and building

deficiencies it was demolished on July 15, 2016 and the site restored. This project proposes new construction to provide housing for employees serving the Jacks Fork District of the park.

### MAP #1: PARK AND PROJECT OVERVIEW



**Round Spring Duplex Housing:** Building #248 multi-unit housing structure was constructed in 1976. These quarters provided critical housing until recently for permanent and seasonal park personnel from all divisions working in the Upper Current District of the park. Deficiencies to this building were numerous, and contamination with chlordane about 30 years ago for termite eradication made the structure uninhabitable. It was demolished and the site restored on August 15, 2016. Housing structures #236, 237, and 238 were constructed in 1996. They have not been contaminated with chlordane, but improvements to these structures are needed to provide for universal accessibility and improved utilities.

**Housing Demolition:** Three of the four structures described above (Big Spring #473, Alley Spring #508, and Round Spring #248), were demolished in the summer of 2016 due to operational deficiencies and contamination with chlordane. Alley Spring #523 will be demolished in the indefinite future, but for now is being used for ranger activities as office space. Environmental compliance for these removals has been previously conducted by park staff under a NEPA categorical exclusion.



## 1.4 Purpose and Significance of the Park

### Park Purpose

Purpose statements convey the reasons for which the national park unit was set aside as part of the national park system. Grounded in an analysis of park legislation and legislative history, purpose statements also provide primary criteria against which the appropriateness of plan recommendations, operational decisions, and actions are tested. A park unit's purpose statement focuses the NPS' management role at a particular park unit but does not supersede the NPS Organic Act. The purpose of Ozark National Scenic Riverways, as identified in the 2015 General Management Plan (GMP) and 2016 Foundation Document, is to: 1) preserve and protect in an unimpaired condition the unique scenic and natural values, processes, and unspoiled setting derived from the clean, free-flowing Current and Jacks Fork Rivers, springs, caves, and their karst origins, 2) provide for and promote opportunities for the scientific and public understanding of the natural and cultural resources, 3) offer opportunities for understanding and appreciating the human experience associated with the Ozark Highlands landscape, and 4) provide for uses and enjoyment of the outdoor recreation opportunities consistent with the preservation of the park unit's resources (GMP 2015). Adequate housing for park employees supports the park purpose.

### Park Significance

Significance statements capture the essence of the Ozark National Scenic Riverways' importance to our country's natural, cultural, and recreational heritage. Significance statements do not inventory resources; rather they describe the Riverways' distinctiveness and help to place the park unit within its regional, national, and international contexts. Significance statements answer questions such as why the Ozark National Scenic Riverways' resources are distinctive and what they contribute to our natural, cultural, and recreational heritage. Defining the National Riverways' significance helps managers make decisions that preserve the resources and values necessary to accomplish the park unit's purpose. The significance statements, as identified in the 2015 GMP, are as follows:

- The impressive hydrogeologic character of the Ozark National Scenic Riverways' karst landscape supports an amazing variety of natural features, including a spring system that is world-class and unparalleled in North America. The park unit features the largest spring in the national park system, five first-magnitude (discharge rate of 100 cubic feet of water per second) springs and spring complexes, and over 350 springs parkwide. The cave system is equally impressive, with 402 documented caves within the park unit boundary—one of the highest densities of any national park system unit.
- Ozark National Scenic Riverways contains 134 miles of clear, free flowing, spring-fed rivers. These include the Jacks Fork and Current Rivers, which are two of only three Outstanding National Resource Waters in Missouri.
- The ancient Ozark Highlands is an important center of biodiversity in North America, including numerous endemic species that are found nowhere else in the world. The large variety of species found within Ozark National Scenic Riverways is due to the rich array of aquatic, terrestrial, and subterranean habitats concentrated within its river corridors.

- Ozark National Scenic Riverways features archeological sites, historic structures, objects, and landscapes that reflect more than 12,000 years of people living along, adapting to, and interacting with these Ozark Highland rivers.
- The complex and dynamic natural resources and systems of the Ozark National Scenic Riverways provide for outstanding, high-quality recreational experiences on and along free-flowing rivers.

### **1.5 Fundamental Resources and Values**

Fundamental resources and values are systems, processes, features, visitor experiences, stories, and scenes that deserve primary consideration in planning and management because they are critical to maintaining the park unit's purpose and significance. Fundamental resources and values are subject to periodic review and updates based on new information or changing conditions. The 2015 GMP identified the following fundamental resources and values for Ozark National Scenic Riverways:

- Natural Resources Karst-based Hydrogeological System
- Free-flowing River Water Quality
- High-quality Ecosystems
- Cultural Resources Human Occupation of and Enduring Connection to the Ozark Highlands
- Visitor Experience Values Outstanding, High-quality Recreational Experiences on and along Free-flowing Rivers

### **1.6 Purpose and Need for the Project**

The purpose of this project is to replace housing at Big Spring #473, Alley Spring #523, Alley Spring #508, and Round Spring (#236, 237, and 238). Housing at Big Spring and the two Alley Spring sites has been lost due to health and safety issues associated with chlordane, a chemical used to eradicate termites about 30 years ago and there are (or were) building deficiencies (such as lack of ADA compliance and substandard utilities). The three housing units at Round Spring (#236, 237, and 238) have not been impacted by chlordane but need upgrades to increase bedroom capacity and accessibility.

The project is needed to provide essential housing for seasonal and permanent park staff from all divisions in areas central to the locations they serve. These employees provide for protection of facilities and resources, visitor safety, and interpretation.

### **1.7 Applicable Plans and Regulations**

The 2015 GMP provides park managers with the direction, goals, and objectives for making decisions on park operations. This document establishes management zones for areas within the park boundary. The zones apply only to those land areas for which the NPS has fee title ownership. Management zones tell how areas of the park will be managed. The different zones prescribe a range of desired resource conditions and visitor experiences, and include statements about the appropriate kinds and levels of management, use, and facilities. The proposed housing developments would occur in the "developed" zone, those areas that support moderate to high levels of development and visitor services to accommodate concentrated visitor use and diverse recreational, educational, and interpretive opportunities. Most of the administrative facilities for operations and maintenance would be in this zone.

This document is part of the park's planning portfolio. It addresses some elements of the park's required management plans; other elements will be addressed in future planning documents.

A Housing Needs Assessment was prepared in 2013, which identified the need for housing in the four areas (NPS 2013b).

Relevant laws and regulations that relate to this project include:

**TABLE 1. RELEVANT LAWS AND REGULATIONS**

<b>Resource</b>	<b>Relevant Laws and Regulations</b>
Aesthetics	NPS Organic Act
Cultural, Historic, and Archeological Resources	National Historic Preservation Act Archeological Resources Protection Act Director's Order #28 NPS Organic Act
Floodplains	Executive Orders 11988 and 13690 Director's Order #77-2
Ozark National Scenic Riverways	Park enabling legislation, P.L. 88-492
Public Health and Safety	Architectural Barriers Act Americans with Disabilities Act Director's Orders #42 and #83 Executive Order 13045
Soils, Geology, Topography	National Cooperative Soil Survey Standards Erosion and Sedimentation Control Act
Threatened and Endangered Species	Endangered Species Act NPS Organic Act
Visitor Use and Experience	NPS Organic Act Director's Order #12
Water Quality, Hydrology	Clean Water Act Rivers and Harbors Appropriation Act Executive Order 12088

## **1.8 Impact Topics Retained**

NPS policy requires that all proposed projects be screened for potential impacts against a list of natural and cultural resource categories. Impacts topics are resources of concern that could be affected, either beneficially or adversely, by implementing any of the proposed alternatives. The NPS used an interdisciplinary review process to determine which resources could be affected by this project. The following impact topics are analyzed in this document:

### **Archeology:**

Archeological surveys for these sites are limited at this time. An archeological survey for the Big Spring #473 site was conducted by the Midwest Archeological Center of the NPS in August of 2016. In-house NPS archeological surveys were conducted prior to house demolition projects at the Big Spring #473, Alley Spring #508, and Round Spring sites in 2016. No surveys for new housing construction sites have been conducted, other than at Big Spring. The park will implement the servicewide Section 106 Programmatic Agreement, which provides established protocols for the individual consideration of an



undertaking (i.e., housing construction) following either a streamlined or standard review pathway, prior to actual housing construction. Since archeological resources may be present at these sites, this resource has been retained as an impact topic.

#### **Soils:**

According to soil surveys, the park's soil types are generally characterized as silty clays. These soil types are deep and well drained with low permeability. Compaction and erosion of soils is likely during construction of housing and site improvements. Therefore, soils has been retained as an impact topic and will be discussed in more detail.

#### **Threatened and Endangered Species:**

In addition to NPS policies and management guidelines, the Endangered Species Act of 1973, as amended, provides for the protection of rare, threatened, and endangered species (floral and faunal). Federally-listed species, regulated by the U.S. Fish and Wildlife Service (USFWS), are found in the park. State listed and State-ranked species, managed by the Missouri Department of Conservation (MDC), are also identified as potentially being present in the project areas. The removal and replacement of existing housing could impact these species. Therefore, this impact topic was retained for further analysis in this EA.

#### **Viewsheds:**

NPS Management Policies 2006 states the park's scenery and scenic features are included among the resources and values that are to be protected and conserved. The proposed action calls for the removal of obsolete housing and the construction of new employee housing. These actions could potentially result in short-to-long term adverse impacts to viewsheds if not designed and constructed properly. Therefore, this topic will be retained for further analysis.

#### **Floodplains:**

Executive Order 11988, "Floodplain Management," and NPS Director's Order #77-2: Floodplain Management, require an examination of impacts to floodplains and potential risk involved in placing facilities within floodplains (NPS 2003). Two of the four housing areas, Big Spring #473 and Alley Spring #508, are located in or near the 100-year floodplain and any construction would have potential impact from flooding or could impact floodplain values. Therefore, this impact topic was retained for further analysis in this EA. A Floodplains Statement of Findings was prepared and is included in this EA as Appendix A.

#### **Water Quality:**

The Clean Water Act provides states with the authority to establish water quality standards. The Jacks Fork and Current Rivers within the park are two of only three Outstanding National Resource Waters in Missouri. In Missouri, these Outstanding National Resource Waters are classified as Tier Three waters and no degradation of water quality is allowed. The pollution of surface waters and groundwater by both point and nonpoint sources can impair the natural functioning of aquatic and terrestrial ecosystems and diminish the utility of park waters for visitor use and enjoyment. The *NPS Management Policies 2006* state that the NPS will determine the quality of park surface and groundwater resources and avoid, whenever possible, the pollution of park waters by human activities occurring within and outside the

parks. The proposed action would require ground disturbance during construction, which could impact water quality. Therefore, this impact topic was retained for further analysis in this EA.

## **1.9 Impact Topics Dismissed**

The following impact topics were initially considered but were dismissed from further analysis because the resource is not present in the project sites or because the proposed action would have no impact or have a minimal or local or temporary impact. A brief rationale for the dismissal of each impact topic is provided below.

### **Vegetation:**

Vegetation in the project areas has been altered due to past housing construction at the sites. At the Big Spring #473 site, a scattering of short-leaved pine, oak, and dogwood would be removed. At the Alley Spring #523 site, a few scattered trees would be removed, but most of the site is currently open lawn. Construction at the Alley Spring #508 site would require the removal of one or two mature oaks for proposed housing construction and smaller trees in the vicinity of the access drive. Since the Round Spring site includes additions to current structures and sidewalk modifications on a manicured lawn, little vegetation would be impacted. Because vegetation removal will occur in areas previously disturbed by activities when the housing developments were constructed, this impact topic has been dismissed from further analysis. Some trees were removed from at least one location this past winter in anticipation to ensure no impact to bat species.

