Death Valley National Park
California, Nevada

US Department of the Interior
National Park Service

Stovepipe Wells Developed Area Improvements Environmental Assessment

January 2022

US DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

DEATH VALLEY NATIONAL PARK
STOVEPIPE WELLS DEVELOPED AREA IMPROVEMENTS ENVIRONMENTAL ASSESSMENT

The National Park Service (NPS) has prepared this environmental assessment (EA) to evaluate the impacts of improving the Stovepipe Wells Developed Area in Death Valley National Park (park), Inyo County, California. The Stovepipe Wells Developed Area includes Stovepipe Wells Village, Emigrant Junction, Mesquite Flat Sand Dunes trailhead, Mosaic Canyon Road and trailhead, and Devils Cornfield parking pullout.

This EA presents two alternatives for managing the Stovepipe Wells Developed Area, describes the environment that would be impacted by the alternatives, and analyzes the environmental consequences of implementing the alternatives. Under the no-action alternative, no changes would be made to how the Stovepipe Wells Developed Area is managed. Under the proposed action, modifications would be made to the Stovepipe Wells Developed Area to address failing infrastructure and improve park operations in this area of the park. These actions would enhance the overall visitor experience and protect natural and cultural resources.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended and in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. This EA has been prepared to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet the objectives of the proposal, 2) evaluates potential issues and impacts on the park's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. The document is a programmatic EA and as further design work for the actions of the preferred alternative are completed, additional regulatory compliance would be completed as necessary.

How to Comment

We invite you to comment on this EA during the 30-day public review period. The preferred method of providing comments is through the NPS Planning, Environment, and Public Comment (PEPC) website for the park at: https://parkplanning.nps.gov/StovepipeWellsPlan. You may also submit written comments to:

Death Valley National Park
Attention: Compliance Office
c/o Stovepipe Wells Developed Area EA
P.O. Box 579
Death Valley, CA 92328

Please submit your written comments postmarked no later than 30 days of the posting of the notice of availability of the EA, which will be posted on the PEPC website. Please be aware that your entire comment will become part of the public record. If you wish to remain anonymous, please clearly state that within your correspondence; however, the National Park Service cannot guarantee that personal information, such as email address, phone number, etc. will be withheld.

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ACRONYMS AND ABBREVIATIONS

ABAAS	Architectural Barriers Act Accessibility Standard
CA-190	California Highway 190
Caltrans	California Department of Transportation
CCC	Civilian Conservation Corps
CFR	Code of Federal Regulations
cfs	Cubic feet per second
EA	Environmental Assessment
FAA	Federal Aviation Administration
GMP	General Management Plan
mph	miles per hour
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
park	Death Valley National Park
PEPC	Planning, Environment, and Public Comment
PL	Public Law
RO	Reverse Osmosis
RV	Recreational vehicle
SHPO	State Historic Preservation Office
TDS	Total Dissolved Solids
US	United States
USC	United States Code

CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

The National Park Service (NPS) proposes to implement actions at the Stovepipe Wells Developed Area in Death Valley National Park (park) to address failing infrastructure and improve park operations in this area of the park. These actions would enhance the overall visitor experience and protect natural and cultural resources. The project area includes Stovepipe Wells Village, Emigrant Junction, Mesquite Flat Sand Dunes trailhead, Mosaic Canyon Road and trailhead, and Devils Cornfield parking pullout (figure 1).

The proposed project would include the following actions:

- Improve visitor safety along California Highway 190 (CA-190)
- Improve or replace potable water, wastewater, and septic system components throughout the project area
- Demolish and replace the Stovepipe Wells emergency services building (fire and ambulance station)
- Redesign Stovepipe Wells campground
- Demolish and replace Stovepipe Wells visitor contact station
- Improve parking areas throughout the Stovepipe Wells Developed Area
- Improve interpretive facilities, including signs, throughout the area
- Create a trail connecting Stovepipe Wells Village to Mesquite Flat Sand Dunes trailhead
- Improve the gas station by adding diesel fuel
- Improve and increase concession employee housing
- Improve the emergency services helipad and remove the Stovepipe Wells airstrip
- Rehabilitate Emigrant Junction Ranger Station, Comfort Station, and campground
- Construct recreational vehicle (RV) pads for staff at Emigrant Junction
- Improve Mosaic Canyon Road and trailhead
- Install an off-road driving barrier along CA-190 at Devils Cornfield

PURPOSE OF AND NEED FOR ACTION

The purpose of the project is to implement actions at the Stovepipe Wells Developed Area that would address critical infrastructure issues, visitor safety concerns, and conditions that adversely impact visitor experience, cultural and natural resources, and park operations.

In the harsh desert environment, reliable critical infrastructure is important to the health and safety of both visitors and staff. It is inefficient to spend park funds and staff time on emergency repairs and piecemeal replacements of outdated and failing infrastructure, such as potable water and wastewater systems, and unplanned outages compromise the visitor experience. The proposed actions address the most important issues related to visitor experience, natural and cultural resource protection, and park operations.

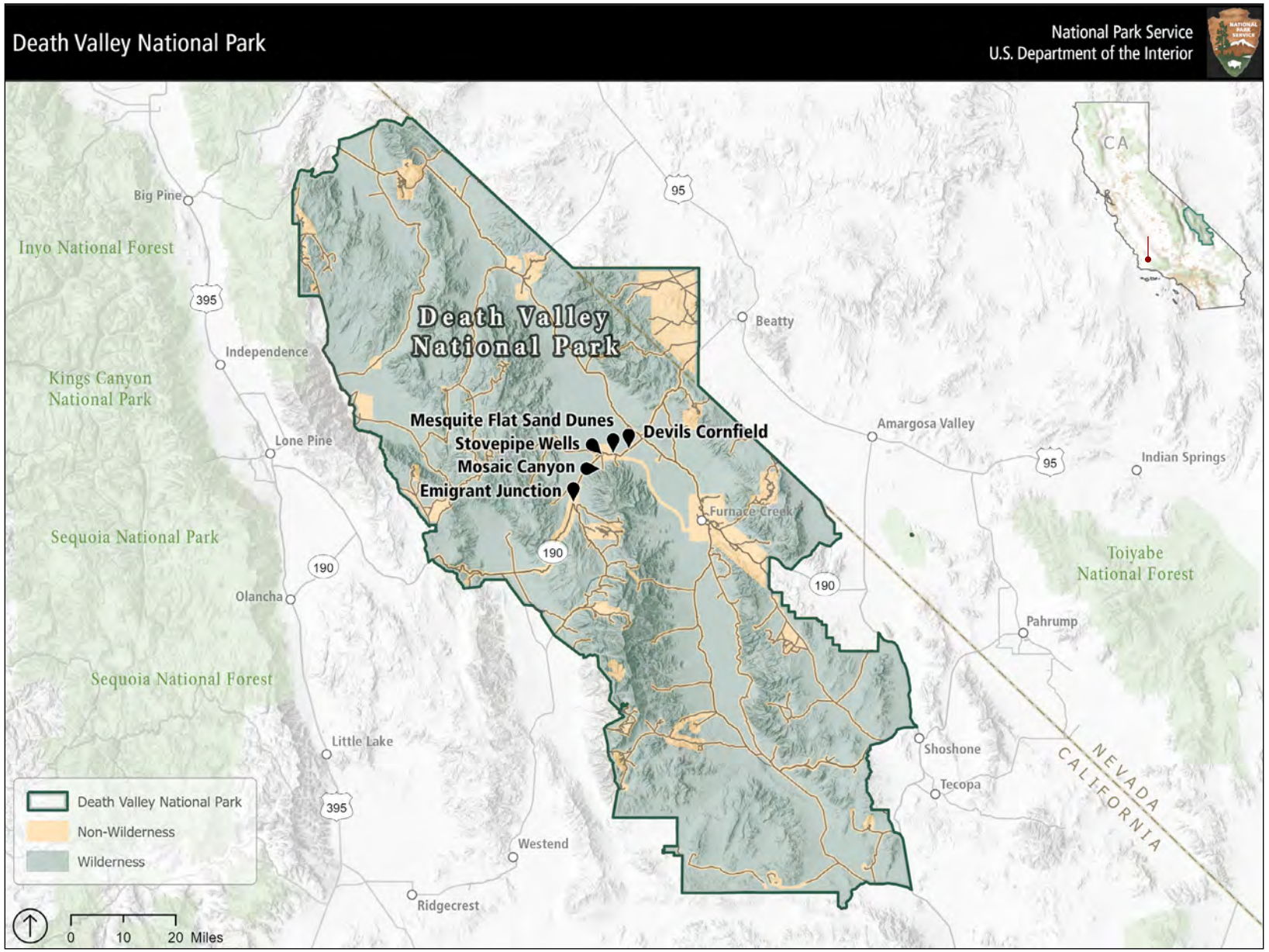

Figure 1. Location of Death Valley National Park and the Project Area

PROJECT AREA

Of the three locations in the park that offer wide-ranging visitor services and opportunities (Stovepipe Wells Village, The Oasis at Death Valley, and Panamint Springs Resort), Stovepipe Wells Village is the oldest visitor-serving area, as well as the first tourist destination in Death Valley. Stovepipe Wells Village is located in the center of the park between the Panamint, Cottonwood, and Funeral mountain ranges, and positioned on an alluvial fan at the base of Tucki Mountain. Its location offers dramatic views of the surrounding desert landscape. The other areas comprising the Stovepipe Wells Developed Area are located within 9 miles to the southwest and 6 miles to the northeast of Stovepipe Wells Village along CA-190.

Stovepipe Wells Village

Stovepipe Wells Village was developed incrementally and is bisected by CA-190. The facilities on the south side of CA-190 include a hotel, restaurant/bar, swimming pool, concession employee housing, NPS employee housing, emergency services building, cell tower, reverse osmosis (RO) water treatment facility, a water tank, and flood control structures. On the north side of CA-190 is a campground with a tent and RV camping area with no hookups, a small RV campground with hookups, a visitor contact station, sewage lagoons, gas station, informal picnic area, general store, helicopter landing pad, an airstrip, and access to the park's most popular backpacking destination.

Emigrant Junction

Emigrant Junction is located just north of the intersection of Emigrant Canyon Road and CA-190, approximately 9 miles southwest of Stovepipe Wells Village. It is one of the main entrance points for visitors to the park. Although referred to as Emigrant on the park map, it is widely referred to in documents and reports by its historic name for the junction of Emigrant Canyon Road and CA-190. For this document, it will be referred to by its historic name, Emigrant Junction.

An unused historic stone Ranger Station and two historic corrugated metal generator buildings at Emigrant Junction are on the east side of CA-190. A historic stone Comfort Station, parking lot, and picnic area are on the west side of CA-190. The Ranger Station, Comfort Station, generator buildings, and other features were constructed by the Civilian Conservation Corps (CCC) in the 1930s. Emigrant Junction Historic District has been determined to be eligible for the National Register of Historic Places (NRHP). Just southwest of the Comfort Station, also on the west side of the road, is a rustic, tent-only, 10-site campground. A 26,500-foot pipeline transports water from Emigrant Spring to Emigrant Junction. The pipeline is buried and roughly follows the Emigrant Canyon Road alignment for 5 miles, although it is not directly adjacent to the road. The water line connects to the Comfort Station and campground at Emigrant Junction; the campground has a spigot for campers to use. There are also indications that the Emigrant Ranger Station had potable water at one time (a sink and outside spigots) but does not currently provide water service.

Mesquite Flat Sand Dunes Parking Area and Trailhead

The popular Mesquite Flat Sand Dunes visitor use area is located 2 miles east of Stovepipe Wells Village. The Mesquite Flat Sand Dunes is the largest dune field in the park and easiest for visitors to access. The trailhead parking lot includes a one-way paved access loop and parking for approximately 40 cars and six oversized vehicles, a delineated access point into the dunes, interpretive information, and vault toilets. There is limited parking along the entrance road. There are east- and west-bound turning lanes along CA-190 to access the parking area, and an area to park along the north side of the highway (NPS 2018).

Mosaic Canyon Road and Parking Area

Mosaic Canyon Road is 0.2 mile west of Stovepipe Wells Village along CA-190. The 2.3-mile unpaved Mosaic Canyon Road terminates at a gravel parking lot and the Mosaic Canyon trailhead. There are no restrooms or other amenities available. The trailhead leads into a rocky wash and narrow marbleized canyon. The canyon is a popular place for a 3.5-mile long, out-and-back hike.

Devils Cornfield Parking Pullout

Devils Cornfield is about 6 miles northeast of Stovepipe Wells Village. Devils Cornfield is a vast, open landscape dotted with patches of arrowweed (*Pluchea sericea*), an evergreen plant that gives the area its unique appearance. A parking pullout enables visitors to safely pull off the highway into a viewing area for Devils Cornfield. There are paved shoulder pullouts on both sides of the highway and an interpretive panel on the north side of the highway. There are no other facilities located at this site (NPS 2018).

CA-190

The project area is located along CA-190, the two-lane main thoroughfare through the park, which provides access from United States (US) Route 395 at the eastern flank of the Sierra Nevada to California Highway 127 at Death Valley Junction near the California/Nevada border. Increasing park visitation has resulted in rapidly growing traffic volume on CA-190. While the average number of vehicles traveling through Stovepipe Wells Village daily in 2017 was 950 (NPS 2020a), traffic volumes of up to 1,350 vehicles per day have been recorded during peak visitation periods (NPS 2020a). Common vehicles on CA-190 include passenger vehicles, motorcycles, recreational vehicles, and commercial trucks. Traffic volumes on CA-190 typically drop off at night (NPS 2020a). There is also some bicycle use on CA-190, including use by bicycle tour groups. The posted speed limit in the project area varies from 60 to 65 miles per hour (mph), with a reduced speed limit of 35 mph at Stovepipe Wells Village.

ISSUES AND RESOURCE TOPICS RETAINED FOR DETAILED ANALYSIS

Identifying issues—potential problems, concerns, conflicts, obstacles, or benefits that would result if an action were implemented—is an important part of the environmental review process. It is standard practice to organize issues by resource impact topics. Impact topics for this proposed project have been identified based on federal laws, regulations, and orders; the NPS National Environmental Policy Act (NEPA) Handbook 2015; NPS *Management Policies 2006*; and NPS knowledge of resources at the park. Impact topics that are carried forward for further analysis in this environmental assessment (EA) are listed below and described and analyzed in chapter 3.

Cultural Resources, including Historic Districts and Archeological Resources

Federal law requires the federal government to consider adverse effects on cultural resources. There are archeological resources and historic districts within portions of the project area. The impacts associated with cultural resources are central to the proposal, as they have the potential to affect eligibility for listing in the NRHP, and a detailed analysis of potential effects is necessary to understand the effects and make a reasoned choice between alternatives.

Ethnographic Resources

Death Valley is the homeland of the Timbisha Shoshone Tribe (NPS 2000), an affiliated Native American tribe, and the Furnace Creek airstrip is located within the proposed Tumpisa Traditional Cultural Property and near the Timbisha Village. Changes to the Stovepipe Wells airstrip may increase use at the Furnace Creek airstrip. During consultation, the Timbisha Shoshone Tribe has raised issues and concerns

regarding the Furnace Creek airstrip, and the potential for increased use of the Furnace Creek airstrip as a result of this project is of interest to the Timbisha Shoshone Tribe. The detailed analysis of this resource topic will help decision-makers choose between alternatives.

Visitor Use and Experience

The National Park Service is proposing some changes to available visitor experiences and opportunities. Issues and concerns regarding these proposed changes were raised during civic engagement. The impacts associated with visitor use and experience are central to the proposal, and the impacts associated with some aspects of the proposed action are points of contention among the public; therefore, a detailed analysis of potential impacts is necessary to make a reasoned choice between alternatives.