### **Non-sensitive Wildlife:**

During housing construction site vegetation would be removed, eliminating habitat for species such as mice and voles. Some direct mortality of smaller species such as insects, reptiles, mice, and voles, may also occur as heavy equipment works the site. Mobile species, such as songbirds, squirrels, rabbits, and chipmunks would be dispersed to adjacent habitats. Since short and long-term impacts to non-sensitive wildlife would be minimal, this impact topic has been dismissed from further analysis.

### **Socioeconomic:**

This project will replace existing housing that is no longer usable due to facility deficiencies and chlordane contamination. Housing construction would provide some beneficial economic impacts to local contractors and material suppliers but are not significant. Therefore, this impact topic has been dismissed from further analysis.

### **Climate Change and Carbon Footprint:**

The NPS recognizes that the major drivers of climate change are outside the control of the agency. However, climate change is a phenomenon whose impacts throughout the national park system cannot be discounted. The NPS has identified climate change as one of the major threats to national park system units, and has developed a Climate Change Response Strategy (NPS 2010) that focuses on science, adaptation, mitigation, and communication.

Climate change is included in this document to recognize its role in the changing environment of the park and to provide an understanding of its impact. Other factors driving environmental change include

population growth in the area (subsidence of water table, increased visitation, pollution), shifts in visitor use patterns, and land-use change and development around the park. Although climate change is a global phenomenon, it manifests differently depending on regional and local factors. According to a report prepared for the NPS on historic and projected climate trends for the park, climate of the Midwest Region of the United States is anticipated to become warmer and slightly wetter, resulting in a wide range of impacts on plants, wildlife, water flow regimes, and people over the next century. Climate models indicate the Midwest states, including Missouri, will likely experience great variability in precipitation. Overall, annual precipitation may increase slightly due to warmer and wetter winters, but rain is projected to decrease during the summers with longer periods in between rain events (NPS 2013a).

For the purpose of this document, “carbon footprint” is defined as the sum of all emissions of carbon dioxide and other greenhouse gases (for example, methane and ozone) that would result from implementation of any alternative. Understanding the carbon footprint of each alternative is important to determine its potential to contribute to climate change. The action alternative described in this document would result in a negligible change in the amount of greenhouse gases that contribute to climate change. Therefore, this impact topic has been dismissed from detailed analysis in this EA. However, the NPS would implement best management practices to reduce or eliminate the carbon footprint of this project.

#### **Soundscapes:**

The NPS Management Policies 2006 (NPS 2006) state that the NPS will preserve, to the greatest extent possible, the natural soundscapes of parks. Park natural soundscape resources encompass all the natural sounds that occur in parks, including the physical capacity for transmitting those natural sounds and the interrelationships among park natural sounds of different frequencies and volumes. This is the basis for determining the "affected environment" and impacts on a park soundscape. There would be short-term minimal impact to the soundscape from the presence of heavy equipment during construction, but the housing construction sites are generally away from visitor use areas. Also, construction would occur when bats are not nesting to ensure no impacts to those species. Therefore, soundscapes was dismissed as an impact topic for further analysis in this EA.

#### **Air Quality:**

The 1963 Clean Air Act (CAA), as amended, requires land managers to protect air quality. Section 118 of the CAA further requires parks to meet all Federal, State, and local air pollution standards, and NPS 2006 Management Policies (NPS 2006) addresses the need to analyze potential impacts to air quality during park planning. Although construction activities proposed would have some impacts to air quality, e.g. fugitive dust, they would be short-term (only during earth moving) and minimal. Therefore, air quality was dismissed as an impact topic for further analysis in this EA.

#### **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 the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities (President of the United States). Although minority and low-income groups have been identified in Carter and Shannon Counties, it is unlikely that any would be adversely impacted by the

proposed projects. Therefore, in accordance with the provisions of Executive Order 12898, no further Environmental Justice analysis is required.

**Indian Trust Resources:**

Secretarial Order 3175 requires that any anticipated impacts to Indian Trust resources from a proposed action by U.S. Department of the Interior agencies be explicitly addressed in environmental documents. The Federal Indian Trust responsibility is a legally enforceable 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 laws with respect to American Indian tribes. There are no known Indian Trust resources in the vicinity of the projects proposed in this document. Therefore, Indian Trust resources was dismissed as an impact topic for further analysis in this EA.

**Aquatic Resources:**

Any proposed action that is in a river valley has a potential to impact aquatic resources. The proposed project sites are within the designated developed zones of the park and are landscaped for use by staff and visitors. No aquatic resource impacts are expected. For the purpose of satisfying aquatic resource delineations, the U.S. Army Corps of Engineers (USACE) will be consulted prior to construction for each individual site. USACE aquatic resources determinations are only valid for 5 years at this time. It is not certain that the funding for all of the sites will occur within the determination period.

### 1.10 Summary Comparison of Impacts

Impact Topic	Alternative A (No Action)	Alternative B
<b>Archeology</b>	No impacts	The protocols of the Programmatic Agreement would be implemented, and a determination of effect made, prior to any housing construction
<b>Soils</b>	No impacts	Soil disturbance from cut, fill, and compaction. 9.2 total acres impacted. Impacts reduced by mitigation and BMPs
<b>Threatened and Endangered Species</b>	No impacts	Minimal to no impact
<b>Viewsheds</b>	No impacts	Short-term minimal adverse, long-term minimal beneficial
<b>Floodplains</b>	No impacts	Minimal to no impact
<b>Water Quality</b>	No impacts	Impacts minimal or less provided soil erosion control mitigation and BMPs followed

## 2.0 ALTERNATIVES

### 2.1 Introduction

The National Environmental Policy Act (NEPA) requires that federal agencies conduct a careful, complete, and analytical study of the impacts resulting from proposals that have the potential to affect the environment, and to consider alternatives to those proposals, well before any decisions are made. As a result of an internal park scoping process, a no-action alternative and an action alternative for addressing the purpose and need for this project were selected for analysis in this EA. Following is a description of these alternatives selected for analysis and a discussion of the environmentally preferable and agency preferred alternative. The action alternative (Alternative B) would design and construct new park housing

to replace inadequate housing, allowing the park to fulfill its mission of protecting park fundamental resources and values.

Several U.S. Forest Service locations in and around Winona and a location near the spray field at Big Spring were looked at by the planning team. However, none of these sites were considered feasible alternatives.

## **2.2 The No Action Alternative (Alternative A)**

Under Alternative A, the No Action Alternative, no substantial improvements would be performed. In 2016 substandard housing structures were demolished and the sites restored to natural conditions except for the Alley Spring #523 site. Demolition of this structure has been postponed for some time in the indefinite future, as it is currently being used for ranger activities as office space. Analysis of the No Action Alternative provides a basis for the comparison of other feasible alternatives.

## **2.3 Alternative B (Preferred and Proposed Action)**

Under Alternative B, new housing will be designed and constructed to replace the existing substandard housing. This action will satisfy the purpose and need for the project as described in Chapter 1. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring #473, Alley Spring #523, Alley Spring #508, and Round Spring #236, #237, and #238. These activities were identified in the 2013 Housing Needs Assessment (NPS2013b). The new construction may not be in the exact footprints as the previously removed housing but would be within the previously disturbed area of development. Any access drives or parking areas would also be in previously disturbed areas.

### **Big Spring #473 Site:**

This project component includes construction of one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period). The Prototype Design will be selected from the NPS Prototype Design Catalog and is intended to meet the “Sustainable Buildings Implementation Plan” for new construction less than 5,000 square feet. This project corrects American with Disabilities Act (ADA) deficiencies, with each room in these two units being fully accessible. This project also satisfies compliance for meeting the NPS policy related to the Fire Administration Authorization Act of 1992, the Loss Control Management Guidelines under NPS 50, and Special Directive 95-4, which directs the NPS to provide fire detection and suppression capabilities in its buildings.

This site is located near the Big Spring Historic District (but is not within it), just west of Pea Vine Road (County Road 60-102). The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is



within the designated 100-year floodplain. Roughly 3.0 acres would be disturbed by construction activities during a four-month period. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking. (Map #2)

**Alley Spring Duplex #523 Housing Site:**

This project component includes construction of two housing units with two 1,649 square foot four-bedroom dorm units for NPS personnel serving the Jacks Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period). The Prototype Design selected from the Prototype Design Catalog is intended to meet the “Sustainable Buildings Implementation Plan” for new construction less than 5,000 square feet. The new construction will meet all building requirements as described above for the Big Spring #473 component.

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jacks Fork District are in the vicinity. The existing structure is used for ranger activities, but only on a day-use basis. No overnight lodging is permitted due to chlordane contamination. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) sometime in the indefinite future, and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423.

## MAP #2: BIG SPRING #473 SITE



The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly to County Road 106-423. Roughly 3.0 acres would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west. (Map #3).

### Alley Spring Duplex #508 Housing Site:

This component includes constructing a 2,200 square foot dorm unit (with 4-5 bedrooms) for NPS personnel serving the Jacks Fork District of the park. The new unit will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period). The Prototype Design selected from the Prototype Design Catalog is intended to meet the “Sustainable Buildings Implementation Plan” for new construction less than 5,000 square feet. The new construction will meet all building requirements as described above for the Big Spring #473 component.

### MAP #3: ALLEY SPRING DUPLEX #523 HOUSING SITE



This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but generally flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative (Alternative 1—Map 4A) uses the existing driveway off park road 305. Another alternative (Alternative 2—Map 4B, the preferred), however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking, all in previously-disturbed areas. Underground utilities serve the site.

A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.5 acres would be disturbed new construction activities over a period of four months. Staging of materials and heavy equipment could be along the site circular access drive. The site is adjacent the Alley Spring Historic District and the Alley Spring Natural Area, but not within them. (Maps #4A and 4B)



**MAP #4A: ALLEY SPRING DUPLEX #508 HOUSING SITE (ALTERNATIVE 1)**



**MAP #4B: ALLEY SPRING DUPLEX #508 HOUSING SITE (ALTERNATIVE 2) (PREFERRED)**





### Round Spring Housing Site:

This component includes modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios. They will incorporate energy saving technology and sustainable design, and be fully accessible. The project will be designed, with construction occurring during the following building season (during an estimated four-month period). The new construction will meet all building requirements as described above for the Big Spring (#473) component. In addition to building modifications, the site will be improved by providing accessible sidewalks and parking areas. Each housing unit will be served by a four-vehicle parking area. Overflow parking will also be provided at each unit. Building #248, an older housing unit located behind the other three structures and contaminated with chlordane, was demolished in 2016.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.7 acres would be disturbed construction activities over a four-month period. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard. (Map #5)

**MAP #5: ROUND SPRING HOUSING SITE**



## 2.4 Project Mitigation Measures

The following mitigation measures would be implemented as appropriate:

- Tree clearing would only be performed between November 1 and April 1 to avoid impacts to Indiana bats and northern long-eared bats.
- A revegetation plan would be developed and implemented.
- 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 as appropriate.
- Prior to construction, soils at the site would be tested for chlordane contamination and remediated if necessary.

**Best Management Practices (BMPs)** would be implemented and would include the following:

- Temporary BMPs would be utilized to minimize erosion and sedimentation from ground disturbing activities that expose bare soil. The BMPs may include the use of silt fence, fiber rolls, erosion matting and turbidity barriers. These BMPs would be used only during construction and would be removed once the disturbed area has been permanently stabilized.
- Any soil excavated during construction would be stockpiled and reused as fill if needed. Fill material would be clean, native soils.
- Staging areas for equipment and materials would be established away from any water courses.
- Stationary fuel and oil storage would remain within the staging area to avoid accidental spills into the water courses.
- Excess concrete and wash water from trucks and other concrete mixing equipment would be disposed of in designated areas where this material cannot enter the water courses.
- Disturbed areas would be graded and seeded as soon as possible to minimize erosion. Crown vetch and *Sericea lespedeza* would be avoided.
- No equipment would be allowed to enter water courses.

## 2.5 Environmentally Preferable Alternative

According to the Department of Interior regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative “required by 40 CFR 1505.2(b) to be identified in a record of decision (ROD), that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural processes. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.” Action Alternative B is the environmentally preferable alternative because it will ensure that the park has adequate housing for staff to function as stewards of park resources with minimal impact to those resources from housing improvements at previously-disturbed sites.



## **2.6 Agency Preferred Alternative**

The NPS typically identifies a preferred alternative to convey to the public its intentions. The agency's preferred alternative "... is the alternative which the Bureau believes would best accomplish the purpose and need of the proposed action while fulfilling its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors." [43 CFR 46.420(d)]. The recommended preferred alternative is the Alternative B, because it would best address the purpose and need for staff housing, and would be the most economical and environmentally friendly solution to those needs. Several U.S. Forest Service locations in and around Winona and a location near the spray field at Big Spring were looked at by the planning team. However, none of these sites were considered feasible alternatives.

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing environmental conditions in and around the project area and the environmental consequences associated with the alternatives presented in Chapter 2: Alternatives. Chapter 3 is organized by impact topic, and includes the impact topics presented in Chapter 1-- Purpose and Need that required further analysis: archeology, soils, threatened and endangered species, viewsheds, floodplains, and water quality.

#### 3.1. General Methodology for Analyzing Impacts:

In accordance with the CEQ regulations, direct, indirect, and cumulative impacts are described (40 CFR 1502.16) and the impacts are assessed in terms of context and intensity (40 CFR 1508.27). Where appropriate, mitigating measures for adverse impacts for each resource may vary; therefore, these methodologies are described under each impact topic.

Type of Impact describes the classification of the impact as *beneficial* or *adverse*, *direct* or *indirect*. The terms “impact” and “effect” are used interchangeably throughout this EA.

- *Beneficial*: An impact that would result in a positive change to the resource when compared to the existing conditions.
- *Adverse*: An impact that causes an unfavorable result to the resource when compared to the existing condition.
- *Direct*: Impacts that would occur as a result of the proposed action at the same time and place of implementation (40 CFR 1508.8).
- *Indirect*: Impacts that would occur as a result of the proposed action but later in time or farther in distance, but still reasonably foreseeable from the action (40 CFR 1508.8).

#### Cumulative Impact Scenario Analysis Methodology

The CEQ regulations require the assessment of cumulative impacts in the decision making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternatives. Cumulative impacts were determined by combining the impacts of the action alternative (implementation of Alternative B) with other past, present, and reasonably foreseeable future actions. A cumulative impact analysis is provided for each impact topic. There are no major past, present, or foreseeable future projects in the vicinity of any of the proposed housing replacement locations, other than the proposed housing replacement actions.

#### 3.2 Archeology

Archeological surveys for these sites are limited at this time. An archeological survey for the Big Spring #473 site was conducted by the Midwest Archeological Center of the NPS in August of 2016. In-house

NPS archeological surveys were conducted prior to house demolition projects at the Big Spring #473, Alley Spring #508, and Round Spring sites in 2016. No surveys for new housing construction sites have been conducted for sites other than at Big Spring. The park will implement the servicewide Section 106 Programmatic Agreement, which provides established protocols for the individual consideration of an undertaking (i.e., housing construction) following either a streamlined or standard review pathway, prior to actual construction.

For the purposes of satisfying the requirements of Section 106 of the National Historic Preservation Act (54 U.S.C. 306108) for the Ozark National Scenic Riverways Housing Replacement Environmental Assessment, no determination of effect is being made at this time. The National Park Service (NPS) will utilize the Nationwide Programmatic Agreement of 2008 (PA) between the NPS, Advisory Council on Historic Preservation (ACHP) and the National Conference of State Historic Preservation Officers (NCSHPO) which provides established protocols for the individual consideration of an undertaking following either a streamlined or standard review pathway. Prior to implementation of any undertaking or recommendation that has an effect on historic properties presented within the Ozark National Scenic Riverways Housing Replacement Environmental Assessment these undertakings will be added to the NPS Planning, Environment and Public Comment (PEPC) database and reviewed by the Regional CRM team. A determination will be made on the treatment of the undertakings according to the protocols of the PA. For the purposes of the Ozark National Scenic Riverways Housing Replacement Environmental Assessment, the Section 106 process as defined in 36 CFR 800 is satisfied by this process.

### **Affected Environment**

Ozark National Historic Scenic Riverways contains numerous cultural resources including historic structures, cultural landscapes, ethnographies, and archeological sites. The archeological sites range from large prehistoric settlements to more ephemeral campsites as well as sites that reveal information about the historic occupations of the region.

### **Environmental Consequences**

No Action (Alternative A):

Impacts- Under the No Action Alternative, there would be no new housing construction and no direct or adverse impacts to archeological resources.

Conclusion- The No Action Alternative would result in no direct or adverse impacts to archeological resources.

Alternative B:

Impacts- Under Alternative B, new housing would be constructed in the general vicinity of the demolished housing. The new construction may not be in the exact footprints as the previously removed housing but would be within the previously disturbed area of development. Since an archeological survey has only been conducted for the Big Spring #473 site, no determination of effect for all four sites can be made at this time. Prior to implementation of any undertaking or recommendation that has an effect on

archeological resources, a determination will be made on the treatment of the undertaking according to the protocols of the Programmatic Agreement.

**Cumulative Impacts-** The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on archeological resources. The protocols of the Programmatic Agreement would be implemented, and a determination of effect made, prior to any housing construction.

**Conclusion-** The protocols of the Programmatic Agreement would be implemented, and a determination of effect made, prior to any housing construction.

### 3.3 Soils

#### Affected Environment

Using the Natural Resource Conservation Service (NRCS) Websoil Survey database, specific soils for the four housing areas were determined (NRCS 2016):

**Big Spring #473 Housing:** Soils at the site are defined as “Tilk-Secesh complex, 1 to 3 percent slopes, occasionally flooded.” These soils are a gravelly loam and well drained. This site has been disturbed by past housing development, including an access drive, parking, and underground utilities. The site is flat. (Map #6)

**Alley Spring #523 Housing:** This location principally includes two soil types. The “Rueter-Gepp complex, bench, 8 to 15 percent slopes” is located on the western half of the site near the lagoons. These soils are a gravelly silt loam and excessively drained. The “Gladden silt loam, 0 to 3 percent slopes, occasionally flooded”, on the eastern area below the bench adjacent County Road 106-423, are well drained soils. The existing parking and house are on top of the bench, which slopes abruptly to east with an elevation drop of approximately 15 feet. (Map #7)

**Alley Spring #508 Housing:** This location principally includes two soil types. The “Coulstone-Alred complex, 15 to 50 percent slopes, very stony” is located on the western higher portion of the site. These soils consist of slightly decomposed plant material covering a very gravelly sandy loam. They are found on steep slopes, are excessively drained, and never flood. “Relfe gravelly sandy loam, 1 to 3 percent slopes, rarely flooded” is found in the eastern lower portion of the site. These soils are found on flat slopes, excessively drained, and in areas that rarely flood. These soils are in the area that includes the access drive to the site, the Alley Spring and Mill parking area, and Alley Branch. Topography on this site is undulating, except at the existing and proposed house sites where it is relatively flat. (Map #8)

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MAP #7: SOILS AT ALLEY SPRING #523 SITE





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**Round Spring Housing:** This location principally includes two soil types. The “Reuter-Gepp complex, 8 to 15 percent slopes, stony” located on the southern part of the site, is on ridges, excessively drained, and never flood. The “Relfe-Sandbur complex, 0 to 2 percent slopes, frequently flooded” is found on the northern portion, adjacent Spring Valley Creek. These soils are located in floodplains, are excessively drained, and subject to frequent flooding. The site is relatively flat in the location of the three housing units proposed for renovations, and then rises abruptly to the existing duplex that is proposed for demolition. (Map #9)

## **Environmental Consequences**

### No Action (Alternative A):

Impacts- Under the No Action Alternative, there would be no new housing construction. There would be no direct or adverse impacts to soils.

Conclusion- The No Action Alternative would result in no direct or adverse impacts to the soils because no new development would occur.

### Alternative B:

Impacts- Under Alternative B, new housing would be constructed in the general vicinity of the demolished structures. At all four locations soils at the sites have been disturbed in the past by housing, driveway, parking, and utility construction. However, some native soils onsite would be disturbed by new construction due to cut, fill and compaction, especially if the Alternative 2 (Map 4B) driveway is constructed at the Alley Spring #508 site. An estimated total acreage impacted by the project is 9.2 acres [Big Spring #473—3.0 acres, Alley Spring #523—3.0 acres, Alley Spring #508—1.5 acres, and Round Spring—1.7 acres]. Fill may be needed at the Big Spring #523 site to raise the elevation of the finish floor and at the Big Spring #503 site to improve access to the drive (Alternative 2—Map 4B). Project mitigation measures and best management practices (described in section 2.4) would be implemented to reduce soil erosion and sedimentation at the sites. The two Alley Spring sites would require the most mitigation due to steep slopes. Impacts to soils would be localized and adverse in the short-term but the implementation of mitigation measures would provide beneficial impacts to soils in the long-term by stabilizing the sites.

Cumulative Impacts- The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on soils. At all four locations soils at the sites have been disturbed in the past by housing, driveway, parking, and utility construction. The short duration of construction and the application of erosion control measures will reduce or eliminate impacts to soils.

Conclusion- Construction activities would result in short-term, localized, adverse impacts that would be managed by the use of appropriate soil erosion control measures and BMPs until the exposed soils were re-vegetated. Long-term impacts would be localized and beneficial, since permanent measures would be taken to minimize erosion and stabilize the sites.

# MAP #9: SOILS AT ROUND SPRING SITE



### 3.4 Threatened and Endangered Species

#### Affected Environment

The Endangered Species Act of 1973, as amended, requires that federal agencies consult with the U.S. Fish and Wildlife Service (USFWS) before taking any action that could jeopardize the continued existence of any federally listed threatened or endangered plant or animal species. As a result, the National Park Service must consider potential effects that any proposed action may have on these species. NPS policy also requires the protection of all federal candidate species, as well as state listed special status species.

Federally listed species were identified through discussions with park staff, informal consultation with the U.S. Fish and Wildlife, and the Missouri Department of Conservation Natural Heritage Database. Formal consultation was initiated with the U.S. Fish and Wildlife Service on June 27, 2016. (letter in Appendix B). A list of federal threatened, endangered, and special concern species that are known to occur or may occur within or adjacent to the project area within the boundaries of Ozark National Scenic Riverways was requested. Based on the USFWS email response (Appendix B), the USFWS IPaC (Information for Planning and Conservation) system was used to identify threatened, endangered, or special concern species that *may occur or could potentially be affected* at the four housing locations.

Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*) (Endangered)

Gray Bat (*Myotis grisescens*) (Endangered)

Indiana Bat (*Myotis sodalis*) (Endangered)

Northern Long-eared Bat (*Myotis septentrionalis*) (Threatened)

Red-cockaded Woodpecker (*Picoides borealis*) (Endangered) (Not listed for Big Spring site)

Virginia Sneezeweed (*Helenium virginicum*) (Threatened) (Not listed for Big Spring site)

A variety of migratory birds (birds of conservation concern), including:

Bald Eagle (*Haliaeetus leucocephalus*)

Bell's Vireo (*Vireo Bellii*)

Blue-winged Warbler (*Vermivora pinus*) (Not listed for Big Spring site)

Cerulean Warbler (*Dendroica cerulea*)

Dickcissel (*Spiza Americana*)

Fox Sparrow (*Passerella iliaca*) (Not listed for Big Spring site)

Kentucky Warbler (*Oporornis formosus*)

Least Bittern (*Ixobrychus exilis*)

Loggerhead Shrike (*Lanius ludovicianus*)

Mississippi Kite (*Ictinia mississippiensis*) (Only listed for Big Spring site)

Pied-billed Grebe (*Podilymbus podiceps*)

Prairie Warbler (*Dendroica discolor*)

Prothonotary Warbler (*Protonotaria citrea*)

Red-headed woodpecker (*Melanerpes erythrocephalus*)

Rusty Blackbird (*Euphagus carolinus*)

Sedge Wren (*Cistothorus platensis*)  
 Short-eared Owl (*Asio flammeus*)  
 Willow Flycatcher (*Empidonax traillii*)  
 Wood Thrush (*Hylocichla mustelina*)  
 Worm Eating Warbler (*Helmitheros vermivorum*)

Based on distribution and/or historical information, habitat for the following sensitive species may be present or affected within the project area and the possible impacts are addressed in this analysis. No critical habitat has been established for these species at any of the four locations.

\*Gray Bat (*Myotis grisescens*)  
 \*Indiana Bat (*Myotis sodalis*)  
 \*Northern long-eared Bat (*Myotis septentrionalis*)  
 \* Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*)

### **Gray Bat (*Myotis grisescens*)**

Gray bats (*Myotis grisescens*) are one of the few species of bats in North America that inhabit caves year round. Foraging of gray bats in summers is strongly correlated with open water of rivers, streams, lakes or reservoirs. Gray bats have very specific habitat requirements resulting in an estimated 95% of the species range-wide population hibernating in only nine caves each winter (USFWS, Gray bat recovery plan). Gray bats may travel up to 21 miles between prime feeding areas and occupied caves; however most caves are within 0.6 – 2.5 miles from foraging locations (USFWS, Species Take Avoidance Measures).

### **Indiana Bat (*Myotis sodalis*)**

Indiana bats (*Myotis sodalis*) hibernate in caves or mines during the winter where the ambient temperature remains below 10°C (50.0°F) but infrequently drops below freezing, and the temperature is relatively stable (USFWS, Indiana bat draft recovery plan). In summer, most reproductive females occupy roost sites under the exfoliating bark of live or dead trees and trees with large, thick slabs of peeling bark. Generally roost sites are >5 inches diameter at breast height (dbh) and include 33 different species of trees. Cavities are typically not used. Primary roosts usually receive direct sunlight (i.e. canopy gaps) for more than half the day. Habitats in which maternity roosts occur include riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Indiana bats forage primarily around, not within, the canopy of trees, but they occasionally descend to the subcanopy and shrub layers (USFWS, Northern Long-Eared Bat Interim Conference and Planning Guidance). Over 96 percent of Missouri's known hibernating Indiana bat population occurs in 5 caves or mines (Priority 1 sites).

### **Northern long-eared Bat (*Myotis septentrionalis*)**

Northern long-eared bats (*Myotis septentrionalis*) hibernate in caves and mines of various sizes with constant temperatures, high humidity, and no air currents. Primary roost locations include small crevices or cracks, often with only the nose and ears visible. During the summer, bats roost singly or in colonies underneath bark, in cavities or in crevices of live trees and dead trees and/or snags, typically >3 inches

dbh. Over 35 species of trees have been documented as roost habitat. Canopy coverage roosts have shown to vary from state to state, with 56 percent canopy cover being typical for Missouri (USFWS, Northern Long-Eared Bat Interim Conference and Planning Guidance). This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. Breeding begins in late summer or early fall when males begin to swarm near hibernacula and in spring, they emerge from their hibernacula. Females migrate to summer areas where they roost in small colonies, giving birth to a single pup from late May to late July. This species spends more time closer to the ground than Indiana bats, gleaning insects from vegetation. Most hunting occurs above the understory, one to three meters above the ground, but under or within the canopy (USFWS, Northern Long-Eared Bat Interim Conference and Planning Guidance). The northern long-eared bat is one of the bats most affected by white-nose syndrome with its numbers declining by 99 percent in northeastern caves and mines where it hibernates. Summer surveys have confirmed this level of decline at 93 to 98 percent. There is currently no evidence of northern long-eared bat populations recovering as compared to other bat species.

### **Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*)**

The Ozark Hellbender is a unique and environmentally sensitive species found only in the clean, clear rivers of the Ozarks. This strictly aquatic salamander typically found under large flat slabs of rock, in swift flowing rivers and streams and is extremely vulnerable to habitat disturbance and changes in water quality. Studies conducted on Ozark and Eastern Hellbenders in the 1970's, 1980s, and 1990s show that hellbender populations have declined by an average of 77% with a strong shift in age structure to larger and older adults. Due to obvious population declines, the Ozark Hellbender is federally listed as an endangered species by U.S. Fish and Wildlife Service under the Endangered Species Act. Research is being conducted as to the reasons for such a dramatic decline in population numbers, including reproductive problems, degrading water quality/habitat destruction, and the occurrence of disease or parasites causing limb abnormalities.

In addition, there are a number of state-listed species listed in the 2015 General Management Plan (NPS 2015) that may be in the project areas, including:

Gray Bat (*Myotis grisescens*) (state endangered)  
 Indiana Bat (*Myotis sodalis*) (state endangered)  
 Northern Long-eared Bat (*Myotis septentrionalis*) (n/a)  
 Plains Spotted Skunk (*Spilogale putorius interrupta*) (state endangered)  
 Northern Harrier (*Circus cyaneus*) (state endangered)  
 Swainson's Warbler (*Limnothlypis swainsonii*) (state endangered)  
 Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*) (state endangered)

### **Environmental Consequences**

No Action (Alternative A):

Impacts- Under the No Action Alternative, there would be no new housing construction. No direct or adverse impacts to threatened and endangered species would be expected.



Conclusion- The No Action Alternative would result in no impact to threatened and endangered species since there would be no housing construction.

#### Alternative B:

Impacts- Under Alternative B, new housing would be constructed in the general vicinity of demolished structures. Potential impacts to the three special status bat species by tree removal or general construction noise and activity would be mitigated by implementation of USFWS strategies to protect them. Tree clearing would only be performed between November 1 and April 1 to avoid impacts to Indiana bats and northern long-eared bats. Project mitigation measures and best management practices identified in Section 2.4 would be implemented to reduce or eliminate erosion and potential sedimentation of nearby water courses, which would greatly reduce any potential for impacts to Ozark Hellbenders or other stream life.

Cumulative Impacts- The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on threatened and endangered species. The short duration of construction activity (less than four months) and the application of species-specific mitigation measures and BMPs will minimize any impacts.

Conclusion- Potential impacts to the three sensitive bat species by tree removal or general construction noise and activity would be mitigated by implementation of USFWS strategies to protect sensitive bat species. Project mitigation measures and best management practices identified in Section 2.4 would be implemented to reduce or eliminate erosion and potential sedimentation of nearby water courses. Activities proposed under Alternative B would have minimal or no impacts on threatened and endangered species.

### **3.5 Viewsheds**

#### **Affected Environment**

NPS Management Policies 2006 states the park's scenery and scenic features are included among the resources and values that are to be protected and conserved. The proposed action calls for the removal of obsolete employee housing and the construction of new employee housing. The Big Spring #473 site is hidden from public view and actions at that site would not impact the viewshed. The Alley Spring #523 site is adjacent County Road 106-423 and near Missouri Highway 106, in the vicinity of the maintenance yard and sewage lagoons. Construction at this site would be visible from these roadways. The Alley Spring #523 site is immediately west of the Alley Spring Mill and Alley Spring on the boundary of the Alley Spring Historic District and the Alley Spring Natural Area. Construction at this site would be visible to visitors accessing the Historic District. The Round Spring site is an open lawn area adjacent Missouri Highway 19. Activities at that site include removal of an older housing structure, modifications to the three existing housing units and reconfiguration of sidewalks and parking areas. This construction would be visible to visitors traveling on Highway 19.

## **Environmental Consequences**

### **No Action (Alternative A):**

Impacts-Under the No Action Alternative, there would be no new housing construction and no impacts to viewsheds.

Conclusion- There would be no new housing construction and no impacts to viewsheds.

### **Alternative B:**

Impacts- Under Alternative B, new housing construction, and site restoration activities are anticipated to take about four months, and would have adverse short-term impact on viewsheds enjoyed by the public. Vegetation removal, disturbed soils, and typical construction activity would degrade the viewshed.

There could be a slight long-term alteration of the park's viewshed from the proposed developments at the two Alley Spring sites. The Alley Spring #523 site includes a 15-20 foot high bench above County Road 106-423. The obsolete housing at this site is located on this bench and new housing could be constructed either on top of the bench or on the edge of it. In either case the housing would be visible from the county road (and possibly, Missouri Highway 106). The Alley Spring #508 site is immediately adjacent the Alley Spring Historic District and the Alley Spring Natural Area. The entrance drive to the districts' parking area is across from the access to this site. Specific site locations, scale, materials, and color palette are all important factors that would be considered in the site design and construction process to minimize adverse impacts to viewsheds.

The Big Spring #473 site is hidden from public view, and actions at that site would not impact the viewshed. The Round Spring site is an open lawn area adjacent Missouri Highway 19. Activities at that site include modifications to the three existing housing units #236, #237, and #238 and a reconfiguration of sidewalks and parking areas, activities that would provide little change in the existing viewshed.

Cumulative Impacts- The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on viewsheds. Housing locations at Big Spring and Alley Spring #523 are out of view of most park visitors. The Alley Spring #508 site is near the mill and Alley Spring, but measures will be taken to minimize impacts to the viewshed from these visitor attractions. The Round Spring site is adjacent to Missouri Highway 19 and near the maintenance yard. Short-term construction activity will add little impact to the current site.

Conclusion- With the implementation of proposed mitigation measures, impacts on the viewshed would be short-term and adverse, limited to construction activities in a four-month timeframe. After construction is complete, impacts would be long-term and beneficial.

### 3.6 Floodplains

#### Affected Environment

Floodplains and associated riparian areas are the most diverse, dynamic, and complex terrestrial environments in the park. This is due in part to the high frequency of flooding, which is an important force in shaping the physical and biological features of the park. Flooding also represents a hazard, and past flooding in the park has damaged park infrastructure and threatened the lives of visitors. The Current and Jacks Fork Rivers typically rise six to ten feet above the average low-water mark during the rainy season, from March to May. These rivers can be expected to rise 19 feet once every 10 years and over 30 feet during a 100-year flood event. Because many of the park's popular recreation areas and facilities are in flat, low-lying areas, this large increase in river height during flood events places many of these facilities and high use areas in the floodplain risk zone. The frequency of flooding and the rapid rise that occurs during flash flood events have prompted the park to relocate certain facilities and establish closures based on river levels.