Floodplains

Some aspects of the proposed action would occur in floodplains, and NPS policy requires the National Park Service to consider effects to floodplains. A detailed analysis of the potential impacts on floodplains is required because flooding in the project area could damage development within Stovepipe Wells Village and Emigrant Junction and pose health and safety risks to park staff and visitors.

ISSUES AND RESOURCE TOPICS DISMISSED FROM DETAILED ANALYSIS

In this section of the EA, the National Park Service provides an evaluation and explanation of why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation if they do not exist in the analysis area, they would not be affected by the proposal, or the impacts would be—if not eliminated—reduced by implementing mitigation measures. These impact topics are described below with the reason(s) that no further analysis was warranted.

Air Quality

The 1963 Clean Air Act, as amended (42 United States Code [USC] § 7401 et seq.), requires federal land managers, including parks, to protect air quality and to meet all federal state, and local air pollution standards. The US Environmental Protection Agency has established national ambient air quality standards. Current standards are set for sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulate matter equal to or less than 10 microns in size, fine particulate matter equal to or less than 2.5 microns in size, and lead. Inyo County, California (except for Owens Valley and Coso Junction) is currently in attainment for all criteria air pollutants (USEPA 2020). Construction activities would result in local and temporary fugitive dust and vehicle emissions. Air quality impacts would be minimized by measures such as using well-maintained and properly functioning equipment and vehicles and limiting equipment idling to only what is necessary for safety and/or mechanical reasons. Further, the release of fugitive dust would be reduced by spraying water on the soil during earth-disturbing activities. With the implementation of these mitigation measures, the alternatives would not measurably affect air quality in the park; therefore, air quality is dismissed from detailed analysis.

Water Resources

The Clean Water Act requires the National Park Service to "comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution" (33 USC § 1251 et seq., section 313). The proposed action includes short-term and localized ground disturbance, which could increase sediment loads in storm runoff during construction. However, potential impacts from storm runoff would be mitigated through the use of best management practices, including but not limited to, sediment traps, silt fences, and regular inspection of construction areas for erosion.

The 2002 *Death Valley National Park General Management Plan* (GMP) states that "water will be used efficiently and frugally in the park," and water withdrawn for the park's domestic use will be returned to the park's natural hydrologic systems after treatment. The proposed action includes conservation and other measures that are consistent with the GMP.

Potable water at Stovepipe Wells is provided by wells within the Stovepipe Wells Village. The raw water is treated using RO. The park recently installed a second well and a larger storage tank at Stovepipe Wells, which helps to increase the capacity for delivery and storage of water and provide redundancy for the system. This infrastructure would help avoid interruption of service to visitors and staff in the event there is a problem with one of the wells but would not increase the total amount of water available. New development for the proposed action would include the installation of an additional restroom and showers; however, consumptive use of water in the village is not expected to increase substantially because the proposed action would also incorporate measures (described below) that would help to offset increases in water use.

Although the proposed action includes changes to visitor facilities that would increase water use in the Stovepipe Wells area, changes to current management and implementation of water-conserving measures should offset most or all of the potential increase in use. Under the proposed action, the overnight capacity at Stovepipe Wells Village would remain the same. To provide amenities to all campers in the Stovepipe Wells campground, such as increased space between sites, picnic tables, and fire rings, without increasing the footprint of the campground, the total number of sites would be reduced. Water conservation measures would also be implemented throughout the complex and include the installation of low-flow water fixtures. Therefore, although the proposed action includes the development of new restrooms with showers, water use is not expected to increase substantially as a result.

Approximately 40% of the raw water that is treated is lost as reject water from the RO process and currently goes directly to the wastewater evaporation ponds. Under the proposed action, the reject water would instead be treated through a leach field, and the return groundwater recharge would offset any increase in water use. The RO reject water contains very high total dissolved solids (TDS), and the leach field would require an evaluation and permit from the State of California. The National Park Service expects the State to issue a permit for subsurface RO reject water disposal because of the following hydrogeochemical conditions:

- The groundwater in the area is known to have very high TDS at depth, as evidenced by the nearby saline well and the spring discharge at Salt Creek.
- The dissolved solids in the RO reject water would precipitate as the water percolates through the porous media, and therefore, the TDS would be diminished by the time that it reaches the water table.
- The nearest groundwater discharge area is from the mesquite trees at the base of the alluvial fan (Mesquite Flat), and any increases in TDS from RO reject water mixing with the groundwater in the Mosaic Canyon alluvial fan would be diluted by the much larger groundwater contribution coming through the Towne Pass alluvial plain.
- There are no downgradient water users.

By using the reject water to recharge groundwater and by implementing conservation measures, the impacts from an increase in water use would be mitigated; therefore, water resources are dismissed from detailed analysis.

Vegetation

Vegetation in the park would continue to be managed consistent with NPS *Management Policies 2006*, chapter 4. Vegetation communities within the project area include creosote bush (*Larrea tridentata*) shrubland (including arrowweed at Devils Cornfield), iodine bush-bush seepweed (*Allenrolfea occidentalis-Sauuda nigra*) complex, and interior dunes, which are common in the park. No special status plants species are known to occur in the project area. Impacts would include permanent removal of some plants when implementing improvements (e.g., the vegetation that has grown upslope of the flood control structures would need to be removed when these structures are repaired; vegetation removal would be required for the creation of the trail between Stovepipe Wells and Mesquite Flat Sand Dune) and soil compaction and plant trampling during construction activities. Impacts to native vegetation communities would be minimized by the following measures: washing and inspecting all construction vehicles to avoid transport of nonnative plant species, as directed by the 2020 *Death Valley National Park Invasive Species Inspection Procedure*; restoring disturbed areas to the extent possible following construction (e.g., use desert soil conserved during construction and native species from genetic stocks originating in the park; reconstruct the natural spacing, abundance, and diversity of native plant species); and monitoring and managing restored areas to prevent colonization by nonnative invasive species. Other mitigation measures would be implemented as presented in the "Mitigation Measures" section of chapter 2. Most project activities would occur within areas that have been previously developed, and any new disturbance to native vegetation communities would be limited to the project footprint. The proposed action would affect a small portion of the desert scrub habitats when compared to the extent of this habitat available in the park. For this reason, vegetation was not carried forward for full analysis.

Wildlife

Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity, and ecological integrity of plants and animals (NPS 2006). Wildlife species include coyote (*Canis latrans*), kit fox (*Vulpes macrotis*), desert kangaroo rat (*Dipodomys deserti*), desert cottontail (*Sylvilagus audubonii*), zebra-tailed lizard (*Callisaurus draconoides*), and an array of birds. There are no special-status wildlife species in the project area. Construction activities could adversely impact wildlife through injury or mortality, loss of habitat, and disturbance. However, the project area consists largely of desert scrub habitat, which is common throughout most of the park and inhabited by species common to this habitat. In addition, the proposed action would occur within previously disturbed areas, rather than disturbing or fragmenting portions of continuous, undisturbed habitat. The habitat in the project area is not high quality, as it is already disturbed and fragmented by existing development. Wildlife displaced from the project area during construction would be expected to return to the area when construction is complete. Although some individuals would be adversely affected during construction activities, impacts on wildlife would be temporary and limited to the construction period. For these reasons, this topic was dismissed from detailed analysis.

Viewsheds

As stated in the Organic Act of 1916, part of the mission of the National Park Service is to protect the scenery unimpaired for the enjoyment of future generations (54 USC § 100101(a) et seq.). NPS *Management Policies 2006* includes scenic views in the definition of park resources (NPS 2006), and the *Death Valley National Park Foundation Document* (NPS 2017) identifies "opportunities to experience scenic views" as a fundamental resource of the park. The visual landscape includes factors such as landform, land cover, night sky (discussed below), and air quality (NPS 2017).

Some of the proposed activities, including road or utility improvements, installation of additional visitor amenities, and building construction, would require the use of construction crews and equipment. The

presence of large equipment, crews, and construction activities would result in short-term impacts on viewsheds for the duration of the individual construction activities. However, once construction is complete, these effects would cease. The proposed action would improve views around Stovepipe Wells Village by screening different types of development. The installation of barriers at Devils Cornfield would introduce a visual intrusion into the landscape, but the barrier would be of natural material or low profile and natural color, which would reduce the visual intrusion and contrast. These barriers would also be less intrusive than the visible and unnatural vehicle tracks left in the area from illegal off-road driving. Depending on the road treatment chosen at Mosaic Canyon, there could be no change or a beneficial effect on the viewshed by reducing dust plumes. To reduce the visibility of the road, any proposed road surface would be colored to match the surrounding landscape to the extent possible. Since these areas already contain developments, the overall changes to the viewshed would not be noticeable to most visitors. Therefore, viewsheds, as a standalone topic, has been dismissed from detailed analysis. Any changes that could affect the integrity of feeling, setting, and association of cultural landscapes/historic districts or cultural resources are covered in the discussion of that resource in chapter 3 of this EA.

Night Skies

The park's Foundation Document identified the opportunity to experience dark night skies as a fundamental resource of the park (NPS 2017). The park is a designated Gold Tier International Dark Sky Park because of its night sky resources; the park has some of the darkest night skies in the United States. Because construction activities would be performed during daylight hours, artificial lighting would not be needed. To improve visitor safety at the park, overhead lighting is proposed at the CA-190 crossing in Stovepipe Wells Village and Emigrant Junction. To reduce the impacts of these features on the night sky, the National Park Service would install full cutoff lighting fixtures with a correlated color temperature under 2700 Kelvin, or other lighting approved under or meeting the intent of the International Dark Sky Association program (International Dark Sky Association 2021). Bulbs with a low color temperature (2,200 to 3,000 Kelvin) are "warm" light sources and are less visually harsh and reduce glare so it is easier for drivers to see pedestrians. These lighting fixtures would be triggered by a pedestrian or oncoming vehicle and would only remain lit for the duration of the crossing. The fixtures would target the roadway and the lighting would not extend beyond the walkway. Although the introduction of flashing beacons or similar approved devices at Stovepipe Wells Village and Emigrant Junction would introduce new light sources into the areas, the darkness of the night skies would have already been interrupted by passing automobile headlights prior to triggering the new flashing light. Because the lighting would meet the International Dark Sky Association program guideline to the extent practicable, the additional lighting would not make a substantial contribution to impacts on night skies.

Any changes that could affect the integrity of feeling, setting, and association of cultural landscapes/historic districts or cultural resources are covered in the discussion of that resource in this EA. Viewing night skies, as an activity, is included in the visitor experience discussion. Therefore, night skies, as a standalone topic, has been dismissed from detailed analysis.

Human Health and Safety

Crossing CA-190 at Stovepipe Wells and Emigrant Junction is potentially dangerous to visitors due to speed and traffic on the highway. Under the proposed action, warning systems to alert drivers and slow speeds would be installed. During construction activities, mitigation measures to protect visitors would be implemented, such as restricting visitors from active construction areas to ensure their safety, as well as safely storing any hazardous materials required for construction. Once construction is complete, impacts on human health and safety would be beneficial, as conditions would be improved after the implementation of the proposed action. For these reasons, human health and safety has been dismissed from detailed analysis.

Wilderness

The Wilderness Act (Public Law [PL] 88-577) defines wilderness as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor and does not remain." The intent of the act is to "secure for the American people of present and future generations the benefits of an enduring resource of wilderness." The management of wilderness areas within the national park system is guided by NPS *Management Policies 2006*, which is supplemented by Directors Order 41: *Wilderness Stewardship*. The park manages over 3,190,451 acres of congressionally designated Wilderness guided by the *Wilderness and Backcountry Stewardship Plan* (2013). The plan provides a framework for management actions to preserve and improve wilderness character, while also providing for unique visitor opportunities. Wilderness character includes five qualities:

- Natural – Ecological systems are substantially free from the effects of modern civilization.
- Solitude or a primitive and unconfined type of recreation – Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation.
- Undeveloped – Wilderness retains its primeval character and influence and is essentially without permanent improvement or modern human occupation.
- Untrammeled – Wilderness is essentially unhindered and free from the actions of modern human control or manipulation.
- Other features – For this park, other features are the ethnographic value to the Timbisha Shoshone and to accommodate ongoing traditional cultural uses by the Timbisha Shoshone within their Natural and Cultural Preservation Area and other special use areas.

The project area is outside, but adjacent to, designated Wilderness. The Wilderness boundary is generally 50 to 300 feet from the centerline of the park roads. Although the proposed action would not occur in Wilderness, some of the improvements proposed may be visible from Wilderness. In Mosaic Canyon, the Wilderness boundary is within 50 feet of the road and parking lot. In this area, some existing degradations would continue to persist. Some additional, localized degradations to the viewshed and unconfined recreation would be added through the development of new visitor facilities located near Wilderness. However, the Mosaic Canyon project area has existing development, and the proposed action would replace existing infrastructure. In addition, installing a vault toilet would reduce toilet paper and human waste in the park. Other project areas are also visible from within the Wilderness. New development in these areas would also cause localized degradations to viewshed and unconfined recreation, but at a reduced degree due to the additional distance from the Wilderness boundary. Noise from construction activities could be heard in the Wilderness, but the noise would be localized, short-term, and minimized through best management practices, such as the use of well-maintained and properly functioning equipment and vehicles. Since the Wilderness in the park is vast, it is anticipated that the proposed action would not diminish the wilderness experience or character; therefore, the topic of wilderness was considered but dismissed from further analysis.

CHAPTER 2: ALTERNATIVES

This EA evaluates two alternatives, the no-action alternative and the proposed action, which the National Park Service has identified as the preferred alternative. This chapter describes these alternatives and other alternatives that were initially considered but dismissed from detailed analysis and presents mitigation measures for the action alternative.

ALTERNATIVE A – NO-ACTION ALTERNATIVE

Under the no-action alternative, the park would continue to conduct regular maintenance and repair of facilities, utilities, and roads as necessary at the Stovepipe Wells Developed Area. Visitor access and experience, vehicle and pedestrian safety, and the condition of the park's resources in the project area would largely remain the same. The specific areas of the Stovepipe Wells Developed Area are described below and figures 2 through 6 present the project area under the no-action alternative.

Stovepipe Wells Village

Circulation and Access. Under the no-action alternative, CA-190 would remain in its current condition, as follows:

- two 12-foot-wide lanes with unpaved shoulders that vary greatly in widths and no existing turn lanes
- paved and gravel parking areas adjacent to CA-190 for passenger drop off
- no designated pedestrian crossing areas near Stovepipe Wells Village
- no pullouts or designated areas for buses or large vehicles to drop off passengers

The parking lot at the Stovepipe Wells general store would not be redesigned, thus it would continue to be congested and difficult for large vehicles to maneuver. Vehicles parked in the lot would continue to obstruct sight distance along CA-190.

Campground. The existing campground would remain in its current configuration providing a relatively primitive camping experience. Currently, the campground has 190 individual campsites without hookups and 14 sites with hookups available for visitors. The campground does not have a group site, but there is an area of individual sites that is informally used as a group site. All of the campsites are small with no privacy or separation among the campsites or walking paths. The campground has no shade from either vegetation or shade structures and few sites have amenities such as grills, fire rings, and picnic tables. The existing comfort station has electricity, but with only four stalls, it is undersized for the capacity of the campground.

Visitor Contact Station. The visitor contact station would remain in its current location about 0.2 mile east of Stovepipe Wells Village. The undersized facility, less than 200 square feet, would continue to serve as a visitor information facility, fee station, and Death Valley Natural History Association bookstore. There are pay stations outside the building, but visitors waiting for other services provided inside the contact station may have to remain outside due to the small size of the building. The existing public service counter is small and not compliant with Architectural Barriers Act Accessibility Standards (ABAAS). No public restrooms or trash receptacles are available at this location, which would continue to stress the capacity of these amenities at other locations. The dirt parking lot does not have markings to indicate where vehicles should park, and the parking lot is not used efficiently, especially if there are larger vehicles.