**Big Spring #473 Site:** A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain according to the 1987 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map. Observations by park staff indicate that this site is subject to occasional flooding in the spring. The 1981 Development Concept Plan (DCP) map shows the housing in the "Potential Flash Flood Zone."

**Alley Spring #523 Site:** This site is located on a high bench above the "100-year inundated area," as identified in the 1990 Delineation of Flooding within the Ozark National Scenic Riverways in Southeastern Missouri – Akers and Alley Spring (Alexander 1990). No flooding is expected.

**Alley Spring #508 Site:** The proposed housing is located high above Alley Branch. According to observations of park staff, Alley Branch, a small drainage to the north of the site, is prone to flooding in the spring and is within the "100-year inundated area" identified in the 1990 Alexander study. Flooding would not impact the proposed housing site but has flooded access to the housing along park road 305, which also serves the parking area for Alley Mill and Alley Spring. The 1981 DCP shows this general area in the "Potential Flash Flood Zone."

**Round Spring Site:** This site is adjacent to Spring Valley Creek but high above the floodplain. No flooding is expected.

#### Environmental Consequences

No Action (Alternative A):

Impacts- No new housing would be developed under No Action (Alternative A). There would be no change in the ability of the floodplain to convey floodwaters, or its values and functions, and no impacts to park housing in the four areas identified in this project.

Conclusion- No Action (Alternative A) would have no impact on the floodplain.

Alternative B:

Impacts- This alternative proposes to develop replacement housing in four areas in the park. Two of those areas, Big Spring #473 site and Alley Spring #508 site, are located in or near 100-year flood hazard zones and may be impacted. Executive Order (EO) 11988 (Floodplain Management) requires federal agencies to minimize occupancy of and modifications to floodplains. Specifically, the EO prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives.

Justification for this action is included in the Floodplain Statement of Findings (Appendix A).

The floodplain is a very important component of the natural processes of rivers within the park. It functions to slow and disperse the energy of floodwaters, and provides diverse habitat for wildlife and plants that thrive on flood disturbance. The effectiveness of a river and floodplain to convey and store flood-water can be adversely affected by the placement of impediments to the floodplain's ability to slow and disperse flood energy. In addition, because of the power of floods, it is the policy of the NPS to avoid the long- and short-term environmental effects associated with the occupancy of floodplains. The safety of employees and their belongings is very important, as well as protecting the investment in infrastructure from flood waters.

Since activities at the Big Spring #473 and Alley Spring #508 sites include replacement of existing structures and the impacts are on small tributaries, the potential impact to floodplain values is minimal to none. The sites have been previously disturbed from prior uses, all of the utilities are already present, the sites are outside of the historic districts, and they are removed from high visitor use areas.

Cumulative Impacts- The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on floodplain values. These replacement facilities at Big Spring #473 and Alley Spring #508 are on sites that have been previously disturbed from prior uses, all of the utilities are already present, the sites are outside of the historic districts, and they are removed from high visitor use areas.

Conclusion- Mitigation and compliance with regulations and policies to prevent impacts to water quality would be strictly adhered to during and after construction. Permits with other Federal and State agencies would be obtained prior to construction activities. Construction of replacement housing at the Big Spring #473 and Alley Spring #508 sites would have minimal to no impacts on floodplain values. Neither site has ever flooded, according to park staff. Replacement of housing at the existing sites would have the following advantages: the sites are already disturbed, existing utilities are available, they are outside of park historic districts, and they are away from visitor use areas.

### **3.7 Water Quality**

#### **Affected Environment**

The Jacks Fork and Current Rivers within the Ozark National Scenic Riverways are designated as Outstanding National Resource Waters because of their exceptional water quality. This designation has national, recreational, and ecological significance. Both rivers are also classified as Tier Three Waters by the State of Missouri. These stringent federal and state standards are designed to protect against any degradation in the water quality of these rivers. Also, both these rivers are on the Nationwide River Inventory under the Wild and Scenic Rivers Act. The park's water resources are of exceptional quality; however, they are also highly susceptible to pollution. This is because karst terrain does not allow for effective filtration and absorption of pollutants from surface water as it travels into the groundwater system. Also, faster travel rates provide less time for bacteria and viruses to die. Polluted water that may have been on the surface yesterday could be in the groundwater system today and then discharged into the rivers from one of the major springs within a week. In fact, groundwater can travel up to three miles per day in the Current River watershed.

#### **Environmental Consequences**

No Action (Alternative A):

Impacts-Under the No Action Alternative, there would be no new housing construction, and no impact on water quality.

Conclusion-There would be no impact to water quality.

Alternative B:

Impacts- Under Alternative B, new housing, include access drives, would be constructed in the general vicinity as the demolished structures. New housing construction and site restoration activities are anticipated to take about four months. An erosion and sediment control plan utilizing BMPs would be implemented during construction to reduce soil erosion and sediment transport into nearby water courses. Implementation of this plan would reduce the impacts to water quality to minimal or less.

Cumulative Impacts- The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on water quality. An erosion and sediment control plan utilizing BMPs would be implemented during construction to reduce soil erosion and sediment transport into nearby water courses. Implementation of this plan would reduce the impacts to water quality to minimal or less.

Conclusion- Impacts to water quality would be reduced to minimal or less by implementing an erosion and sediment control plan utilizing BMPs.

### **3.8 Cumulative Impact Conclusion**

There are no major past, present, or foreseeable future projects in the vicinity of any of the proposed housing replacement locations, other than the proposed housing replacement actions.

The incremental impact of the proposed action, when combined with other past, present, and reasonably foreseeable actions, will have little or no impact on any of the impact topics analyzed: archeology, soils, threatened and endangered species, viewsheds, floodplains, or water quality.

## **4.0 CONSULTATION AND COORDINATION**

### **4.1 Public Involvement**

This chapter documents the public involvement process for this project and includes the official list of recipients for the document. As required by NPS policies and planning documents, it is the Park's objective to work with State, Federal, and local governmental and private organizations to ensure that the Park and its programs are coordinated with theirs, and are supportive of their objectives, as far as proper management of the Park permits, and that their programs are similarly supportive of Park programs.

This EA will be available for public review from April 19, 2017 through May 19, 2017. During this 30-day period, hardcopies of the EA will be available for review at the Ozark National Scenic Riverways Headquarters and Visitor Information Center, and the Carter County Public Library located at 403 Ash Street, Van Buren, Missouri 63965. An electronic version of this document can be found on the NPS's PEPC website at <http://parkplanning.nps.gov/ozar>, Housing Replacement Environmental Assessment. This site provides access to current plans, environmental impact analyses, and related documents on public review. Comments on this EA will be summarized and responded to in an appendix to the decision document.

### **4.2 Agency Consultation**

Other Federal, State, and local governments were contacted during the planning process. Appendix B includes copies of written correspondence with those agencies. Early coordination letters were sent to the following agencies and tribes on June 27, 2016:

- USFWS
- MO Department of Resources
- U.S. Army Corps of Engineers
- Absentee Shawnee Tribe of Indians of Oklahoma
- Cherokee Nation
- Delaware Nation
- Delaware Tribe of Indians
- Eastern Shawnee Tribe
- Osage Nation of Oklahoma
- United Keetoowah Band of Cherokee
- Shawnee Tribe

To date, the only agency to reply was the USFWS in an email dated October 24, 2016, with IPaC system instructions attached. (Appendix B).

### **4.3 List of Preparers**

#### **National Park Service, Ozark National Scenic Riverways:**

Eric Daniels, Chief of Resources Management  
Joe Strenfel, Environmental Protection Specialist  
Victoria Grant, Natural Resources Manager  
Allison Young, Archeologist  
Rusty Rawson, Chief of Maintenance

#### **National Park Service, Midwest Regional Office:**

Kelly Andersen, Regional Housing Coordinator  
Nick Chevance, Regional Environmental Coordinator

#### **Consultant:**

Michael Duwe, Duwe Environmental LLC



## 5.0 REFERENCES

Alexander, Terry W.

1990 Delineation of Flooding within the Ozark National Scenic Riverways in Southeastern Missouri – Akers and Alley Spring.

Richard A. Cassidy, PhD

2013 Park Housing Chlordane Study, TOXFREE, Inc. Analytical Consulting.

National Park Service

1981 Development Concept Plans, Big Spring, Alley Spring, and Round Spring.

2003 Procedural Manual #77-2: Floodplains Management. Retrieved from [www.nature.nps.gov/rm77/floodplain.html](http://www.nature.nps.gov/rm77/floodplain.html).

2006 Management Policies 2006. U.S. Department of the Interior. Washington, D.C.

2010 National Park Service Climate Change Response Strategy. National Park Service Climate Change Response Program, Fort Collins, CO.

2011 Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making.

2013a Report on Historic and Projected Climate Trends and Implications for Ozark National Scenic Riverways by Nicholas Fisichelli, PhD, NPS Climate Change Response Program. Prepared for the National Park Service, Midwest Region, Omaha, Nebraska.

2013b Housing Needs Assessment, Ozark National Scenic Riverways, prepared under contract by LMI.

2015a Director's Order 12, NEPA Handbook.

2015b Ozark National Scenic Riverways Final General Management Plan / Environmental Impact Statement. U.S. Department of the Interior.

Natural Resource Conservation Service

2016 Websoil Survey ([www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/)).

**APPENDIX A**  
**FLOODPLAIN STATEMENT OF FINDINGS**  
**OZARK NATIONAL SCENIC RIVERWAYS HOUSING REPLACEMENT**

Recommended:

\_\_\_\_\_  
Superintendent, Ozark National Scenic Riverways

\_\_\_\_\_  
Date

Certified for Technical Adequacy and Servicewide Consistency:

\_\_\_\_\_  
Chief, Water Resources Division, Washington Office

\_\_\_\_\_  
Date

Approved:

\_\_\_\_\_  
Regional Director, Midwest Region

\_\_\_\_\_  
Date

## 1. INTRODUCTION

Executive Order (EO) 11988, *Floodplain Management* and EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, require the National Park Service (NPS) and other Federal agencies to evaluate the likely impacts of actions in floodplains. NPS Director's Order 77-2: *Floodplain Management* and the Procedural Manual 77-2: *Floodplain Management* provide NPS policies and procedures for complying with EO 13690.

This Statement of Findings (SOF) has been prepared to comply with EO 11988 and 13690. Ozark National Scenic Riverways (ONSR) has also prepared and made available an Environmental Assessment (EA) for the proposed construction or rehabilitation of housing at Big Spring, Alley Spring (two sites), and Round Spring. The Big Spring #473 site is located within the FEMA designated 100-year floodplain and will be addressed in this document. The Alley Spring #508 site is shown in the 100-year floodplain in the 1981 Alley Spring Development Concept Plan (NPS 1981) (no FEMA map is available for Shannon County). This site, however, is on a bench above Alley Branch and is not susceptible to flooding, but the access road (park road 305) is. Therefore, this site will also be addressed. The two other sites in this project, at Round Spring and Alley Spring #523, are not within the 100-year floodplain and will not be addressed further in this document. (Maps A and B)

The purpose of this SOF is to present the rationale for the proposed improvements at Big Spring #473 and Alley Spring #508 in the floodplain area and to document the anticipated effects on floodplain resources. The proposed project is a Class 1 Action, per Director's Order #77-2, which includes manmade features that require individuals to occupy the site and are prone to flood damage. Methods to avoid impacts to the floodplain are discussed.

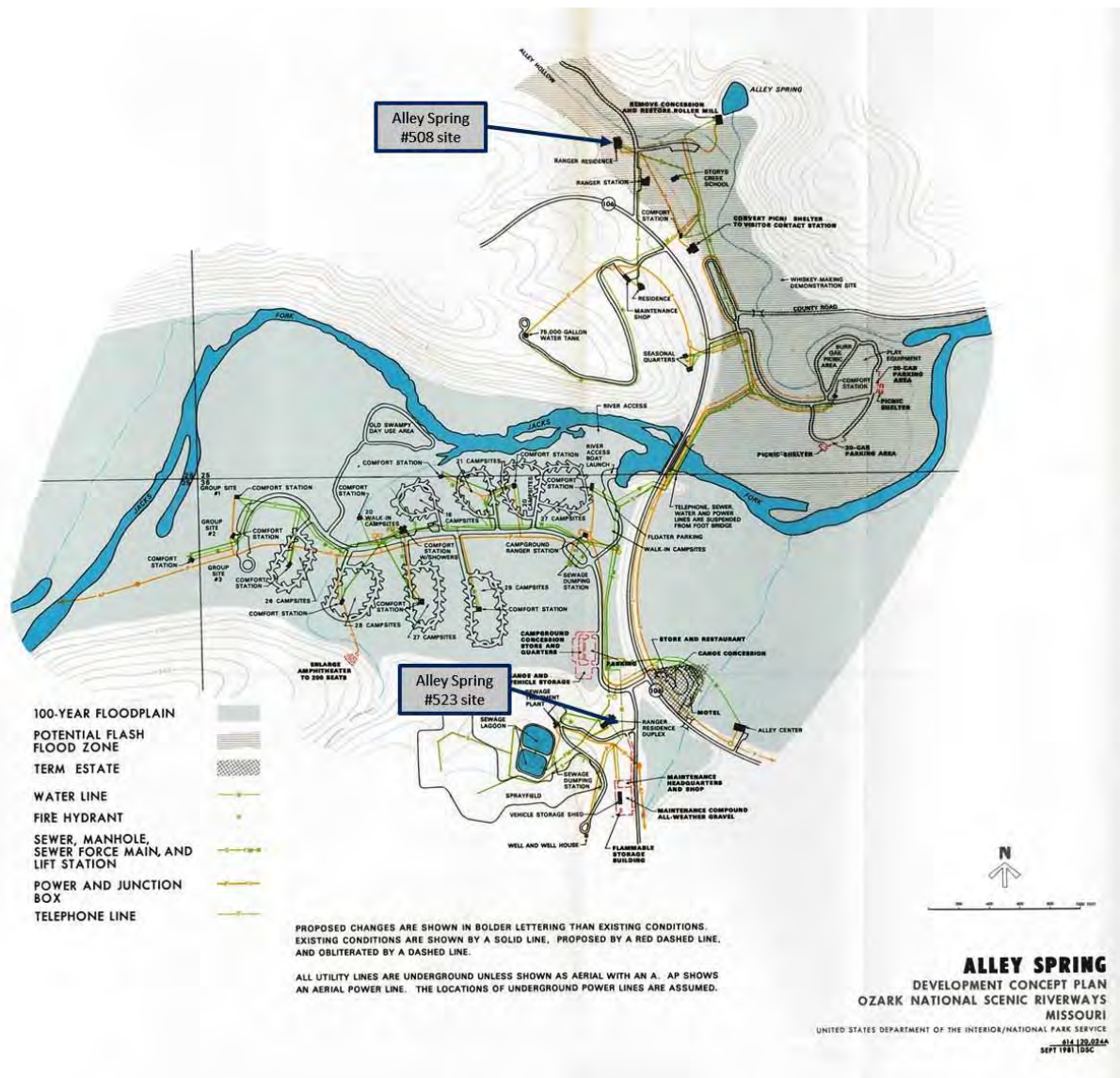
## 2. PROPOSED ACTION

Under Alternative B, the Preferred Alternative, new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring #473, Alley Spring #523, Alley Spring #508, and Round Spring #236, #237, and #238. The Big Spring #473 and Alley Spring #508 sites lay partially or entirely within the 100-year floodplain. The Alley Spring #523 and Round Spring sites are not within the mapped 100-year floodplain. (Maps A and B)

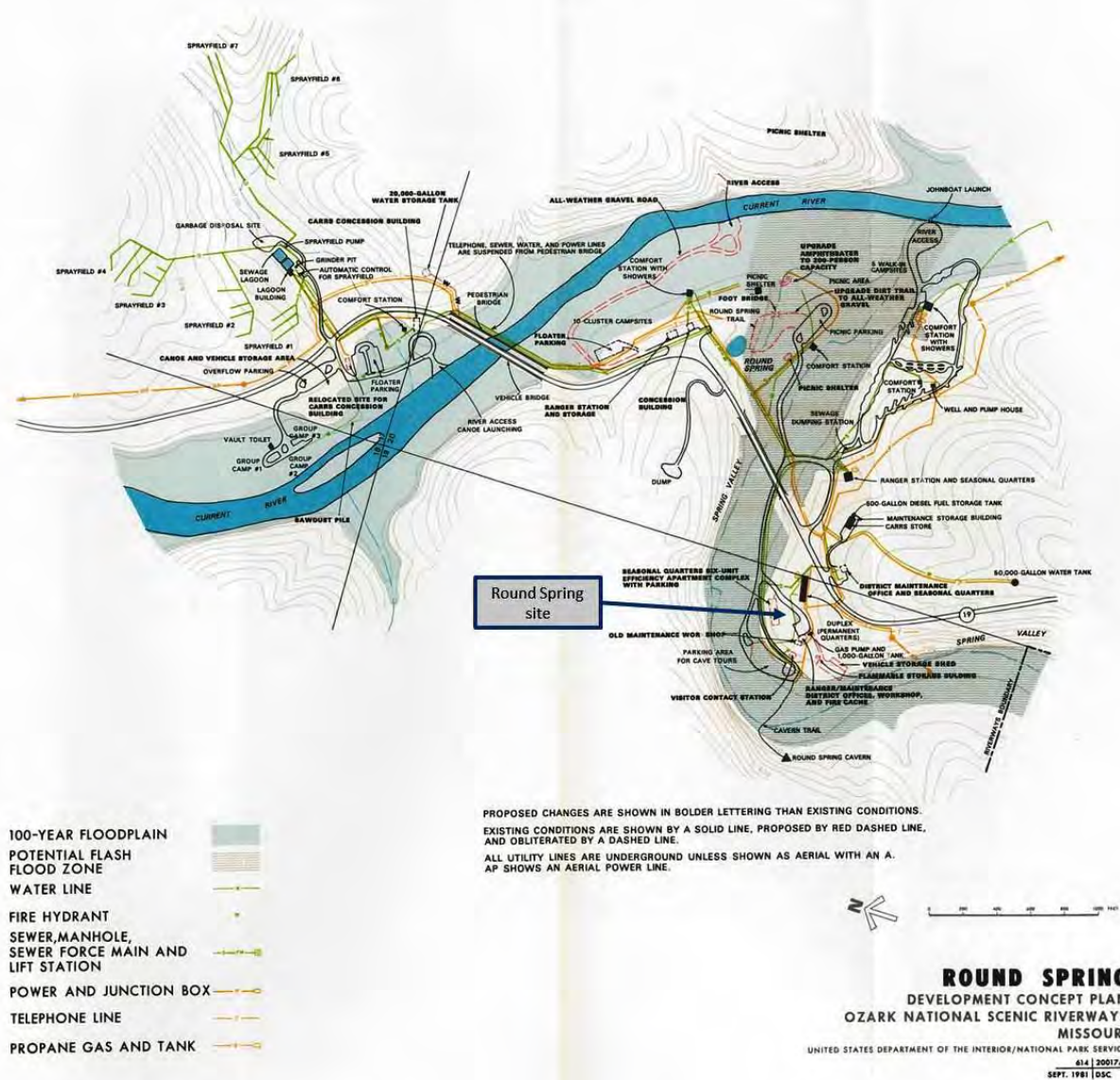
### **Big Spring #473 Site:**

This project component includes constructing one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

# MAP A: ALLEY SPRING #523 AREA FLOODPLAINS



## MAP B: ROUND SPRING AREA FLOODPLAINS



### **Alley Spring Duplex #508 Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit that was originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jacks Fork District of the park. The new unit will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

## **3. SITE DESCRIPTION**

### **Big Spring #473 Site:**

This site is located near the Big Spring Historic District (but not within it), just west of Pea Vine Road (County Road 60-102). The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and the site is within the designated 100-year floodplain according to the FEMA Flood Insurance Rate map (Map C). Roughly 3.0 acres would be disturbed by construction activities over a four month period. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

### **Alley Spring Duplex #508 Housing Site:**

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the preexisting structure was located and new housing is proposed.

A small drainage approximately 200 feet to the north of the site (Alley Branch) is prone to flooding in the spring and the site is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.5 acres would be disturbed by the two-week demolition work and new construction activities. Staging of materials and heavy equipment could be along the site circular access drive. The site is adjacent the Alley Spring Historic District but not within it.

## **4. FLOODPLAINS IN THE STUDY AREAS**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Carter County shows that the Big Spring housing area is within the 100-year floodplain, Zone A. Zone A flood zones are areas subject to a one percent annual chance of a flood event (FEMA). (Map C)

At the Big Spring site, a nearby creek adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Park staff, however, is not aware of any occasion where the existing housing structure flooded.

At the Alley Spring #508 site, a small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. According to park staff, this structure has never flooded, as it is located on a bench high above Alley Branch. Park road 305, the access road to the Alley #508 site as well as the parking area for Alley Spring and Mill, does flood periodically in the spring, preventing access. (MAP D)

## **5. IMPACTS TO FLOODPLAINS**

Since activities at the Big Spring #473 and Alley Spring #508 sites include replacement of existing structures and the impacts are on small tributaries, the potential impact to floodplain values is minimal to none. New housing will be in the general vicinity of the demolished housing and paved areas will be kept to a minimum.

## **6. JUSTIFICATION FOR USE OF THE FLOODPLAIN**

The sites have been previously disturbed from prior uses, all of the utilities are already present, the sites are outside of the historic districts, and they are removed from high visitor use areas.

## **7. INVESTIGATION OF ALTERNATIVE SITES**

Several U.S. Forest Service locations in and around Winona and a location near the spray field at Big Spring were looked at by the planning team. However, none of these sites were considered feasible alternatives.

The two sites being addressed (Big Spring #473 and Alley Spring #508), which are located with the 100-year floodplain, were considered the most feasible due to their location in the park, have been previously disturbed by housing, have existing utilities, are located outside the historic districts, and are removed from visitor use areas. Construction on new sites in other areas could potentially involve more impact due to soil disturbance caused by access roads and utility corridors, as well as archeological concerns.

## **9. MITIGATIVE ACTIONS**

The protection of human life will be achieved at all sites, including, and especially at, the Alley Spring #508 site shown to be located in the “Potential Flash Flood Zone” in the Development Concept Plan map (Map D) by insuring that any new housing be placed high above Alley Branch.

Natural and beneficial floodplain values will be preserved and restored at all the sites by applying the following mitigation measures:

- A revegetation plan would be developed and implemented.



- Prior to construction, soils at the site would be tested for chlordane contamination and remediated if necessary.
- Temporary BMPs would be utilized to minimize erosion and sedimentation from ground disturbing activities that expose bare soil. The BMPs may include the use of silt fence, fiber rolls, erosion matting and turbidity barriers. These BMPs would be used only during construction and would be removed once the disturbed area has been permanently stabilized.
- Any soil excavated during construction would be stockpiled and reused as fill if needed. Fill material would be clean, native soils.
- Staging areas for equipment and materials would be established away from any water courses.
- Stationary fuel and oil storage would remain within the staging area to avoid accidental spills into the water courses.
- Excess concrete and wash water from trucks and other concrete mixing equipment would be disposed of in designated areas where this material cannot enter the water courses.
- No equipment would be allowed to enter water courses.