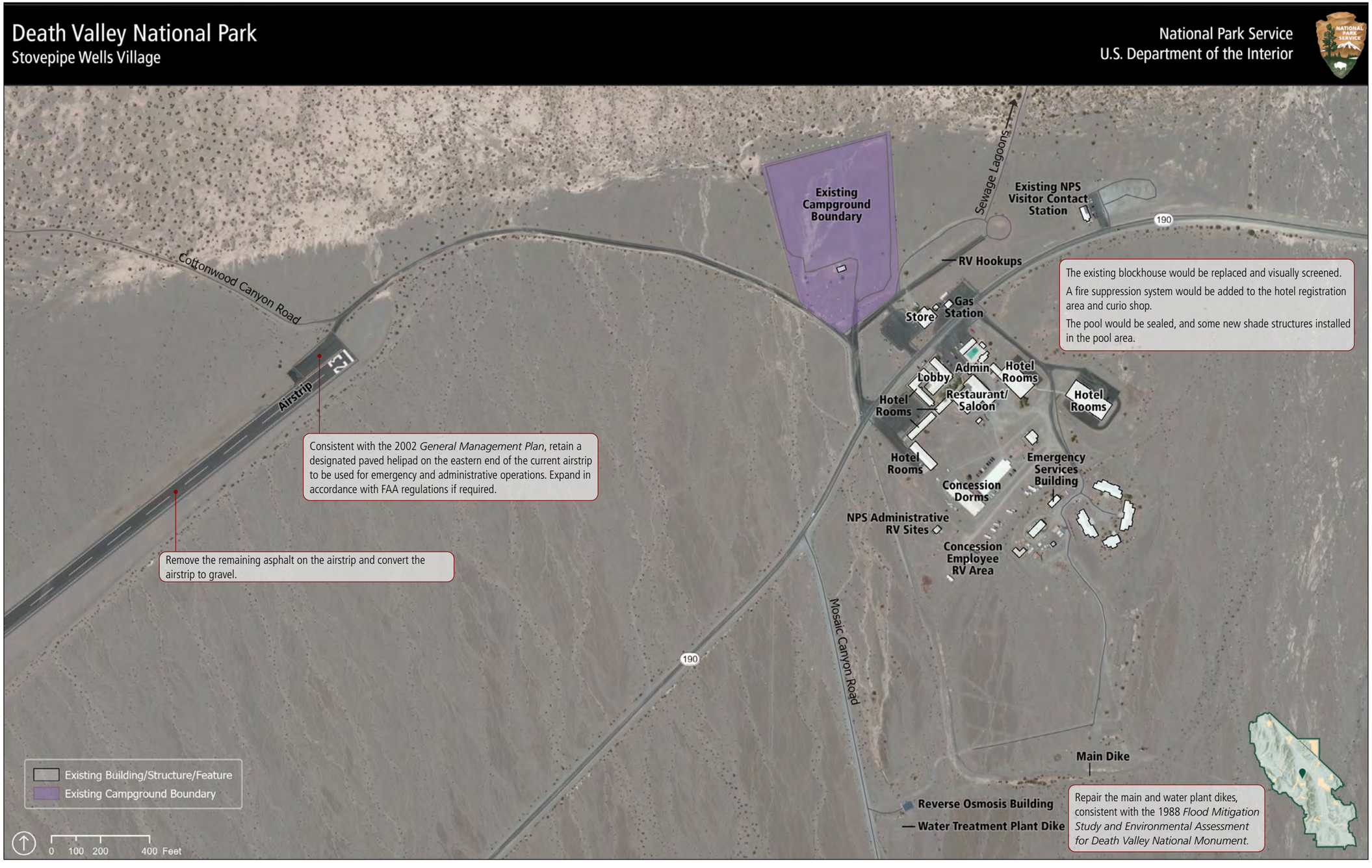

Figure 2. Stovepipe Wells Village under Alternative A

Visitor Day-Use Area. The picnic area would continue to be located near the general store with a limited number of tables and shade. Visitors to the general store and picnic area would continue to share the two restrooms, which restrict use to two people at a time. During peak visitation, visitors frequently have to wait to use the restrooms.

Gas Station. The gas station pump area, which is one island, would remain undersized and crowded during peak use. There is inadequate space to provide diesel fuel at the gas station, so this type of fuel would not be available at Stovepipe Wells Village.

Stovepipe Wells Village Hotel. The existing blockhouse would be replaced and visually screened. A fire suppression system would be added to the hotel registration area and curio shop. The pool would be sealed, and some new shade structures installed in the pool area.

Concession Staff Housing. Although necessary maintenance activities would continue as needed, employee housing would not be upgraded, and living spaces would remain small and crowded.

Stovepipe Wells Village Landscape. There would continue to be no visual screening for privacy and aesthetics between the guest room buildings at the resort and the employee housing, maintenance, and dining areas. No separation would be provided between staff and the public areas under this alternative.

Potable Water System. Portions of the existing RO facility would be repaired to extend the life of the building. Most repairs would occur on the interior of the building and include removing the elevator, replacing the staircase and the air conditioning unit, installing a ventilation system, and improving the lighting system. Repairs to the exterior of the building include maintaining the roof and grading around the building to improve drainage.

Wastewater System. The existing wastewater lagoon for the biological treatment of sewage would continue to be used. The lagoon comprises two treatment cells and one percolation/evaporation cell. To restore lagoon capacity, the lagoon would continue to require sludge removal and cleaning every 7 to 10 years, instead of the typical 30 to 40 years, because of wind-blown sand deposits. The additional sand in the wastewater treatment system would continue to prematurely wear out the equipment. The system would continue to suffer from blockages in the shallow sloped pipe due to the high elevation of the lagoon inlets. Service disruptions and extensive labor hours and associated costs of maintenance staff would continue.

Emergency Services Building. The existing prefabricated steel fire and ambulance structure would remain as is. Currently, the ambulance is too long to allow the garage door to close, forcing the park to leave the building unsecured and vulnerable to theft or vandalism. Vehicles and equipment would continue to be vulnerable to rodents, which gnaw on vehicle hoses and equipment, and park staff could be exposed to diseases carried by rodents. Equipment and supplies would continue to deteriorate quicker due to the lack of climate control. The park would continue to maintain the vehicles to keep them operational, but those efforts would not be efficient or effective because the doors, insulation, plumbing, heating, and cooling systems would continue to be outdated and inadequate.

Helicopter Landing Pad for Administrative and Emergency Services. The east end of the Stovepipe Wells airstrip is used for administrative and emergency medical helicopter landings. The helicopter landing pad is approximately 135-feet wide. The 2002 GMP concluded that the helicopter landing pad would be retained and remain paved. The size of the landing area could be expanded consistent with Federal Aviation Administration (FAA) requirements.

Airstrip. The Stovepipe Wells airstrip is paved with asphalt and is in poor condition (NPS, Harris, pers. comm. 2020b). The airstrip is 3,260 feet long by 65 feet wide and at 25 feet above mean sea level. The east end of the airstrip includes the airplane parking ramp and tie-down area.

In the 2002 GMP, the park decided that the airstrip would be converted from a paved asphalt surface to a gravel surface. The size and foundation of the gravel airstrip would be based on an engineering analysis. No additional amenities would be provided. A state permit compliance inspection conducted by the California Department of Transportation (Caltrans) Division of Aeronautics on behalf of the FAA identified two deficiencies requiring correction—the runway hold-line is too close to the runway centerline and there is brush in the runway safety area (Caltrans 2018). Addressing the deficiencies would require expanding the development footprint of the current airstrip by an estimated 723,100 square feet, which would not include the expansion of the airplane parking ramp. A preliminary cost estimate to remove and dispose of the asphalt airstrip and install the gravel runway is between $1.5 and $3 million. This does not include the cost of removing the vegetation from the runway safety area. To date, the park has been unable to secure funding to address the deficiencies or to complete actions from the 2002 GMP. No modifications or repairs would be made to the Stovepipe Wells airstrip without a source of funding.

Flood Control Structures. The development at Stovepipe Wells has been protected from flooding by several earthen flood control structures. There are two primary flood control features, the main dike located southeast of the Stovepipe Wells developed area and the water plant dike located above the RO facility. The effectiveness of both structures has been reduced over time. Under this alternative, both structures would be repaired, consistent with the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument* (NPS 1988). The main dike has been subjected to sedimentation on the upslope side, which has substantially reduced its effective height. The effective height of this feature would be restored by grading the upslope side. Runoff is currently collecting above the main dike, which increases sedimentation and reduces the effectiveness of the feature. The grading would be sloped in a way that diverts the runoff away from the development, which would allow the restoration of a more natural flow pattern off of the eastern edge of the dike. The water plant dike has been subjected to erosion in two places, which is putting the water plant at increased risk of flooding. This dike would be rebuilt and reinforced in these vulnerable areas.

Emigrant Junction

Circulation and Access. The posted speed limit through Emigrant Junction would remain at 65 mph. The Comfort Station and Ranger Station are on opposite sides of the CA-190, resulting in visitors crossing the highway to get to these facilities. In addition, the current signs are not adequate to inform drivers of the presence of pedestrians crossing CA-190 creating a safety hazard. The safety concern of pedestrians crossing the highway would continue under this alternative.

Historic Emigrant Junction Ranger Station. The historic Emigrant Junction Ranger Station would remain closed to the public. The interpretative signs near the Ranger Station would be retained, and no additional signs would be added.

Historic Emigrant Junction Comfort Station and Parking Area. The Comfort Station would be maintained in its current condition, and it would not be rehabilitated or improved to make it ABAAS accessible. For example, visitors must currently climb stairs and walk over uneven surfaces to enter the restrooms, and these conditions make the Comfort Station inaccessible to persons with disabilities. The parking lot would be retained in its current configuration, which is adequate for current use.

Emigrant Junction Picnic Area and Campground. The campground and picnic area would be retained in their current rustic condition. There would be minor improvements, including installation of a trash

enclosure, replacement of the existing picnic tables, as necessary, and improvements to the trail that connects it to the Comfort Station.

Emigrant Junction Water System. The existing water system, comprising a 26,500-foot (5-mile) waterline and spring box at Emigrant Spring, would be retained. Park staff would continue to address failures in the system, but breaks in the line could leave Emigrant Junction without water for extended periods.

Emigrant Junction Septic System. The existing sewer system for the Comfort Station, which consists of a septic tank and leach field, would be retained in its current location. The system does not operate efficiently and requires frequent maintenance. The leach field associated with the Ranger Station was damaged in a flood. The Ranger Station would continue to be closed and the leach field would not be repaired.

Mesquite Flat Sand Dunes Trailhead

Mesquite Flat Sand Dunes Parking Area and Access to the Dunes. The current facilities would be retained, including the one-way paved access loop and approximately 40 car and six oversized vehicle parking areas, limited parking on the east side of the access road into the parking lot, interpretive information, and comfort stations. There are east- and west-bound turning lanes along CA-190 to access the parking area. During peak visitation, parking demand exceeds the capacity of the parking lot, and visitors park in spaces provided along the shoulders on CA-190; however, these vehicles are close to the entrance road, resulting in obstructing the sight distance for other drivers exiting the parking area.

Visitors entering the sand dunes from multiple access points would continue to cause damage to resources and degrade the visual landscape. Current interpretive signs and safety messages would be maintained.

Mosaic Canyon Road and Trailhead

Mosaic Canyon Road. Mosaic Canyon Road, which is used to access Mosaic Canyon, would remain a graded dirt road. Road maintenance would continue to be difficult because of operational constraints and natural events, such as erosion from storms. Vehicle traffic would continue to cause considerable dust along the road that obscures visibility for other vehicles and can be seen for miles.

Mosaic Canyon Parking Lot and Trailhead Improvements. At the trailhead, the gravel parking lot would remain. Currently, parking spaces are unmarked, and parking space is not used efficiently. When visitation exceeds capacity, visitors would continue to park along the road. The road connection into the parking lot is not well-aligned, adding to the inefficient use of the parking lot. No restrooms or other amenities are available at the trailhead, resulting in human waste and toilet paper near the trailhead.

Devils Cornfield Parking Pullout

The parking pullout would be maintained in its current condition with paved shoulder pullouts on both sides of CA-190. Each shoulder would continue to accommodate approximately six cars parked parallel along the side of the highway. When visitation exceeds capacity, visitors would continue to pull off on the soft shoulder, which sometimes results in vehicles getting stuck in the sand. Parking along the highway would also continue to create a safety hazard, as visitors would continue getting out of their vehicles onto a highway where other vehicles are traveling at 60 mph.

The existing undersized rocks delineating the parking pullout from the landscape, which have not fully discouraged illegal off-road vehicle driving, would remain. Park staff would continue to address illegal off-road driving through education, enforcement, and fines. The current interpretive panel on the north side of the highway would be retained.

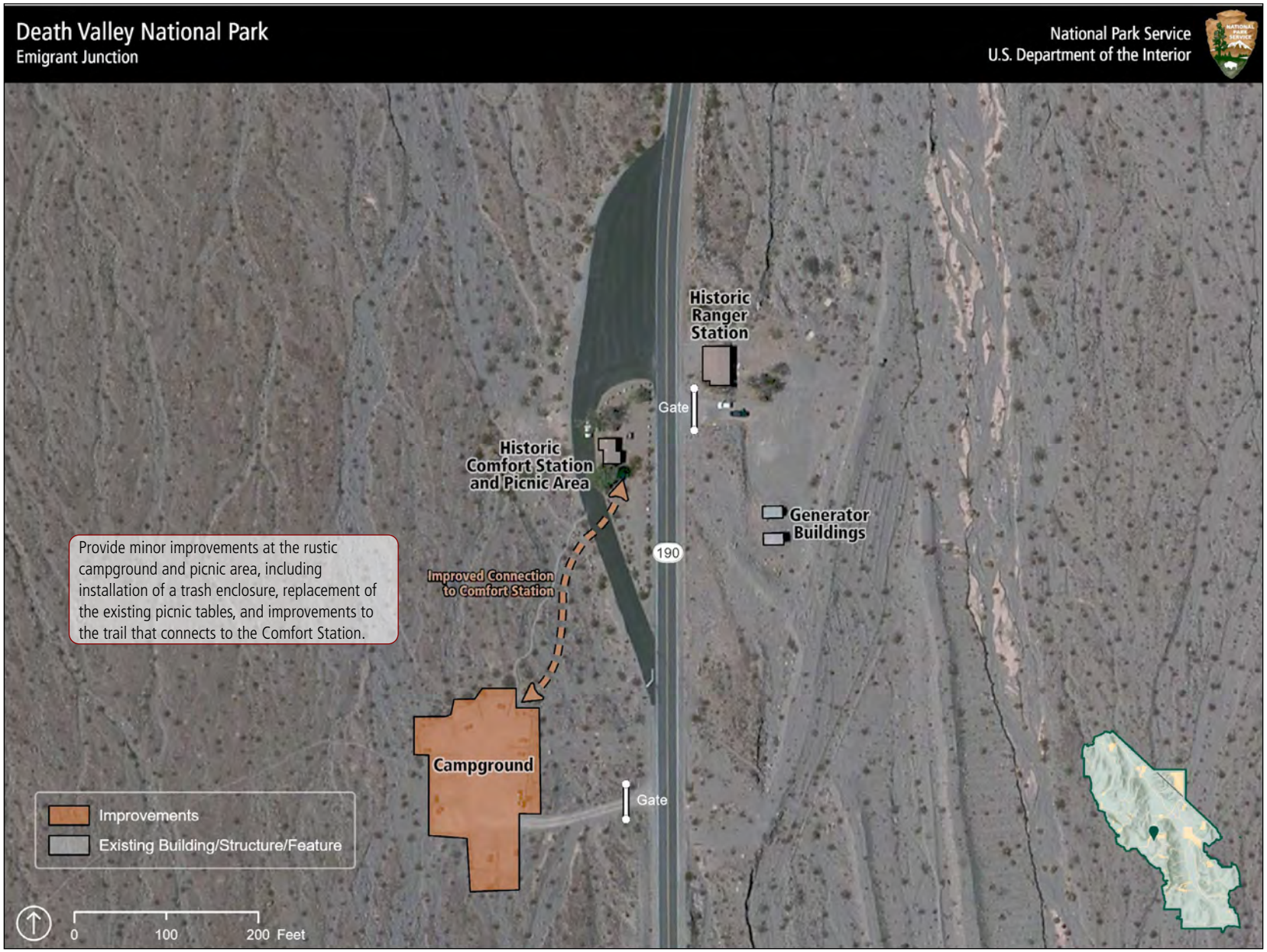

Figure 3. Emigrant Junction under Alternative A

Figure 4. Mesquite Flat Sand Dunes Trailhead under Alternative A

Figure 5. Mosaic Canyon Road and Trailhead under Alternative A

Figure 6. Devils Cornfield Parking Pullout under Alternative A

ALTERNATIVE B – PROPOSED ACTION (NPS PREFERRED ALTERNATIVE)

The circulation and access measures described for alternative B are recommendations from the *Stovepipe Wells Road Safety Audit, Death Valley National Park Final Report* (NPS 2020).

Stovepipe Wells Village Area Projects

Figure 7 visually presents the Stovepipe Wells Village proposed projects, and the details are presented in the following paragraphs.

Circulation and Access. The park would work in partnership with Caltrans to install measures to improve visitor safety, such as signs, beacons, overhead lighting, and crosswalk markings. The advance signs approaching Stovepipe Wells Village from both east and west directions would be improved so drivers have a stronger visual cue that they are approaching a developed area. For example, a speed feedback sign would be triggered by an on-coming vehicle to alert the driver to slow down as they approach the developed area. A painted pedestrian crosswalk using high-visibility crosswalk markings would be installed across CA-190. A rectangular rapid-flashing beacon would be installed to alert drivers to the crosswalk. Overhead lighting would be installed using cutoff lighting fixtures that would flash only when prompted by a pedestrian, or other lighting approved under or meeting the intent of the International Dark Sky Association program. If over time, the park and Caltrans determine that additional measures are needed to improve safety, extra steps could be taken, such as the installation of mumble strips perpendicular to the travel lanes to alert drivers entering the Stovepipe Wells Village area. Mumble strips are similar to traditional rumble strips, but mumble strips have a wave pattern ground into the pavement that lessens the external noise produced when vehicles travel across them.

Pedestrian walkways would be defined using flush roadside islands and fencing, which would be installed outside the clear zone (the roadside border at the edge of a travel way available for safe use by errant vehicles). In the short term, in front of the Stovepipe Wells Village hotel, a berm would be used to eliminate the gravel head-in parking adjacent to CA-190. Final improvements to circulation and access would be determined at the design phase, which would include elements to prevent vehicles from backing onto CA-190 and to preserve the sight distance along CA-190. Some parking would be retained in front of the hotel for visitors that are checking into the hotel.

Upon completion of the design phase for these circulation and access improvements, additional regulatory compliance would be completed as necessary.

Campground. The Stovepipe Wells campground would be redesigned to enhance the camping experience, including improving privacy at each site, providing additional site amenities, and improving walking paths and traffic flow.

Each campsite would include delineated parking and camping areas. The campsites would be spaced to provide an adequate buffer zone between and around each campsite to allow for surface drainage and privacy. As a result of these improvements, the total number of sites within the existing footprint of the campground would be reduced. Each campsite could have the following types of features: shade structure; steel grill for cooking, a fire ring, a post to hang a lantern, and a picnic table with integral benches. A formal group site would be also added to the campground.

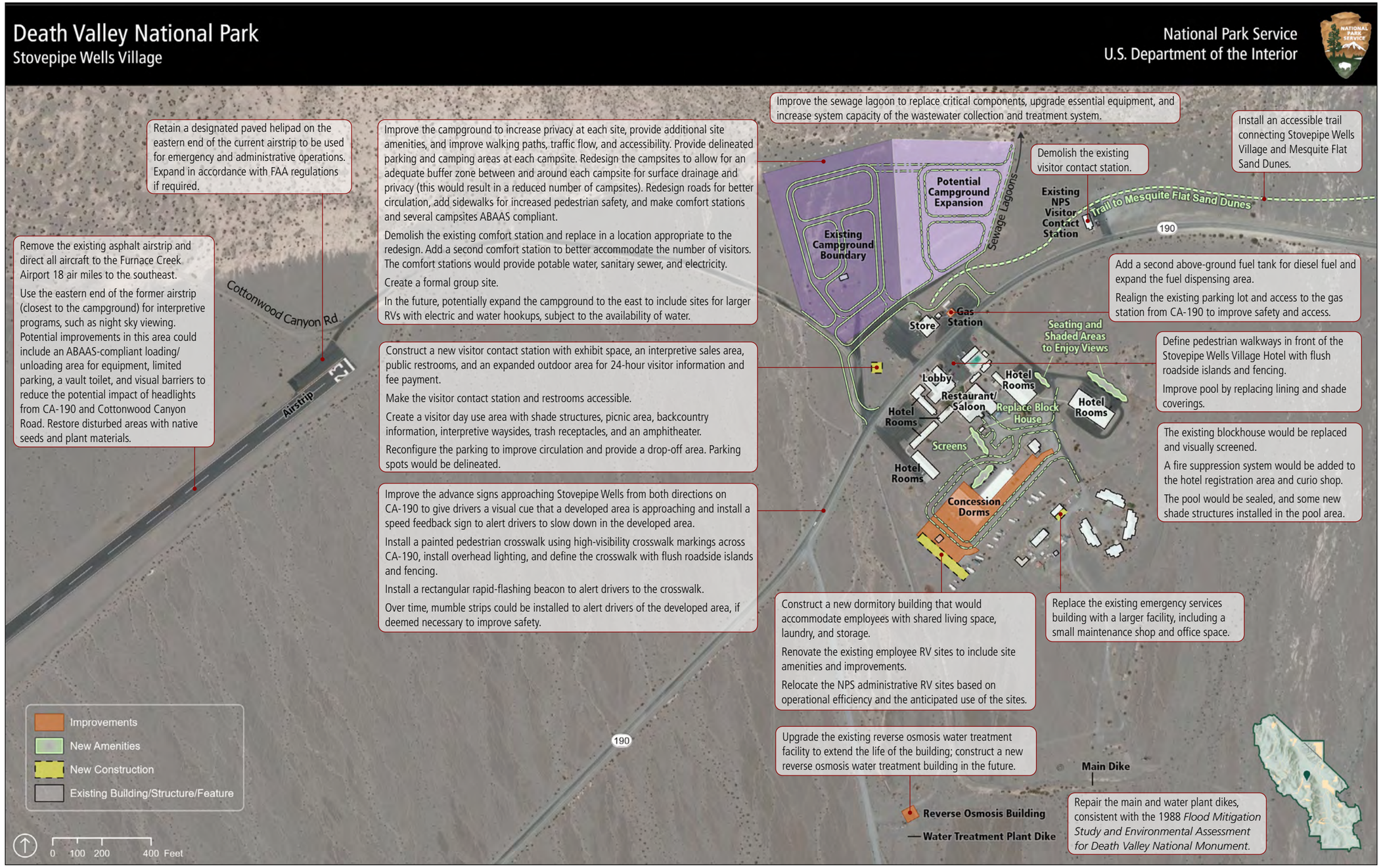

Figure 7. Stovepipe Wells Village under Alternative B

To improve visitor safety and ease of access, the roads at the campground would be redesigned and physically improved for better circulation. These improvements would include hardening the surfaces and adding curbing where appropriate. Sidewalks would also be added within the campground for increased pedestrian safety. The campground utilities would include potable water, sanitary sewer, and electrical power to the comfort stations, and trash enclosures would be made available at the campground for visitor convenience.

The existing comfort station would be demolished and replaced in a location appropriate to the redesign, and a second comfort station would be added to better accommodate the number of visitors. Each comfort station would include showers in addition to toilets and sinks. The campground comfort stations, as well as an appropriate number of the campsites, would be constructed to be consistent with ABAAS. Based on the design of the campground, a new dump station may be required for ease of access and efficient operation. Upon completion of the design phase, additional compliance would be completed as necessary.

In the future, the campground could be expanded to the east with additional sites spaced to accommodate larger RVs with electric and water hookups, subject to the availability of water. These larger campsites would have features similar to those mentioned above. The campground improvements would be designed based on improving the visitor experience for all campers throughout the season and providing separation between the RV and tent campsites. Upon completion of the design phase, additional compliance would be completed as necessary.

Visitor Contact Station. The current visitor contact station east of Stovepipe Wells Village would be demolished, and a new visitor contact station would be constructed within the Stovepipe Wells Village area as part of the proposed new day-use area (described in the following paragraph). The facility would be approximately 1,700 to 1,800 square feet to accommodate visitors inside during business hours and include a small exhibit space, an interpretive sales area, and public restrooms. There would be an outdoor area (approximately 600 square feet) for 24-hour visitor information and fee payment. Improved signs would be installed with information for visitors, such as instructions on fees and whether the visitor contact station was open to visitors. The facility would be ABAAS-compliant. The parking area for the new visitor contact station and the Stovepipe Wells general store would be shared. The parking lot would be configured for improved circulation with delineated parking for passenger vehicles and RVs and a visitor drop-off area. Upon completion of the design phase, additional regulatory compliance would be completed as necessary.

Visitor Day Use Area. A visitor day-use area would be created adjacent to the proposed visitor contact station and Stovepipe Wells general store. The day-use area would create a welcoming entry for visitors to Stovepipe Wells Village. The day-use area would include amenities for non-hotel guests, such as shade structures, a picnic area, backcountry information, interpretive waysides, trash receptacles, and an amphitheater.

Trail Connecting Stovepipe Wells Village and Mesquite Flat Sand Dunes. A trail would be developed to connect Stovepipe Wells Village to Mesquite Flat Sand Dunes. The trail would extend from the Stovepipe Wells Village for approximately 2 miles to the edge of the sand dunes. The trail would roughly parallel the north side of CA-190 and would be located outside of the clear zone of CA-190 to protect visitors from vehicle traffic but within 300 feet of the centerline of the road to avoid impacts to designated wilderness. The trail would be accessible, and the trail surface would be determined during design. If there is sufficient interest, the park would consider making this a multiuse trail, which would allow for use by bicycles. Additional regulatory compliance would be completed as necessary upon completion of the design phase.

Gas Station. A new above-ground fuel storage tank and dispensing equipment (e.g., new concrete pad, piping, and other infrastructure) would be installed. A second island would be constructed to handle

diesel fuel traffic safely, and the existing parking lot would be realigned to safely accommodate the larger vehicles that typically require diesel service. The existing access to the gas station from CA-190 would be realigned to improve circulation and safety.

Stovepipe Wells Village Hotel. As in alternative A, the existing blockhouse would be replaced and visually screened. A fire suppression system would be added to the hotel registration area and curio shop. The pool would be sealed, and some new shade structures installed in the pool area.

Stovepipe Wells Village Landscape. A visual separation between the guest room buildings at the resort and the employee, maintenance, and dining areas would be installed. Interpretive messaging could be included in the screening efforts. Outdoor seating areas would be added for use by visitors.

Concession Staff Housing. A new 8,800 square foot dormitory building to accommodate employees would be constructed. There would be shared living space, laundry, and storage. The dormitory would have an adequate number of standard parking spaces with accessible parking near the building entrances. The dormitory would tie into existing sanitary and potable water/fire systems, electric service, and other dry utilities. All building systems and building square footage allocations would comply with NPS, American Institute of Architects, and International Building Code codes and standards. Outdoor gathering spaces would be delineated near the dorm with amenities such as shade structures, fire rings, and picnic tables. The roadway accessing the back-of-house area for the concession would be realigned for better traffic flow and widened to allow for roadside parking. A delivery and staging area would be added near the dormitory to reduce traffic through visitor areas. Road surfaces would be hardened and curbing added where appropriate.

The existing concession employee RV sites would be renovated. Improvements would include hardening the RV pads, adding shade structures, and repairing utilities. Additional amenities would include a cooking grill, a fire ring, a post to hang a lantern, and a picnic table. Additional utilities, such as sanitary sewer, could be added. These improvements may reduce the number of existing RV sites.

There are NPS administrative RV sites located adjacent to the current concession dormitory. When the new dormitory is rebuilt, the NPS administrative RV sites would need to be relocated in the developed area. The NPS administrative RV sites would be relocated based on operational efficiency and the anticipated use of the sites, which would be determined during the design process for the dormitory. The NPS administrative RV sites would include hardened RV pads and shade structures, a cooking grill, a fire ring, a post to hang a lantern, and a picnic table. Sanitation hookups could be added.

Upon completion of the design phase for these improvements, additional regulatory compliance would be completed as necessary.

Potable Water System. These improvements would increase the reliability of the Stovepipe Wells potable water system by rehabilitating and upgrading the current system. The water main and all service laterals of the potable water distribution piping would be replaced. This new water distribution system would be properly designed to handle high water temperature, which would eliminate a substantial amount of maintenance and associated costs to repair water line breaks in the old system. The water lines would be extended to all new facilities at Stovepipe Wells Village.

As in alternative A, in the short term, portions of the existing RO facility would be repaired to extend the life of the building. Most repairs would occur on the interior of the building and include removing the elevator, replacing the staircase and the air conditioning unit, installing a ventilation system, and improving the lighting system. Repairs to the exterior of the building include maintaining the roof and grading around the building to improve drainage.

Under this alternative, a new RO water treatment building would be built near the existing treatment building and constructed to meet all current codes and health and safety requirements. The new building would be designed so it is consistent with the character of the Stovepipe Wells Village and would incorporate an earthen wall to remain unobtrusive to park visitors. A backup generator would ensure power availability for water production in the event of grid power outages. The new electrical pumps, fan motors, heating and air conditioning systems, and lighting would be energy efficient. The new RO building would also include office space, restrooms, and sufficient building volume for the expansion of potable water production capacity.

Wastewater System. This project would replace critical components, upgrade essential equipment, and increase the capacity of the wastewater collection and treatment system. System improvements would include the replacement of sewage collection main lines, lateral service lines, and manholes to reduce pipe plugging in the sewer collection system. The lagoon, comprising two treatment cells and one percolation/evaporation cell, would be reshaped to its original size and form to increase the capacity of the treatment system. A third lagoon could also be added to increase capacity. A third lagoon would provide operational redundancy and allow one of the lagoons to be taken off-line for cleaning without affecting treatment quality. Although the existing lagoon should be adequate for the volume of wastewater when combined with other water-saving measures (i.e., separate subsurface disposal of RO reject water, low-flow water fixtures, and reshaping the existing cells), the treatment cell would be enlarged if increased capacity is needed. Upon completion of the design phase, additional regulatory compliance would be completed as necessary.

Upgrades to the aerators would improve system performance and minimize lagoon odors. Other improvements would be made to prevent sand accumulation that reduces lagoon capacity, such as installing a sand collection chamber and wind fences along the west and east sides of the lagoons. To soften the visual impacts of the lagoons, mesquite bushes or similar could be incorporated into the wind fence design. A gate would be installed on the road to the sewage lagoons.

Emergency Services Building. The existing facility would be demolished and replaced in its current location with a new energy-efficient building large enough to properly and securely house fire and emergency response vehicles and equipment. The facility would also provide storage space and support to NPS operations in the western portion of the park. The new building would include a small maintenance shop to support maintenance staff working in the area. Adjacent to the emergency services garage, an outdoor recreation area would be created with a shade structure, picnic tables, and grills for park staff. Park staff offices that are currently associated with the visitor contact station would be relocated to the improved emergency services building.

Helicopter Landing Pad and Airstrip for Administrative and Emergency Services. The park would retain the helicopter landing area on the east end of the existing airstrip for administrative and emergency use. The size of the landing area could be expanded as necessary to be consistent with FAA requirements.