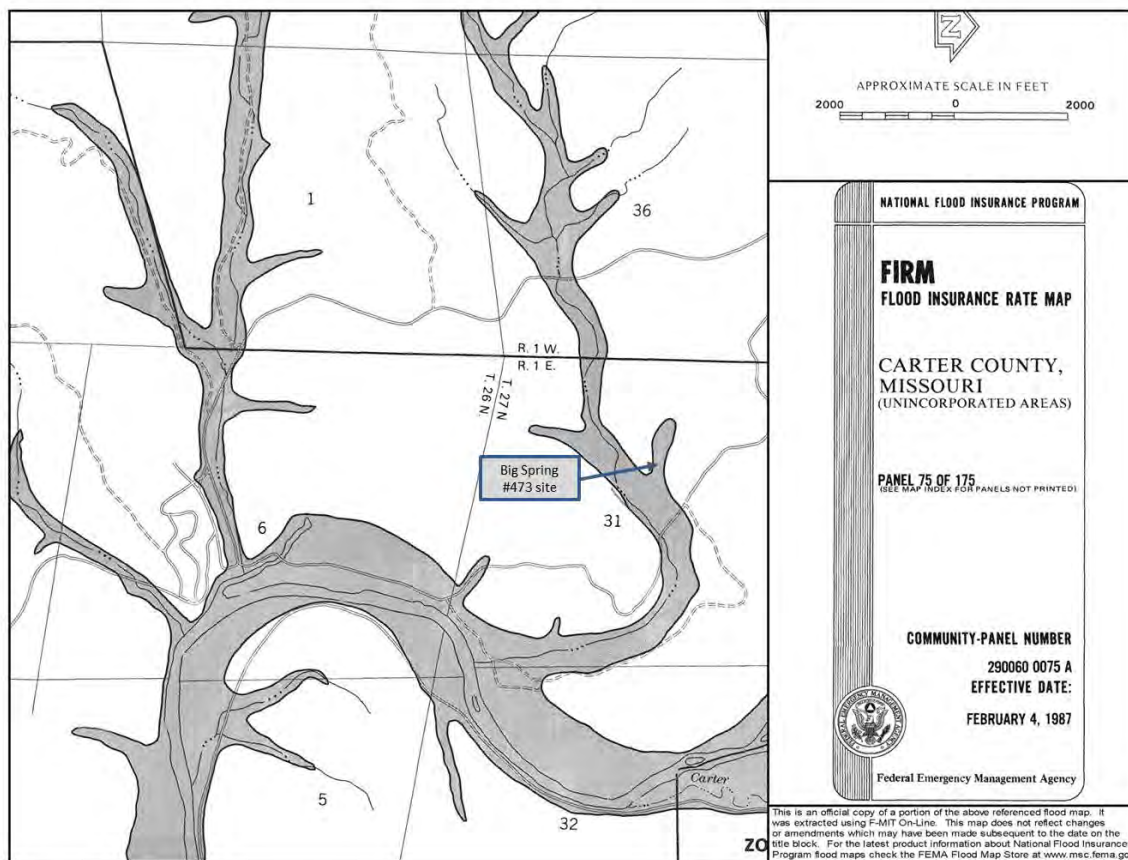
NPS capital investment will be protected up to the level of the FERMS floodplain by insuring that the new developments are constructed above areas that may be prone to flooding. An elevation site survey and a determination on elevation fill would be added to the preconstruction phase of the project. Construction activities would not occur during periods of high water.

## **10. CONCLUSION**

Mitigation and compliance with regulations and policies to prevent impacts to floodplain values would be strictly adhered to during and after construction. Permits with other Federal and State agencies would be obtained prior to construction activities. Construction of replacement housing at the Big Spring #473 and Alley Spring #508 sites would have minimal to no impacts on floodplain values. Replacement of housing at the existing sites would have the following advantages: the sites are already disturbed, existing utilities are available, they are outside of park historic districts, and they are away from visitor use areas. The NPS concludes that there is no practicable alternative for housing construction and, therefore, finds the Preferred Alternative B to be acceptable under Executive Order 11988 for floodplain management.



# MAP C: FLOODPLAIN AT BIG SPRING #473 SITE





## 11. REFERENCES

Alexander, Terry W.

1990 Delineation of Flooding within the Ozark National Scenic Riverways in Southeastern Missouri – Akers and Alley Spring.

National Park Service

1981 Development Concept Plans, Big Spring, Alley Spring, and Round Spring.

2003 Procedural Manual #77-2: Floodplains Management. Retrieved from  
[www.nature.nps.gov/rm77/floodplain.html](http://www.nature.nps.gov/rm77/floodplain.html).

2015b Ozark National Scenic Riverways Final General Management Plan / Environmental Impact Statement. U.S. Department of the Interior.

**APPENDIX B**  
**AGENCY COORDINATION**



IN REPLY REFER TO:

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

1.A.2

June 27, 2016

Sara Parker Pauley  
Director  
Missouri Department of Resources  
P.O. Box 176  
Jefferson City, Missouri 65102

Dear Ms. Pauley:

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

### **Big Spring (#473) Site:**

This project component includes demolishing the existing six-bedroom duplex/housing unit (1,560 square 36 feet each) constructed in 1976 and replacing the two housing units with one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park.

This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

#### **Round Spring Housing Site:**

This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The

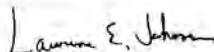


modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

Please review the project descriptions and enclosures for any regulatory or resource impact issues that your agency may have for this undertaking. My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.

Sincerely,



Lawrence E. Johnson  
Superintendent

Enclosures

---



IN REPLY REFER TO:

I.A.2

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

June 27, 2016

### Memorandum

To: Field Supervisor, Amy Salveter  
U.S. Fish and Wildlife Service

From: Superintendent, Ozark National Scenic Riverways

Subject: Park Housing Requirements Project

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

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This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as

overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

#### **Round Spring Housing Site:**

This component includes demolishing the existing six-bedroom duplex/housing unit (#248),

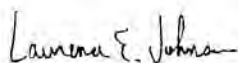
1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

This letter serves as notification that the NPS have begun the National Environmental Policy Act (NEPA) process and are proposing to have an Environmental Assessment (EA) available for public and regulatory review in the near future. In addition, this letter serves as a record that the NPS is initiating informal Section 7 consultation with your agency pursuant to the requirements of the 1973 Endangered Species Act, as amended and NPS Management Policies. As part of the scoping for this project, the NPS requests any information regarding listed or proposed threatened or endangered species or critical habitats that might occur in the project vicinity, and any special management considerations for such species.

In keeping with the requirements of Section 7 consultation and National Park Service policy, upon completion of the environmental assessment, the NPS will forward it to your office for review and comment. Should you know of or come across any other resource constraint that should be considered in planning for this project, please do not hesitate to contact us. We look forward to receiving any guidance or comments you may have regarding the process or the project itself.

My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions, or if you would like to schedule a meeting to further discuss the proposed undertaking, please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.



Lawrence E. Johnson

Attachments

---

---

From: **Crabill, Trisha** <[trisha\\_crabill@fws.gov](mailto:trisha_crabill@fws.gov)>  
Date: Mon, Oct 24, 2016 at 4:24 PM  
Subject: Re: ONSR Housing Consultation Letter and Attachment  
To: "Daniels, Eric" <[eric\\_daniels@nps.gov](mailto:eric_daniels@nps.gov)>

Hi Eric,

The response hasn't gotten lost on your end; it was because I didn't provide a response. Due to increasing workload, we're only providing technical assistance on projects with a larger scope or with potential issues. I had meant to convey that to you, but then it slipped off of my radar, so my apologies on that. After reviewing the project though, I didn't see any hellbender issues and had planned to provide our concurrence when you sent the Environmental Assessment and made the ESA determinations.

However, if you need an official species list as part of the process, you can generate that through our IPaC system. It's actually a relatively painless process. I've attached instructions on how to do that, but let me know if you have any questions.

Trisha

---

Trisha Crabill  
U.S. Fish and Wildlife Service  
Ecological Services  
101 Park DeVillie Drive, Suite A  
Columbia, MO 65203  
Office: [573-234-2132](tel:573-234-2132) x.121  
Fax: [573-234-2181](tel:573-234-2181)



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Missouri Ecological Services Field Office  
101 Park DeVille Drive, Suite A  
Columbia, Missouri 65203-0057  
Phone: (573) 234-2132 Fax: (573) 234-2181



Information for Planning and Conservation (IPaC) is a project planning tool which streamlines the U.S. Fish and Wildlife Service environmental review process. Through IPaC, you can obtain an Official Species List, but IPaC will not provide you with a concurrence or non-concurrence with "may affect" determinations. You should use the species list to make a determination for your project. If your determination is "no effect," document your decision for your file; no further consultation with our office is necessary. If your project may affect species noted in the Official Species List, contact our office to initiate consultation.

How to use IPaC to obtain an Official Species List:

1. Go to <http://ecos.fws.gov/ipac/>
2. Click "GET STARTED."
3. Click "ENTER PROJECT LOCATION" and search for the nearest town in the "Find a place" search bar.
4. Define your project area using the "Sketch," "Polygon," or "Line" tool. You can also upload a shapefile if you have one.
5. Click "Continue" to confirm the project area.
6. **Please note the resulting webpage is NOT an Official Species List.** To request an Official Species List, click "Request an Official Species List" under "Tasks."
7. Fill out the information requested on the next page and click "SUBMIT OFFICIAL SPECIES LIST REQUEST."
8. A message from "fwhq\_ecos\_support" should be delivered to the email address you provided; click the link in the email to verify your email address.
9. Shortly after you verify your email address, you should receive an email with an Official Species List attached.
10. If you have any questions, please contact the Missouri Ecological Services Field Office at 573-234-2132.





IN REPLY REFER TO:

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercross Drive  
P.O. Box 490  
Van Buren, Missouri 63965

1.A.2

June 27, 2016

Louis Clarke  
U.S. Army Corps of Engineers  
Walnut Ridge Regulatory Field Office  
Little Rock District  
PO Box 865  
Walnut Ridge, Arkansas 72476-0865

Dear Mr. Clarke:

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

### **Big Spring (#473) Site:**

This project component includes demolishing the existing six-bedroom duplex/housing unit (1,560 square 36 feet each) constructed in 1976 and replacing the two housing units with one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park.

This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as

overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

#### **Round Spring Housing Site:**

This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units

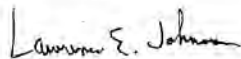
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(#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

Please review the project descriptions and enclosures for any regulatory or resource impact issues that your agency may have for this undertaking. My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.

Sincerely,



Lawrence E. Johnson  
Superintendent

Enclosures



IN REPLY REFER TO:  
I.A.2

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

June 28, 2016

Edwina Butler Wolfe  
Governor  
Absentee Shawnee Tribe of Indians of Oklahoma  
2025 South Gordon Cooper Drive  
Shawnee, Oklahoma 74801

Dear Governor Wolfe,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

### **Big Spring (#473) Site:**

This project component includes demolishing the existing six-bedroom duplex/housing unit (1,560 square 36 feet each) constructed in 1976 and replacing the two housing units with one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park.