Airstrip. Under alternative B, the park would amend the 2002 GMP related to the management of the Stovepipe Wells airstrip. The airstrip would be removed, and all aircraft would be directed to the landing strip at the Furnace Creek airstrip, which is 18 air miles to the southeast. The Furnace Creek airstrip is a more appropriate facility for both small and larger aircraft because it is located near the largest developed area in the park and is a more appropriate location for this use. The park has had a difficult time securing funding to repair the airstrips at Furnace Creek and Stovepipe Wells because the level of use at both airstrips is low. By concentrating the use into a single airstrip, funding for repair, while not assured, may be more likely. A separate rulemaking process would be required to formally close the Stovepipe Wells airstrip, and this process would include an opportunity for public comment.

A portion of the eastern end of the airstrip (closest to the campground) could be repurposed for interpretive programs, which could include night sky viewing. The location of the programming area would be designated based on the appropriate distance from the helicopter landing area and proximity to the campground and hotel and to take advantage of a previously developed area, thus limiting new disturbance. The park is considering improvements to this area, which could include an ABAAS-compliant loading/unloading area for equipment, parking, and a vault toilet. In addition, to reduce the potential impact of headlights from CA-190, Cottonwood Canyon Road, and the developed area on nighttime programming, the park would consider installing visual barriers within the footprint of the existing disturbed area to the extent possible. Outside of the helicopter landing area and an area designated for interpretive programming, the remaining disturbed area would be restored with native seeds and plant materials. Upon completion of the design phase, additional regulatory compliance would be completed as necessary.

Flood Control Structures. The two flood control structures would be repaired. These structures are the main dike located southeast of the Stovepipe Wells development and the water plant dike located above the RO facility (see figure 7). As described for alternative A, the structures would be repaired, consistent with the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument* (NPS 1988). The main dike would be restored by grading the upslope side in a way that diverts the runoff away from the development, allowing for a more natural flow pattern off of the eastern edge of the dike. The water plant dike would be rebuilt and reinforced in two areas where it is vulnerable to erosion.

Other Operational Improvements. This project would provide backup power transfer switches and cord and plug generators connections to seven housing units in Stovepipe Wells, the Stovepipe Wells emergency services building, and the RO water treatment building, as appropriate. The switches would make vital facilities generator-ready. New water meters would be installed and existing toilets, urinals, faucets, dishwashers, and laundry washing machines would be replaced with low-flow fixtures in buildings and facilities throughout Stovepipe Wells Village.

Emigrant Junction Projects

Figure 8 presents the proposed Emigrant Junction projects, and the details of the individual projects are presented in the following paragraphs.

Circulation and Access. The park would work with Caltrans to develop measures to improve visitor safety. On the approach to Emigrant Junction along CA-190, the existing “Entering Fee Area” sign would be moved closer to the NPS boundary or a fee kiosk and a new guide sign with information on facilities at Emigrant Junction and Emigrant Canyon Road would be installed.

To accommodate potential increased pedestrian activity at Emigrant Junction between the historic Comfort Station and picnic area and the historic Ranger Station, visitors would be encouraged to cross CA-190 in a designated area, and warning signs would be installed to alert drivers. Additional safety measures, as recommended by the Road Safety Audit, could include the installation of a rapid-flashing beacon that is triggered by an oncoming vehicle, a speed feedback sign, an island, wider edge lines and centerlines, and post-mounted delineators (NPS 2020). Signs to indicate a historic district would be located to alert drivers, and the National Park Service could also employ the following strategies: reduce the posted speed through Emigrant Junction, install mumble strips or stripes, develop a deceleration lane or left turn lane, and add a right turn lane at Emigrant Junction parking. Upon completion of the design phase, additional regulatory compliance would be completed as necessary.

Historic Emigrant Junction Ranger Station. The historic Emigrant Junction Ranger Station and surrounding area would be improved to support a primarily self-guided outdoor/exterior visitor

interpretive experience and could also function as a gateway to the park. The focus of interpretation would be on the early use of the area as a park entry station and its association with the CCC era, including opportunities to connect the interpretation to other CCC facilities in the park. The exterior area around the Ranger Station would feature wayside exhibits and an interpretive trail that would connect the Ranger Station to the other features, such as the generator buildings and the foundation of the original 1935 Ranger Station. The generator sheds would be secured and provide for visitor viewing and interpretation.

About 1,000 square feet of the approximately 1,400 square feet interior space in the historic Emigrant Junction Ranger Station would be rehabilitated to accommodate either housing or exhibit space. Interior work would include the replacement of flooring, cabinetry, plumbing fixtures, and electrical wiring. Interior walls and ceiling would be repaired, and the entrance to the Ranger Station would be modified for accessibility. An off-grid solar power system would be installed to provide power needs to the Ranger Station, as well as the Comfort Station and volunteer host sites. The location of the solar array could be the roof of the Ranger Station or free-standing outside the historic district boundary, and this would be determined during the design phase and in consultation with the California State Historic Preservation Office (SHPO). The battery system would be stored within the existing generator shed, and power lines would be installed under the roadway to the Comfort Station. Upon completion of the design phase, additional regulatory compliance would be completed as necessary.

Historic Emigrant Junction Comfort Station. The interior of the historic CCC-era Emigrant Junction Comfort Station would be rehabilitated. The existing restroom partitions would be removed and replaced with historically appropriate features based on documentary evidence. The restroom would be unisex to reduce overall alterations to the structure since only one room would need to meet ABAAS requirements. All current fixtures would also be replaced with historic replicas, and internal plumbing would be repaired. All proposed work would be in compliance with the National Historic Preservation Act (NHPA), the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and the ABAAS. The Comfort Station would be connected to the solar array system to allow for night-time use of the facility.

Historic Emigrant Junction Comfort Station Parking Area. The parking lot by the Comfort Station would serve as the main parking area for Emigrant Junction. The parking lot would be realigned and repaved to be separate from CA-190 for more efficient parking and safer egress and ingress. The design would also provide a visual separation from CA-190. A stop sign would be installed, and a stop bar painted on the parking area exit road at the intersection with CA-190 to avoid driver confusion. During the improvement of the parking lot, this intersection would be designed to be perpendicular with CA-190.

Volunteer Host RV Sites. The Ranger Station could be staffed by volunteers serving as Volunteers in Park and campground hosts during the busy seasons. Two RV pads would be installed behind the Ranger Station with water hookups and connected to the solar array system.

Emigrant Junction Picnic Area and Campground. In addition to the actions described for alternative A (i.e., minor improvements, including installation of a trash enclosure, replacement of the existing picnic tables, and improvements to the trail that connects to the Comfort Station), the existing gate at the campground entrance would be replaced. The entry road apron off of CA-190 would be paved.

Emigrant Junction Water System. Approximately 26,500 linear feet of the 2-inch diameter galvanized piping would be replaced with high-density polyethylene pipe and moved adjacent to the road. This would reduce maintenance and improve reliability. The existing spring box would be replaced with a new collection system to minimize maintenance of the spring box.

Emigrant Junction Septic System. The existing Comfort Station leach field would be replaced with a new design in a new location, and a flood protection structure would be added to prevent scour during flood events. The replacement leach field and flood structure would be an engineered design, so the exact location cannot be identified at this time; however, it would likely be close to the existing leach field. The flood berm would likely be constructed of wire gabion baskets filled with cobble rock.

The leach field for the Ranger Station was damaged during a flood event. A replacement leach field would be constructed along with the rehabilitation of the Ranger Station and would also connect to the host RV sites. This leach field would also require an engineered design with a flood protection structure. Siting of this replacement leach field would be determined at the time of the engineered design and based on the flood channel and soil percolation. The leach field would likely be adjacent to CA-190 and in a previously disturbed area.

Upon completion of the design phases, additional regulatory compliance would be completed as necessary.

Mesquite Flat Sand Dunes Trailhead Projects

Figure 9 presents the proposed Mesquite Flat Sand Dunes projects, and the details of the projects are presented in the following paragraphs.

Mesquite Flat Sand Dunes Parking Area and Access. A guide sign with mileage to Stovepipe Wells Village and Furnace Creek, and a "Large Vehicle Parking Ahead" sign to improve traffic flow would be installed in consultation with Caltrans. Also, in consultation with Caltrans and to maintain sight distances for visitors exiting the parking lot, "No Parking" signs would be installed at the intersection of CA-190 and the entrance road (see figure 9). Parking would continue to be allowed on the wide, graveled shoulder on the north side of the highway and along the outside curve of the parking lot entrance road. The parking lot could be expanded; however, the expansion would be limited by the wilderness boundary and drainage. A design process and appropriate compliance would be completed before the expansion of the parking lot.

The Mesquite Flat Sand Dunes trailhead would be designed to encourage more focused visitor access to the dunes and could include the installation of benches along the trail. Interpretive signs would be sited so they could be viewed by visitors accessing the area from several vantage points. The signs would be designed and placed to avoid obstructing views of the sand dunes. Messaging would focus on natural history, safety, and park regulations.

Mosaic Canyon Road and Trailhead Projects

Figure 10 visually presents the proposed Mosaic Canyon Road and Trailhead projects, and the details are presented in the following paragraphs.

Mosaic Canyon Road. The existing road would be graded, and fill could be added to bring the roadbed to the natural grade. A range of surfaces for the Mosaic Canyon Road to reduce dust and improve drainage would be considered based on a design process to be completed in the future. It would include soil cement, decomposing granite, porous paving products, gravel, chip seal over gravel, asphalt, or other appropriate surface material. A new gate would be installed on Mosaic Canyon Road at the junction with CA-190.

Following road improvements, if crowding begins to impact park resources or visitor experience the National Park Service could consider developing additional strategies to limit the number of visitors to the area. These strategies would be implemented through revisions to *Death Valley National Park*

Wilderness and Backcountry Stewardship Plan (NPS 2013) and completing additional regulatory compliance as necessary.

Mosaic Canyon Parking Lot and Trailhead. The parking lot would be graded and resurfaced with the same surface treatment as the road. To provide improved traffic flow patterns, the existing road would be realigned where it connects to the parking lot, and the parking spaces would be clearly delineated using a method appropriate to the new surface. The parking lot is located adjacent to a wash at the mouth of Mosaic Canyon. Based on the results of a future design process, the bank of the wash may be stabilized using a range of options consistent with the 1988 Flood Mitigation Study (NPS 1988) to prevent erosion of the parking lot. The existing faded wayfinding sign for Mosaic Canyon would be replaced with a new sign that also notes that the area does not have water. The Mosaic Canyon trailhead area would be improved, including installing a vault toilet and providing visitor information signs with appropriate safety messages.

Devils Cornfield Parking Pullout

Figure 11 presents the proposed Devils Cornfield projects, and the details of the projects are presented in the following paragraph.

The park would work with Caltrans to develop measures to improve visitor safety. The roadway would be re-striped with a double yellow centerline to keep drivers from passing in this area. To increase safety for pedestrians crossing CA-190 between the pullouts, advance signing for the scenic area parking at Devils Cornfield would be improved, advance pedestrian crossing warning signs would be added. The signs would not include any lights or flashing beacons.

The existing pullout parking area at Devils Cornfield would be retained in its current size and configuration with the existing wayside on the north side of CA-190. An additional interpretive sign would be added to the southern pullout. At the Devils Cornfield pullout, the existing rocks on both sides of CA-190 would be replaced with a more effective barrier consistent with Caltrans standards, to discourage off-road travel. The barrier would be installed at least 20 feet from the white edge line on CA-190 outside of the clear zone. On the northern side of the road, the barrier would also extend west of the pullout along CA-190 for approximately 1.75 miles to discourage illegal off-road driving. Upon completion of the design phases, additional regulatory compliance would be completed as necessary.

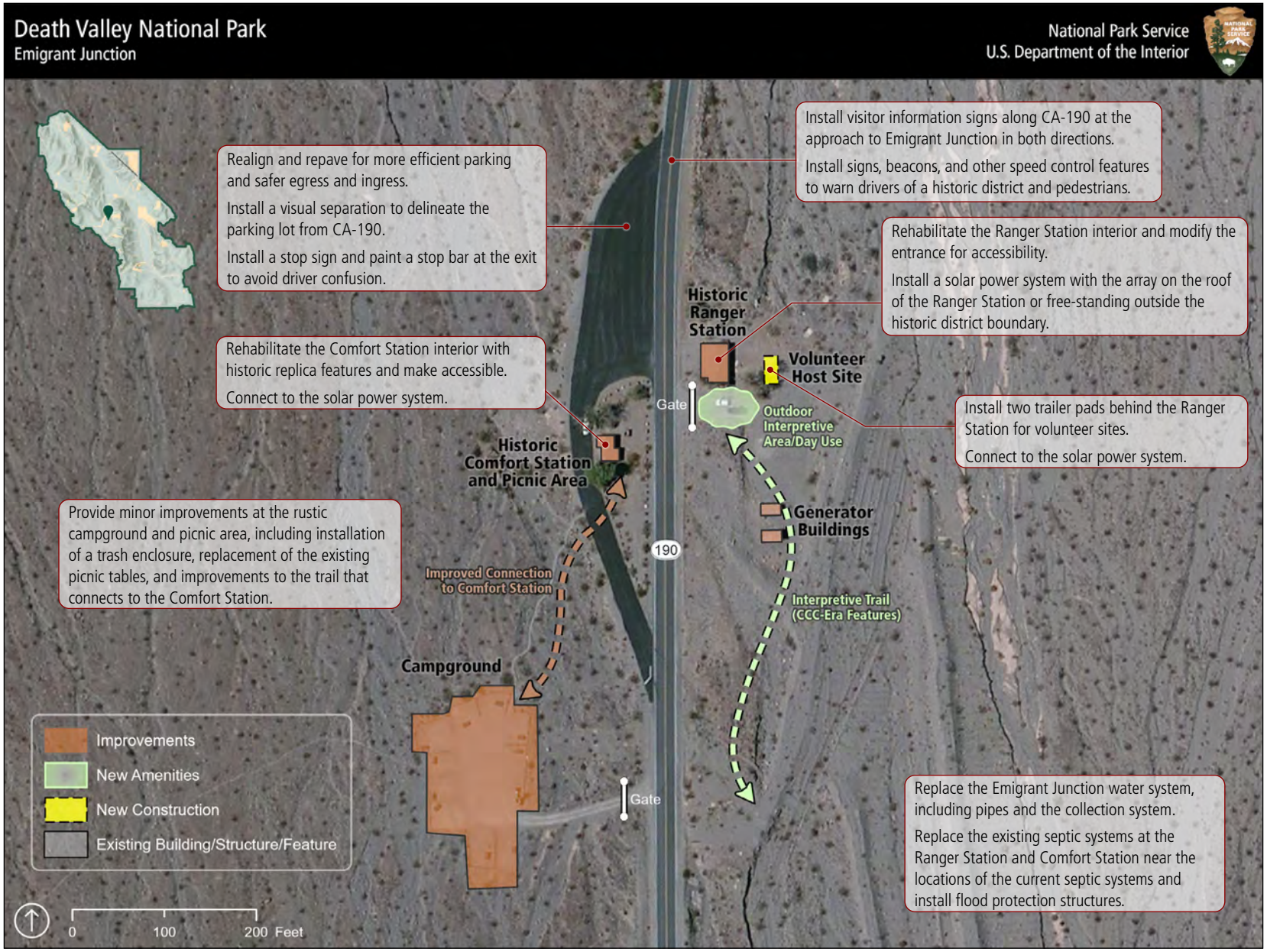

Figure 8. Emigrant Junction under Alternative B

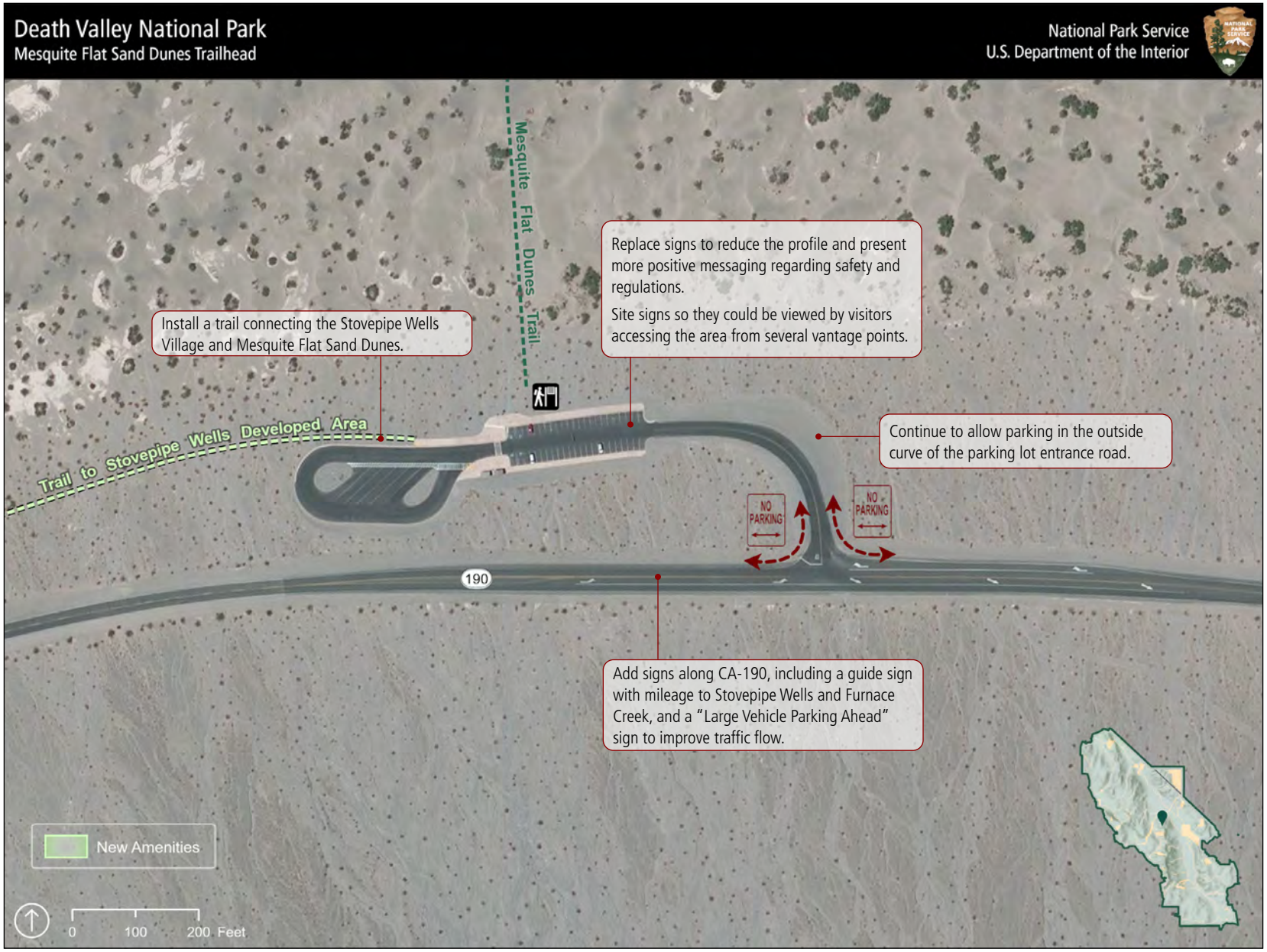

Figure 9. Mesquite Flat Sand Dunes Trailhead under Alternative B

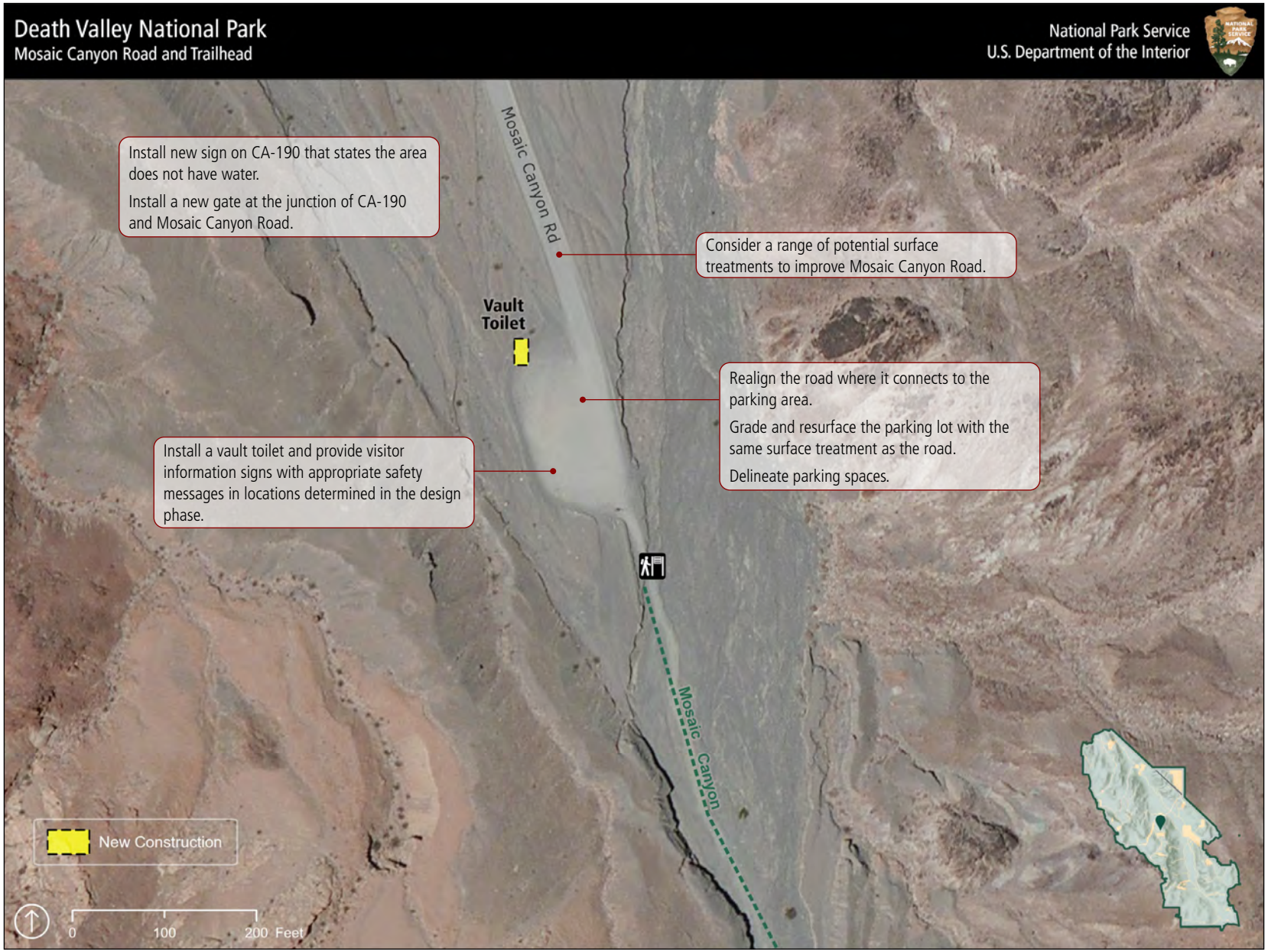

Figure 10. Mosaic Canyon Road and Trailhead under Alternative B

Figure 11. Devils Cornfield Parking Pullout under Alternative B

Elements Common to All

The following actions are common to both alternatives:

Helicopter Landing Pad. The helicopter landing pad on the east end of the Stovepipe Wells airstrip is used for administrative and emergency medical helicopter landings. The helicopter landing pad would be retained under both alternatives. It would remain paved, and the size of the landing area could be expanded consistent with FAA requirements.

Stovepipe Wells Village Hotel. The existing blockhouse would be replaced and visually screened. A fire suppression system would be added to the hotel registration area and curio shop. The pool would be sealed, and some new shade structures installed in the pool area.

Flood Control Structures. The main dike and water plant dike would be repaired consistent with the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument* (NPS 1988). For the main dike, the effective height of this feature would be restored by grading the upslope side. Runoff is currently collecting above the main dike, which increases sedimentation and reduces the effectiveness of the feature. The grading would be sloped in a way that diverts the runoff away from the development, which would allow the restoration of a more natural flow pattern off of the eastern edge of the dike. The water plant dike would be rebuilt and reinforced in two vulnerable areas where it is subjected to erosion.

Emigrant Junction Picnic Area and Campground. The campground and picnic area would retain their current rustic condition. There would be minor improvements, including installation of a trash enclosure, replacement of the existing picnic tables, and improvements to the trail that connects to the Comfort Station.

Mesquite Flat Sand Dunes Parking Area and Access to the Dunes. During peak visitation, visitors would continue to park along the wide, graveled shoulder on the north side of CA-190.

Actions Considered but Dismissed from Detailed Analysis

During the planning process for the Stovepipe Wells Improvement Plan, the National Park Service considered different approaches to improve operations and visitor access and enjoyment in the project area. During civic engagement before the NEPA process was initiated, the comments included different approaches to some of the proposed actions. A number of the suggestions were either out of scope for this project or did not meet the NPS purpose and need for this project, and they were not considered as part of the planning process. Those comments are discussed in Appendix C: Summary of Comments Received During Civic Engagement.

The National Park Service received comments suggesting the park consider multiple uses at the airstrip, maintaining the current use of the airstrip and also using the area for programming, such as night sky viewing programs. As noted in the description of alternative A, maintaining the use of the airstrip would require addressing deficiencies outlined in an assessment of the airstrip conducted by the Caltrans Division of Aeronautics on behalf of the FAA. Addressing the deficiencies would require expanding the development footprint of the current airstrip by an estimated 723,000 square feet. This level of disturbance is not justified given the current low use of the airstrip and the environmental impacts in a national park. In addition, as noted in the description of alternative B, trying to maintain two airstrips in such close proximity to each other makes securing the funds necessary to address the identified deficiencies and complete any repairs less likely. Based on this analysis, the National Park Service has concluded that maintaining the use of the Stovepipe Wells airstrip would cause too great an environmental impact that cannot be justified given the low level of use.

It was suggested that the National Park Service charge an additional fee to pilots when they land at Stovepipe Wells to pay for maintenance of the airstrip. This fee, known as an expanded amenity fee, would be in addition to the standard park entrance fee. Given the low level of airstrip use, the cost of collecting the fee, and enforcing its payment would likely exceed revenues from the expanded amenity fee. Any monies received from the expanded amenity fee would be part of the general recreation fee funding the park receives and not earmarked for maintenance of the airstrip. For these reasons, this suggestion was dismissed from further analysis.

It was also suggested that the National Park Service open additional landing sites in the park, in places such as the Racetrack Playa, Lost Lake, Owl Lake, and Hidden Valley. All of these areas are in designated Wilderness. Landing an airplane in one of these areas or other locations in designated Wilderness is expressly prohibited in Section 4(c) of the Wilderness Act. Landing an airplane outside of a designated airstrip at Death Valley National Park would also be a violation of 36 Code of Federal Regulations (CFR) 2.17, "Aircraft and Air Delivery", which prohibits landing aircraft outside of areas designated by the Superintendent and the FAA; and 36 CFR 4.10, "Travel on Park Roads and Designated Routes," which prohibits operating a motor vehicle except on park roads, in parking areas and on routes and areas designated for off-road motor vehicle use. Illegal activities cannot be considered as an action in this plan.

It was also suggested that night sky programs be offered at Mosaic Canyon. The expected level of use for any programming near Stovepipe Wells exceeds the capacity of the parking lot at Mosaic Canyon. The area around the parking lot cannot be developed for a night sky viewing area because it is in designated Wilderness. The park can provide access to programming within Stovepipe Wells Village with fewer resource impacts and without increasing the footprint of development. For these reasons, this alternative was dismissed from further consideration.

MITIGATION MEASURES

To minimize impacts related to the preferred alternative, the National Park Service would implement mitigation measures whenever feasible. Best management practices and mitigation measures would be specific to individual construction projects and would be determined at the time of design, prior to construction. Subject to the final design and approval of plans, mitigation measures would include, but would not be limited to, the items listed below.

General

- CA-190 and Stovepipe Wells Village would remain open during construction, so visitors could still access the facilities and recreational amenities. Short-term closures may be necessary at some of the project areas for safety. These closures would be posted on the park website and other means to alert the public.
- Erosion and impacts on storm runoff would be mitigated through the use of best management practices, including but not limited to, sediment traps, silt fences, and regular inspection of construction areas for erosion.
- During construction activities, safety measures to protect visitors would be implemented, such as restricting visitors from active work areas to ensure their safety and safely storing any hazardous materials required for construction.
- Construction activities would be limited to daytime hours.
- To reduce air pollution and noise, construction equipment and vehicles would be well-maintained and properly functioning and equipment idling would be limited to only what is necessary for safety and/or mechanical reasons.

- Fugitive dust plumes would be reduced to the extent possible using water sprayed on the soil during earth-disturbing activities.
- Best management practices for construction equipment would be followed to avoid exposure of the environment to risks, such as oil leaks and fuel spills. For example, all refueling of equipment would have spill containment pads in position prior to refueling activities; and equipment must be free of any fluid leaks (fuel, oil, hydraulic fluid, etc.) upon arrival to the work site and would be inspected at the beginning of each shift for leaks. Leaking equipment would be removed off site for necessary repairs before the commencement of work.

Vegetation

- To avoid the transport of nonnative species to the project area, all construction vehicles would be washed and inspected before use, as directed by the 2020 *Death Valley National Park Invasive Species Inspection Procedure*.
- Following construction, disturbed areas would be restored to natural conditions to the extent possible. Revegetation work would use desert soil conserved along the corridor and native species from genetic stocks originating in the park. Revegetation efforts would also attempt the reconstruction of the natural spacing, abundance, and diversity of native plant species.
- No imported topsoil (desert soil) or straw bales would be used during revegetation, to avoid the introduction of exotic plant species or inappropriate genetic stock of native plant species.
- Following revegetation, restored areas would be monitored and managed to prevent colonization by nonnative invasive species.

Scenic Resources

- Barriers at Devils Cornfield would be of natural material or low profile and natural color.
- To minimize the road in the viewshed, the surface treatment for Mosaic Canyon road would be designed to blend into the surrounding landscape to the extent practicable.
- Any overhead lighting installed at the CA-190 crossing in Stovepipe Wells Village and Emigrant Junction using cutoff lighting fixtures or other lighting would follow the International Dark Sky Association program guidelines to the extent practicable.
- The overall number of signs at Mesquite Flat Sand Dunes Trailhead would be reconfigured to lessen the visual impact and encourage more positive messaging overall regarding safety and regulations. Low-profile signage would reinforce messaging for visitors entering the dunes from the parking lot.

Archeological and Historic Districts

- If the project requires an action to occur outside previously surveyed areas, the National Park Service would conduct archeological surveys of the revised area and consult with the California SHPO to mitigate any potential adverse effects to NRHP eligible resources.
- Should unknown archeological resources be uncovered during construction, work would be halted in the discovery area and the park staff would consult with the California SHPO according to 36 CFR 800.13 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.
- The National Park Service will determine stipulations that serve as avoidance minimization, and mitigation measures for adverse effects to historic properties, in consultation with the California SHPO and interested tribes. Rehabilitation of historic structures and new design and landscape elements would be designed to be compatible with the natural and historic surroundings and meet

the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Designs would be finalized in consultation with the SHPO.

- All new construction in the vicinity of historic or potentially historic buildings, structures, or districts would be undertaken according to NPS policy, following the guidelines set forth by the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. In addition, the National Park Service would minimize or eliminate any visual effects by incorporating context-sensitive design features that mimic current or historic (1942) conditions, circulation patterns, and landscape features, including naturalizing any areas of ground disturbance and matching colors and materials as close as possible to existing historic properties.