This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower

Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by

the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

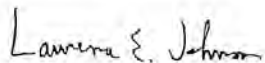
This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

This letter serves as notification that the NPS has begun the National Environmental Policy Act (NEPA) process and is proposing to have an Environmental Assessment (EA) available for public and regulatory review in the near future. In addition, this letter serves as a record that the NPS is initiating informal Section 7 consultation with your agency pursuant to the requirements of the 1973 Endangered Species Act, as amended and NPS Management Policies. As part of the scoping for this project, the NPS requests any information regarding listed or proposed threatened or endangered species or critical habitats that might occur in the project vicinity, and any special management considerations for such species.

In keeping with the requirements of Section 7 consultation and National Park Service policy, upon completion of the environmental assessment, the NPS will forward it to your office for review and comment. Should you know of or come across any other resource constraint that should be considered in planning for this project, please do not hesitate to contact us. We look forward to receiving any guidance or comments you may have regarding the process or the project itself.

My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions, or if you would like to schedule a meeting to further discuss the proposed undertaking, please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.



Lawrence E. Johnson  
Superintendent

Enclosures





## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

IN REPLY REFER TO:  
I.A.2

June 28, 2016

Bill John Baker  
Principal Chief  
Cherokee Nation  
P.O. Box 948  
Tahlequah, Oklahoma 74465

Dear Chief Baker,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

### **Big Spring (#473) Site:**

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This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower

Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by

the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

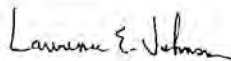
This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

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Lawrence E. Johnson  
Superintendent

Enclosures



## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercross Drive  
P.O. Box 490  
Van Buren, Missouri 63965

IN REPLY REFER TO:

1.A.2

June 28, 2016

Mr. C.J. Watkins  
Acting President  
Delaware Nation  
P.O. Box 825  
Anadarko, Oklahoma 73005

Dear Mr. Watkins,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

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This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

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#### **Alley Spring Duplex (#508) Housing Site:**

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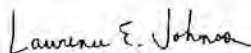
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Lawrence E. Johnson  
Superintendent

Enclosures





IN REPLY REFER TO:  
I.A.2

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercross Drive  
P.O. Box 490  
Van Buren, Missouri 63965

June 28, 2016

Chet Brooks  
Chief, Delaware Tribe of Indians  
5100 Tuxedo Boulevard  
Bartlesville, OK 74006

Dear Chief Brooks,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

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#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and

heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

This letter serves as notification that the NPS has begun the National Environmental Policy Act (NEPA) process and is proposing to have an Environmental Assessment (EA) available for public and regulatory review in the near future. In addition, this letter serves as a record that the NPS is initiating informal Section 7 consultation with your agency pursuant to the requirements of the 1973 Endangered Species Act, as amended and NPS Management Policies. As part of the scoping for this project, the NPS requests any information regarding listed or proposed threatened or endangered species or critical habitats that might occur in the project vicinity, and any special management considerations for such species.

In keeping with the requirements of Section 7 consultation and National Park Service policy, upon completion of the environmental assessment, the NPS will forward it to your office for review and comment. Should you know of or come across any other resource constraint that should be considered in planning for this project, please do not hesitate to contact us. We look forward to receiving any guidance or comments you may have regarding the process or the project itself.

My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions, or if you would like to schedule a meeting to further discuss the proposed undertaking, please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.

*Lawrence E. Johnson*

Lawrence E. Johnson  
Superintendent

Enclosures



IN REPLY REFER TO:  
I.A.2

## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

June 28, 2016

Glenna J. Wallace  
Chief, Eastern Shawnee Tribe  
P.O. Box 350  
Seneca, Missouri 64865

Dear Chief Wallace,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

### **Big Spring (#473) Site:**

This project component includes demolishing the existing six-bedroom duplex/housing unit (1,560 square 36 feet each) constructed in 1976 and replacing the two housing units with one 1,649 square foot four-bedroom dorm unit and one adjacent 1,060 square foot two-bedroom apartment unit for NPS personnel serving the Lower Current District of the park.

This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing

underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and

heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

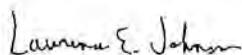
This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

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My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions, or if you would like to schedule a meeting to further discuss the proposed undertaking, please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.



Lawrence E. Johnson  
Superintendent

Enclosures





## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

IN REPLY REFER TO:

1.A.2

June 28, 2016

Scott Bighorse  
Principal Chief  
Osage Nation of Oklahoma  
627 Grandview  
Pawhuska, Oklahoma 74056

Dear Mr. Bighorse,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

### **Big Spring (#473) Site:**

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This site is located near the Big Spring Historic District (but it is not in it), just west of Pea Vine Road. The wastewater treatment facility and fire cache/maintenance yard that serve the Lower

Current District are in the vicinity. It is a relatively flat site, lightly treed, and has existing underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

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the two-week demolition work and 32 new construction activities. Staging of materials and heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

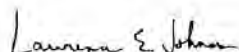
This component includes demolishing the existing six-bedroom duplex/housing unit (#248), 1,560 square feet each and constructed in 1976, and modifying the three existing housing units (#236, 237 and 238) for NPS personnel serving the Upper Current District of the park. The modifications would include new bedrooms, baths, and utilities, step and ramp modifications, and patios.

The site is located on Missouri Highway 19. It is a fairly open site with few trees and mostly manicured lawn areas. About 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive or in the maintenance yard.

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My staff will continue to keep you informed as the planning effort progresses and we would appreciate receiving any preliminary comments you may have by as soon as possible. If you have any questions, or if you would like to schedule a meeting to further discuss the proposed undertaking, please contact Eric Daniels, Chief of Resource Management, at 573-323-4868.



Lawrence E. Johnson  
Superintendent

Enclosures



## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

IN REPLY REFER TO:  
1.A.2

June 28, 2016

George Wickliffe  
Chief, United Keetoowah Band of Cherokee  
P.O. Box 746  
Tahlequah, Oklahoma 74465

Dear Mr. Wickliffe,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

This project includes four existing housing areas that no longer meet minimum housing requirements due to significant deficiencies and chemical contamination. The new housing will be designed and constructed to replace the existing substandard housing. New or improved employee housing would be constructed at four existing housing sites within the park: Big Spring (#473), Alley Spring (#523), Alley Spring (#508), and Round Spring (#236, 237, and 238).

This project will occur in multiple phases. You have already received correspondence regarding the archeological surveys done for compliance with Section 106 so that the existing structures could be demolished. The finalized archeological report from those surveys is forthcoming. The construction in the Big Spring area will be the first phase of the project to move forward. An archeological survey consisting of a shovel test inventory will be conducted in the area of potential effect prior to further consultation taking place.

### **Big Spring (#473) Site:**

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underground utilities. A nearby creek, adjacent the access road, is subject to flooding in the spring and is within the designated 100-year floodplain. Roughly 1.5 acres would be disturbed by demolition (two weeks) and construction (four months) activities. Staging of materials and heavy equipment could be along the access road and in the fire cache/maintenance yard. Two small parking areas, about six vehicles each, would be constructed in front of the units, as well as overflow parking.

#### **Alley Spring Duplex (#523) Housing Site:**

This project component includes demolishing the existing six bedroom duplex/housing unit (1,560 square feet each), constructed in 1976, and replacing the two housing units with two 1,649 square foot four-27 bedroom dorm units for NPS personnel serving the Jack's Fork District of the park. The new units will incorporate energy saving technology and sustainable design. The project will be designed, with construction occurring during the following building season (during an estimated four-month period).

This site is located on County Road 106-423, just south of Missouri Highway 106. The wastewater treatment facility and maintenance yard that serve the Jack's Fork District are in the vicinity. The site is lightly treed, with mostly manicured lawn and has existing underground utilities. As proposed, the existing structure would be demolished (during a two-week period) and that site would be used for employee parking (for roughly six vehicles). The new housing units would be constructed east of the new parking, adjacent County Road 106-423. The site is flat in the location of the new parking, but then drops off the bench roughly 15-20 feet easterly. Less than 1.0 acre would be disturbed by demolition and construction activities. Staging of materials and heavy equipment could be along the site access drive and in the maintenance yard located just to the west.

#### **Alley Spring Duplex (#508) Housing Site:**

This component includes demolishing the existing 2,100 square foot housing unit, originally constructed in 1912-1913, remodeled for housing in 1968, and rehabilitated for office use in 1986. This structure will be replaced with a 2,200 square foot dorm unit for NPS personnel serving the Jack's Fork District of the 10 park.

This site is located near Missouri Highway 106 on park road 305, across from the entrance to the parking area for Alley Mill and Alley Spring. The site is undulating, but fairly flat on top where the existing structure is located and new housing is proposed. The existing entrance driveway is steep, but there is a circular access to the site from the back. Little to no tree removal for housing construction would be necessary except for possibly two mature white oaks. One site alternative uses the existing driveway off park road 305. Another alternative, however, moves the entrance drive to the south. This action would necessitate removal of smaller trees (less than 12-inch in diameter) and some grading to reduce the slope. Under either alternative design, roughly eight vehicle parking spaces would be provided, with some overflow parking. Underground utilities serve the site. A small drainage to the north of the site (Alley Branch) is prone to flooding in the spring and is within the designated 100-year floodplain. Flooding may not impact the housing site but could be an issue with access along park road 305. About 1.0 acre would be disturbed by the two-week demolition work and 32 new construction activities. Staging of materials and

heavy equipment could be along the site circular 33 access drive.

**Round Spring Housing Site:**

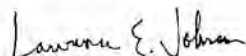
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Lawrence E. Johnson  
Superintendent

Enclosures





## United States Department of the Interior

NATIONAL PARK SERVICE  
Ozark National Scenic Riverways  
404 Watercress Drive  
P.O. Box 490  
Van Buren, Missouri 63965

IN REPLY REFER TO:

1.A.2

June 28, 2016

Ron Sparkman  
Chairman  
Shawnee Tribe  
P.O. Box 189  
Miami, Oklahoma 74355

Dear Mr. Sparkman,

The National Park Service (NPS) is proposing to remove and replace obsolete park housing at four locations within Ozark National Scenic Riverways: Big Spring Duplex (#473) housing, Alley Spring Duplex (#523) housing, Alley Spring (#508) housing, and Round Spring (#248, 236, 237, 238) housing.

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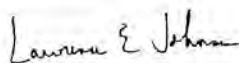
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Lawrence E. Johnson  
Superintendent

Enclosures

**APPENDIX C: PHOTOGRAPHS**



**BIG SPRING #473 HOUSING SITE****Driveway****Ranger Storage and Maintenance Facility**



**BIG SPRING #473 HOUSING SITE (CONTINUED)**

**Proposed housing site**



**Proposed housing site (looking towards access road and the creek)**



**ALLEY SPRING #523 HOUSING SITE**

**Site overview (looking towards the vehicle on County Road 106-423)**



**Site driveway**



**ALLEY SPRING #523 HOUSING SITE (CONTINUED)**

Site overview with County Road 106-423 to the left



Site looking southwest



**ALLEY SPRING #508 HOUSING SITE**

**Overview showing Park Road 305 and the driveway**



**House site**



**ALLEY SPRING #508 HOUSING SITE (CONTINUED)**

**House site and the access drive behind the site**



**House site**



## ROUND SPRING HOUSING SITE



**View of housing area from Missouri Highway 19**



**Side view of one of the units with maintenance facility in the background**



**ROUND SPRING SITE (CONTINUED)**

**Rear of housing units**



**Entrance drive off Missouri Highway 19 with maintenance facility in the background and site of removed housing unit to the left of the truck on the left**