Floodplains

- Best management practices would be used to minimize erosion and sedimentation during construction activities. For example, using wattles and silt fencing to control erosion and runoff.
- Soil compaction in the floodplain would be minimized during construction, and the soil surface restored if needed after construction. For example, the use of heavy equipment would be avoided where soils are wet or extensive compaction could occur. Limits of disturbance would be clearly marked using stakes, flagging, or fencing. Surface soils that have been compacted would be scarified to slow runoff and promote revegetation.
- Appropriate drainage would be considered in the design of all project components to prevent accelerated runoff within the project area.
- Signs would be installed to warn park visitors of the potential for flash flooding to occur during precipitation events.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION AND GENERAL METHODS FOR ANALYZING IMPACTS

This chapter describes the existing condition of resources retained for analysis that could be impacted by implementing the alternatives and the methodology for analyzing impacts. This chapter is organized by resource topic to allow a comparison between the alternatives and include the following: archeological resources, cultural landscapes (which incorporates historic districts and historic structures), ethnographic resources, visitor use and experience, and floodplains.

The impacts of all actions proposed under alternatives A and B were considered, and an action was fully analyzed if the impacts would result in important beneficial or adverse changes to a resource, or a comparison of the impacts on a resource would help decision-makers determine which alternative to implement. Where appropriate, mitigating measures for adverse impacts are also described and incorporated into the evaluation of impacts. The specific methods used to assess impacts for each resource may vary; therefore, these methods are described under each impact topic. The impacts of actions that are not fully analyzed are described in appendix A.

The National Park Service based these impact analyses and conclusions on a review of existing literature, studies, and research performed by park staff, information provided by experts within the National Park Service, and other agencies and institutions, professional judgment, park staff expertise and insights, and public input. These references are cited in the appropriate sections below. As noted in chapter 2, some actions may require additional compliance once design is complete.

CULTURAL RESOURCES

The regulations implementing Section 106 of the National Historic Preservation Act (36 CFR 800), define a historic property as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior.” The project area contains archeological resources and historic buildings, structures, and districts. These resources are briefly described in this section.

To evaluate the cultural resources within the project area, a cultural resources survey was conducted in November 2020 and June 2021 within the five discontinuous areas in and around Stovepipe Wells Village, Emigrant Junction and Emigrant Spring, Mosaic Canyon Road and trail, and Devils Cornfield. These areas encompassed portions of the project area for the Stovepipe Wells Developed Area Improvements Plan that had not been previously surveyed for cultural resources. In total, approximately 273 acres within the park were surveyed.

A total of 24 cultural resources (archeological resources and historic structures) were identified within the survey areas. These include 10 previously identified resources and 14 newly identified resources. Two of these resources, the Mesquite Flat Archeological District and Stovepipe Wells Hotel, were not resurveyed by the current study but were previously evaluated. The remaining 22 cultural resources were documented and evaluated for listing in the NRHP. It is possible that during the period of implementation for the actions described in this EA, additional structures may become historic. Those properties will need to be evaluated under separate Section 106 consultation.

Archeological Resources

A total of 22 archeological resources have been identified to date within the area of potential effect for the Stovepipe Wells EA. During these surveys, archeological sites and features were documented and

evaluated for listing in the NRHP using the best information available at the time. Results of the evaluations indicate that one archeological site, CA-INY-968, is recommended as eligible for the NRHP as an individual resource and also as a contributing site to the larger, proposed eligible Mesquite Flat Archeological District. The remaining archeological resources in the survey areas including the isolated archeological occurrences, are recommended to be not eligible for inclusion in the NRHP (PaleoWest 2021). Portions of the area of potential effect were either not known or were unable to be recorded due to contract timing constraints or design unknowns. These unsurveyed areas of the area of potential effect will be surveyed and evaluated for cultural resources as a part of the NHPA, Section 106 compliance once design of developed area features is known and prior to the implementation of any additional actions.

Cultural Landscape/Historic District/Historic Structures

The Emigrant Junction is eligible for listing in the NRHP as a historic district reflecting National Park Service CCC-era development in the park. Death Valley National Monument had little infrastructure and limited staff in 1933 and directly benefited from CCC crews who were based inside the monument until 1942. They constructed or improved nearly all of the park's infrastructure and transportation system during that time. One project was the development of the Emigrant Junction Developed Area, which was a check-in station for visitors entering the monument from the west. The district is also eligible as a reflection of Park Service Rustic architectural design standards, which emphasized the use of natural native materials, such as log and stone. Color schemes reinforced the organic nature of the materials and design. Park Service Rustic designs were adopted by the CCC and used in most construction projects implemented in public lands and parks in the 1930s and early 1940s.

Contributing elements to the Emigrant Junction historic district include two buildings: the Ranger Station and the Comfort Station (figure 12). Certain cultural landscape elements also contribute to the district as a site. For example, circulation patterns, such as parking and pedestrian pathways, and some landscape features have been altered from the original 1942 design, but the overall cultural landscape characteristics still communicate the CCC-era development in the park. CA-190 retains the same or similar alignment as existed in 1942, and the service yard south of the Ranger Station, native vegetation, and natural viewsheds are intact. Large athel tamarisk trees (*Tamarix aphylla*) are located near the buildings that may have been planted by the CCC. Changes to the landscape include alterations to parking patterns, curbing, and trails since the early 1940s (PaleoWest 2021).

The National Park Service evaluated the Stovepipe Wells Hotel complex for listing on the NRHP in 2012. The property contains 80 acres. The hotel complex includes 83 guest rooms in eight one-story buildings, a pool, a restaurant, a lobby, and a gift shop building, as well as offices, employee dorms, trailer sites, and assorted support buildings and sheds. None of the buildings, structures, or sites were determined to be eligible for listing either individually or as a district (NPS 2012).

Mosaic Canyon Road has been evaluated and determined to be potentially not eligible for listing in the NRHP. Concurrence from SHPO on this determination is pending. If SHPO does not concur, additional consultation would be required.

Figure 12. Contributing Elements to the Emigrant Junction Historic District: Emigrant Junction Ranger Station (left) and Emigrant Junction Comfort Station (right)
(Source: PaleoWest, LLC)

Cultural Resources Impacts Assessment

Appendix A provides a summary table of the actions included under alternative B and identifies which actions would have the potential to result in important beneficial or adverse impacts to archeological resources and historic structures and districts. These potential impacts are described below. The other actions presented in appendix A are dismissed from further analysis; the table presents a brief description of the impacts of these actions. Impacts are considered to be adverse if the action may alter any of the characteristics of an archeological site or historic structures and districts that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5).

Impacts of Alternative A: No-Action Alternative

Archeological Resources

Under alternative A, current operations, maintenance, and visitor use at the park, as described in chapter 2, would remain unchanged, and would continue, with the exception of converting the Stovepipe Wells airstrip from asphalt to gravel. Converting the airstrip to gravel would not affect archeological resources. The proposed Mesquite Flat Archeological District, near Stovepipe Wells Village, would continue to be vulnerable to visitor use in the area either through trampling or removal of artifacts. The Devils Cornfield area would continue to be vulnerable to off-road drivers crushing artifacts. There would be no new impacts on archeological resources.

Cultural Landscape/Historic District/Historic Structures

Under alternative A, the current operations, maintenance, and visitor use at the park would remain unchanged and would continue. There would be no new impacts on historic districts or structures.

Impacts of Alternative B: Preferred Alternative

Archeological Resources

The proposed infrastructure improvements at Death Valley have the potential to affect NRHP eligible archeological resources. The following activities have the potential to affect resources within the proposed Mesquite Flat Archeological District:

Stovepipe Wells Campground. A portion of the Stovepipe Wells campground is within the Mesquite Flat Archeological District. The campground would be redesigned to enhance the camping experience within the existing disturbed area. If contributing archeological sites cannot be avoided, additional consultation with SHPO would be required prior to implementation. In the future, if the campground is expanded, additional surveys would be necessary to determine the presence of archeological resources.

Trail Connecting Stovepipe Wells to Mesquite Flat Sand Dunes. This action would occur within the boundaries of the proposed Mesquite Flat Archeological District; however, the area has been surveyed and no NRHP-eligible resources or resources contributing to the archeological district were identified in the area of the proposed trail. In the event that the project requires an action outside previously surveyed areas, the National Park Service would conduct archeological surveys of the revised area and consult with the California SHPO to mitigate any potential adverse effects to NRHP-eligible resources.

The construction of an accessible trail within the boundaries of the archeological district has the potential to affect the integrity of the district by introducing a modern structure into the district. However, all projects would be undertaken according to NPS policy, following the guidelines set forth by the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and would be designed to minimize their effect on the historic district. Three mitigating factors would minimize any effects. First, the trail would be located near the CA-190 corridor, an area already affected by development. Second, the trail would be designed to blend into the natural surroundings and be unobtrusive. Third, it would only cross a small area of the 40,200-acre archeological district and, thus would not have a noticeable effect on the overall setting, feeling, or association of the district. Further, most visitors tend to stay on designated trails, reducing the adverse impacts to archeological sites by reducing potential trampling or removal of artifacts. Therefore, the construction of a trail to connect Stovepipe Wells to Mesquite Flat Sand Dunes would not have an adverse effect on the Mesquite Flat Historic District.

Emigrant Junction Circulation and Access. Known archeological resources within the Emigrant Junction area are not along CA-190 and therefore would not be affected by the installation of roadway safety measures. Some of the new informational and safety signs on the approach to Emigrant Junction along CA-190 would be installed outside the proposed historic district boundaries and near the NPS boundary. Additional archeological surveys may be required when a final location is determined.

Devils Cornfield Parking. The National Park Service proposes to replace existing barrier rocks that are located along the perimeter of the parking area with a more effective barrier to discourage off-road travel. Additional signs would be placed in previously disturbed areas. Although these actions would occur within the boundaries of the proposed Mesquite Flat Archeological District, the project area has been surveyed and no new contributing resources to the archeological district were identified. Known contributing archeological sites would be located and avoided during the installation of the barrier. If the placement of the barrier requires work outside previously surveyed areas, the National Park Service would conduct archeological surveys of the revised area and consult with the California SHPO to mitigate any potential adverse effects to NRHP eligible resources. Reducing or eliminating off-road driving would have a beneficial effect on archeological resources by preventing damage to artifacts.

The installation of the barriers and new signs have the potential to affect the integrity of the district by introducing modern structures into the district. However, all projects would be undertaken according to NPS policy, following the guidelines set forth by the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and would be designed to minimize their effect upon the historic district. Two mitigating factors would minimize any effects. First, barriers and signs would be designed to blend into the natural surroundings and be as unobtrusive as possible while still being effective. Second, the barriers and signs would occupy a very small area of the historic district and not have a noticeable effect on the overall setting, feeling, or association of the 40,200-acre district. Therefore, the improvement of the Devils Cornfield Parking Area would not have an adverse effect on the Mesquite Flat Historic District.

The National Park Service proposes to re-stripe CA-190 with a double yellow (no passing) centerline, improve exiting signs, and add an interpretive sign to the southern pullout. These actions would be small-scale and outside the historic district and would have no effect on the Mesquite Flat Historic District.

The current archeological surveys only cover a portion of the proposed Devil's Cornfield developed area work. As plans progress to specific project design, additional archeological survey or revisit may be required. There are two known historic properties that are eligible to the National Register of Historic Places within the described area of potential effect for the proposed work at the Devil's Cornfield. Project designs would be designed to avoid eligible cultural resources when possible, but if that is not feasible, the National Park Service would work with the California State Historic Preservation Office and appropriate tribal offices to propose and implement appropriate mitigation for cultural resources as a part of the subsequent Section 106 consultation under the NHPA.

Cultural Landscape/Historic District/Historic Structures

Emigrant Junction Circulation and Access. Proposed circulation and access improvements include adding information and safety signs, new trails and paths, and a pedestrian highway crossing. These proposed improvements could result in a number of alterations to circulation and access patterns within and near the proposed Emigrant Junction Historic District. New informational and safety signs installed outside the proposed historic district would result in no impacts on the historic district or structures.

The National Park Service, in partnership with Caltrans, would design pedestrian circulation in a manner that provides for safety and reflects the original historic layout of Emigrant Junction. However, safety concerns may result in the creation of new pedestrian circulation patterns. The National Park Service would design any new trails and paths, fee kiosk, and informational signs in a manner that minimizes any adverse effects by incorporating context-sensitive design features, including the use of matching colors and materials as close as possible to existing district features. Therefore, the actions would result in no adverse impacts on historic properties.

Proposed safety features could be located within the boundaries of the proposed historic district. These actions would affect historic properties by introducing non-historic elements and materials to the historic district. However, all projects would be undertaken according to NPS policy, following the guidelines set forth by the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and would be designed to minimize their effect on the historic district. This would eliminate the potential for an adverse effect on the historic district. Hence, the addition of new safety features would result in no adverse impacts on historic properties.

The parking lot would be realigned to provide a visual separation from CA-190 for more efficient parking and safer egress and ingress. The current parking area is not historic and is outside the boundaries of the historic district, so re-designing the parking lot would not cause adverse impacts within the historic district. The proposed changes to the parking lot would be designed to minimize visual effects from the

historic district and therefore would not have an adverse impact on historic properties. Depending on the final design of the parking area, the new lot may provide a stronger link to the original layout of the CCC-constructed developed area. For example, the perpendicular exit road would be more in line with the original design of the Emigrant Junction Developed Area.

As stated in chapter 2, the National Park Service may implement additional measures if required to improve visitor safety in the future, including the installation of a rapid-flashing beacon that is triggered by an oncoming vehicle, a speed feedback sign, an island, wider edge lines and centerlines, and post-mounted delineators. These actions, which are not currently planned, could have a range of effects on historic properties depending on which measures are implemented and how they are designed. The National Park Service would design these measures in consultation with the California SHPO to minimize any adverse effects. Additional compliance and consultation would occur, as appropriate, during the design phase.

Historic Emigrant Junction Ranger Station. The Emigrant Junction Ranger Station is an important component of the proposed Emigrant Junction Historic District. The park proposes to rehabilitate the majority of the interior of the Ranger Station. The National Park Service would consult with the California SHPO and adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* in the development of specific modifications, which would be designed to minimize any effect on the historic district. The Ranger Station would be rehabilitated to accommodate either housing or exhibit space. Either of these uses would necessitate ongoing maintenance and be beneficial for the station. Therefore, the alterations to the building would not undermine the historic integrity of the historic district and would result in no adverse impacts on historic properties.

The landscape around the historic Emigrant Junction Ranger Station would be modified to support a primarily self-guided visitor interpretive experience. Wayside exhibits would be installed outside the Ranger Station and an interpretive trail would connect the Ranger Station to the other features. These actions, which are conceptual at this time, would likely result in some effects on historic properties, but all trail construction and wayside exhibit development would be small scale, would be designed in consultation with the California SHPO, and would not undermine the integrity of the historic district. Therefore, the actions would have no adverse impacts on historic properties.

The planned solar power system could result in effects on historic properties depending on the final design and location of the solar array. The panels may be located on a building, multiple buildings, or in a free-standing location outside the district. Working with the California SHPO, the National Park Service would site and design the solar panels to minimize their effect on the historic district. With proper design, this action should result in no adverse impact on historic properties.

Historic Emigrant Junction Comfort Station. The Emigrant Junction Comfort Station is an important contributing element to the proposed Emigrant Junction Historic District. Although the National Park Service is proposing actions that would affect the building, the National Park Service would apply the *Secretary of the Interior's Standards for the Treatment of Historic Properties* to all undertakings to minimize effects to historic properties.

While the ABAAS renovations do not correspond to the historic layout of the restrooms, the renovation and rehabilitation of the Comfort Station would serve to reclaim considerable historic integrity overall, and the actions would have no adverse impacts on historic properties.

Emigrant Junction Volunteer Host RV Sites. If constructed, the RV pads, solar panels, and water hookups would be located within the boundaries of the proposed Emigrant Junction Historic District. However, new construction in the vicinity of historic or potentially historic buildings, structures, or districts would be undertaken according to NPS policy, following the guidelines set forth by the *Secretary*

of the Interior's Standards for the Treatment of Historic Properties. For example, the volunteer facilities, which are small-scale features, would be designed to minimize their visibility from most areas of the historic district. This would reduce the potential for an adverse effect on the historic district. With adherence to NPS policy, the improvements associated with any new volunteer facilities would result in no adverse impacts on historic properties.

Emigrant Junction Picnic Area and Campground. The campground is outside the proposed Emigrant Junction Historic District; therefore, the action would result in no impacts within the historic district. Modifications to the campground would be visible from parts of the historic district, but the National Park Service would implement these changes in a manner that would not change the rustic nature of the campground. Therefore, proposed actions at the campground would result in no adverse impacts on historic properties.

Emigrant Junction Water System. Elements of the proposed water system upgrades would likely occur within the boundaries of the proposed Emigrant Junction Historic District. The current water system, which has been upgraded several times over the years, is not an element of the historic district. Moreover, any new water system components would be placed below grade. The water pipeline would be placed in an area previously disturbed by construction of the road. Therefore, the actions would have no adverse impact on the historic district.

Emigrant Junction Septic System. The current septic system is not a contributing element of the proposed Emigrant Junction Historic District. System updates would expand the septic infrastructure, but the final design of the septic system has not been determined. However, once complete, there would be no visible change to the landscape, and no aspect of the undertaking would affect buildings that contribute to the historic district. If the new leach field and other septic system elements are placed outside the boundaries of the historic district, there would be no effect on historic properties. If elements are located within district boundaries, there would be no adverse impacts.

Conclusion for Cultural Resources

Alternative A would not result in new impacts on archeological resources or historic districts or structures. There were no archeological resources located during the surveys at Emigrant Junction and Mosaic Canyon Road. If activities occur outside the survey area, additional surveys would be needed prior to ground disturbance.

Under alternative B, the proposed actions at the Stovepipe Wells campground, Emigrant Junction circulation and access, Mesquite Flat Sand Dunes, and Devils Cornfield Parking Area would result in no adverse effect to archeological resources within or adjacent to these project areas. The proposed actions, individually and collectively, may alter some of the characteristics of the Emigrant Junction Historic District or historic structures; however, using the guidelines set forth by the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, the alterations would not diminish the integrity of the district and disqualify the property for inclusion in the NRHP. Therefore, the actions are anticipated to result in no adverse impacts to the historic district and historic structures at Emigrant Junction. Concurrence from SHPO on the assessment of effect is pending.

ETHNOGRAPHIC RESOURCES

Ethnographic resources are the cultural and natural features of a park that are of traditional significance to traditionally associated peoples. These resources can include sites, structures, objects, traditional landscapes, or a natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a traditionally associated group. These traditionally associated peoples are the contemporary park neighbors and ethnic or occupational communities that have been

associated with a park for two or more generations (40 years) and whose use began before the establishment of the park (NPS 2006). Per the Timbisha Shoshone Homeland Act of 2000 (PL 106-423;), Death Valley is the homeland of the Timbisha Shoshone Tribe (NPS 2000), and the Furnace Creek airstrip is located within the proposed Tumpisa Traditional Cultural Property and near the Timbisha Village.

Ethnographic Resources Impacts Assessment

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Environmental Assessment Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007, "Indian Sacred sites" (1996). In summary, these require—in concert with other provisions, such as those found in the NHPA and the Archaeological Resources Protection Act of 1979—that the federal government carefully and proactively take into consideration traditional and religious Native American culture and life and ensure, to the degree possible, that access to sacred sites, the treatment of human remains, the possession of sacred items, the conduct of traditional religious practices, and the preservation of important cultural properties are considered and not unduly infringed upon. In some cases, these concerns are directly related to "historic properties" and "archeological resources." In some cases, elements of the landscape without archeological or other human material remains may be involved. Identification of these concerns is normally completed during the land use planning efforts, reference to existing studies, or via direct consultation.

General consultation takes place regularly with the Timbisha Shoshone Tribe on projects in Death Valley National Park. Concerns identified in previous consultations indicate safety and quality of life concerns with the Furnace Creek airstrip. Specific consultation for the Stovepipe Wells Developed Area Improvements plan is pending, and if new information is brought forward, any site-specific mitigation measures suggested during notification/consultation would be considered during the implementation of the selected action.

Appendix A provides a summary table of the actions included under alternative B and identifies which actions would have the potential to result in important beneficial or adverse impacts to ethnographic resources. These potential impacts are described below. The other actions presented in appendix A are dismissed from further analysis, and the table presents a brief description of the impacts of these actions.

Impacts of Alternative A: No-Action Alternative

Airstrip. Under alternative A, current operations, maintenance, and visitor use at the park, as described in chapter 2, would remain unchanged and would continue. One exception would be converting the Stovepipe Wells airstrip from asphalt to gravel. Some pilots may not prefer to land on gravel airstrips, or their aircraft may not be equipped to do so. Some pilots may avoid flying to the park altogether, but other pilots would land at the Furnace Creek airstrip. More air traffic at Furnace Creek would increase noise near the Timbisha Village and heighten safety and crash concerns. Given the low use of Stovepipe Wells airstrip, the increase in aircraft at Furnace Creek would be negligible; however, alternative A would have an adverse impact on known ethnographic resources.

Impacts of Alternative B: Preferred Alternative

Airstrip. Under alternative B, the Stovepipe Wells airstrip would be closed, and the area would be used for interpretive programming that could include night sky viewing. This would permanently displace recreational aviation at Stovepipe Wells and result in increased use of the airstrip at Furnace Creek, which is located near the Timbisha Village. The types of impacts would be the same as alternative A with an increase in noise and concerns for safety and accidents. Alternative B would result in a larger number of

aircraft landing at and taking off from the Furnace Creek airstrip, resulting in an adverse impact on known ethnographic resources.

Conclusion for Ethnographic Resources

Both alternatives have the potential to increase aircraft traffic at the Furnace Creek airstrip, which is located within the proposed Tumpisa Traditional Cultural Property and near the Timbisha Village where some members of the Timbisha Shoshone Tribe live and work. The use of Stovepipe Wells airstrip is currently low. Converting the airstrip to gravel under alternative A would divert some pilots to the paved Furnace Creek airstrip, but removing the Stovepipe Wells airstrip completely under alternative B would noticeably increase the number of aircraft landing and taking off. Both alternatives would have adverse effects on known ethnographic resources, but alternative B would have a greater impact.

VISITOR USE AND EXPERIENCE

Park visitation is rapidly increasing at Death Valley National Park. From 2016 through 2019, visitation surpassed the previous year, setting new record visitation levels each year (table 1). The park received approximately 1.7 million visitors in 2019 (NPS 2020c).

Table 1. Park Recreation Visitation 2010 to 2019

Year	Recreation Visitors
2010	984,775
2011	946,867
2012	984,568
2013	951,972
2014	1,101,312
2015	1,154,843
2016	1,296,283
2017	1,294,827
2018	1,678,660
2019	1,740,945

Stovepipe Wells Village. Stovepipe Wells Village is one of three locations in the park that offers wide-ranging visitor services and experiences; the other locations are The Oasis at Death Valley and Panamint Springs Resort. Stovepipe Wells Village is centrally located within the heart of Death Valley National Park, just a short drive to features of interest, including Mosaic Canyon and Mesquite Flat Sand Dunes. Stovepipe Wells Village is also about one hour from the Badwater Basin, the lowest point in North America. There is a hotel, RV hookups, and a campground for overnight accommodations. For supplies, food, and necessities, Stovepipe Wells Village has a gas station, comfort stations, a restaurant, and a store. For recreational experiences, there is a visitor contact station, NPS interpretive programming, picnic areas, scenic views, wilderness, and trailheads for hiking.

Visitation – The highest months for overnight stays (hotel and campground use) are February, March, April, November, and December. To provide an idea of the level of use during high and low visitation months, and type of use trends, table 2 presents overnight visitation data for selected months and years at Stovepipe Wells Village and Emigrant Junction. It should be noted that statistics for overnight stays for 2020 were not used, as campgrounds and hotels in the park were closed for a portion of the year due to the COVID-19 pandemic.

Table 2. Overnight Visitation Data for Stovepipe Wells and Emigrant Junction for April, September, and December for Years 2019, 2014, 2009

Month/ Year	Tent Campers at Campground	RV Campers in Campground (No Hookups)	RV Campers in Campground (Hookups)	Guests at Stovepipe Wells Village Motel	Tent Campers at Emigrant Junction
April 2019	1,994	1,645	513	2,795	790
September 2019	CLOSED	CLOSED	221	1,862	496
December 2019	691	877	469	1,947	499
April 2014	774	554	379	5,557	406
September 2014	51	86	121	2,171	157
December 2014	922	602	231	1,380	531
April 2009	1,110	1,485	692	5,003	605
September 2009	CLOSED	CLOSED	62	4,116	208
December 2009	819	960	582	3,969	397

Source: NPS 2021a

Campground – The Stovepipe Wells campground is a flat gravel lot that is primitive. The campground has 190 individual campsites without hookups. These campsites are first-come, first-served and of the 190 campsites, eight are walk-in tent-only sites with picnic tables and fire rings; 20 are drive-up tent-only sites with picnic tables and fire rings; and 162 are sites that could accommodate tents or RVs but have no picnic tables or fire rings. There are also 14 sites with hookups that can be reserved in advance. The campground is rarely full, typically only reaching capacity on holiday weekends. The campground does not have a formal group campsite, but groups often use a certain cluster of individual campsites as a group site. The campground lacks shade, and the associated comfort station is small with only four stalls and has poor air circulation. Due to the open-lot configuration, the flow of vehicle and foot traffic is not clearly delineated, as depicted in figure 13. Food and ice can be purchased at the general store, and potable water is available on a seasonal basis.

Figure 13. Stovepipe Wells Campground
(Source: https://www.nps.gov/deva/planyourvisit/stovepipe-wells-campground.htm)

Potable Water and Wastewater Systems – The potable water and wastewater systems at Stovepipe Wells service the hotel, campground, NPS employee housing, concession employee housing, and dining facility via more than 6,300 linear feet of water mains and service laterals. The *Condition Assessment of Water and Wastewater Utility Systems at Stovepipe Wells* (NPS 2018) identified multiple deficiencies in the potable water system infrastructure, including the lack of redundancy in the park's water source, an unsafe, non-code compliant RO treatment building, and aged and deteriorating water distribution piping.

The park has a primary well for potable water. The park recently installed a second well and a larger storage tank at Stovepipe Wells, which helps to increase the capacity for delivery and storage of water and provide redundancy for the system. This infrastructure would help avoid interruption of service to visitors and staff in the event there is a problem with one of the wells but would not increase the total amount of water available. This work addresses one of the deficiencies, but the outdated RO treatment building and deteriorating water distribution piping remain outstanding issues at Stovepipe Wells.

The water distribution system is approximately 40 to 50 years old. Due to the age of the system, extreme ambient heat, and high water supply temperatures that average above 100°F, the piping material is deteriorating at an accelerated rate. The system requires high levels of maintenance to keep it operational. Many repairs are emergency calls, requiring maintenance staff working during off hours resulting in substantial overtime costs.

The existing RO water treatment building is a below-grade concrete building. The building has many hazards that put park maintenance employees and water operators at risk on a daily basis, including deficiencies in electrical, plumbing, and life safety codes, accessibility, and structural stability.

The wastewater system at Stovepipe Wells uses facultative lagoons, a type of wastewater stabilization pond used for the biological treatment of sewage. Typically, this type of system requires sludge removal every 30 to 40 years to restore lagoon capacity, but at Stovepipe Wells, lagoon cleaning is needed every 7 to 10 years due to the deposit of wind-blown sand that substantially reduces lagoon capacity. The wastewater system is currently permitted for an average daily flow of 30,000 gallons per day and frequently exceeds that limit. Frequent windstorms deposit sand into the hotel swimming pool. Cleaning the pool contributes approximately 7,500 gallons of water (20% of the allowable daily discharge limit) and 200 pounds of sand directly into the wastewater treatment system. This sand-laden flow wears out the impellers on aerators and pumps and other equipment. Further, the configuration of the lagoon inlets leads to frequent sewer backups in the buildings, causing disruption of service for guests, as well as extensive labor hours of park staff.

Emergency Services Building – Stovepipe Wells Village has an emergency services building that houses vehicles and equipment necessary for response within the Stovepipe Wells area and the western section of the park. The building is a prefabricated steel structure that is no longer able to adequately house all emergency vehicles and equipment. The length of the ambulance currently prevents staff from closing the doors, leaving the building unsecured and thus vulnerable to theft and vandalism. A lack of a closed facility and adequate climate controls have contributed to increased maintenance and repair costs for the emergency vehicles. The building is also vulnerable to rodents, which gnaw on vehicle hoses and equipment and potentially expose park staff to diseases. The current building also requires extensive rehabilitation to replace failing doors, insulation, plumbing, and temperature control system.

Vehicle and Air Traffic – Visitors arrive to Stovepipe Wells by vehicle or small plane. Vehicle volumes are especially high through Stovepipe Wells Village during peak visitation periods, which have resulted in traffic volumes of up to 1,350 vehicles per day. This is up from the daily average of 950 vehicles in 2017 (NPS 2020a). Traffic volumes drop at night (NPS 2020a). A wide range of people use CA-190, including recreational users of the park and surrounding public land areas, interregional travelers, commercial traffic, and commuters traveling through the area, but the vast majority are visitors to the

park. The mix of vehicles also varies. Common vehicles on CA-190 include passenger vehicles, motorcycles, recreational vehicles, and commercial trucks. There is also some bicycle use on CA-190, including bicycle tour groups. Pedestrians are most commonly found near the developed areas, pullouts, and the visitor center area.

Airstrip – There are three airstrips in Death Valley National Park, the Stovepipe Wells airstrip, the Furnace Creek airstrip, and the unpaved Saline Valley Warm Springs Chicken Strip airstrip. The Stovepipe Wells airstrip is located west of the Stovepipe Wells campground and north of CA-190. Furnace Creek airstrip is located approximately 1 mile northwest of Furnace Creek Ranch, and 18 air miles southeast of Stovepipe Wells Village, and the Chicken Strip airstrip is 38 air miles to the northwest. Statistics on the use of the airstrips are collected annually for the number of aircraft using the Furnace Creek and Stovepipe Wells airstrips. The use numbers are based on pilots self-reporting, which is collected in logbooks at both locations. The National Park Service uses a multiplier of 2.2 times the number of aircraft to estimate the number of passengers per aircraft arriving at these two locations. Table 3 provides the aircraft usage for both runways for the past 11 years.

Table 3. Number of Passenger Aircraft at Stovepipe Wells and Furnace Creek Airstrips

Year	Passengers	Number of Aircraft (Passengers/2.2)
2009	328	149
2010	414	188
2011	414	188
2012	378	172
2013	295	134
2014	328	149
2015	403	183
2016	420	191
2017	271	123
2018	200	91
2019	97	44
2020	152	69

Source: NPS 2021b

Currently, the airstrip at Stovepipe Wells is described as being in poor condition with a rough surface and heaving pavement (AirNav 2021; NPS 2020b). Under the 2002 GMP, the National Park Service will replace the asphalt airstrip with a gravel airstrip if funding is available. During a state permit compliance inspection, an evaluation by the Caltrans Division of Aeronautics on behalf of the FAA noted two deficiencies requiring correction—the setback from the centerline is not wide enough on each side and vegetation must be cleared from within the runway safety areas (Caltrans 2018). An airstrip has been in the Stovepipe Wells Village area since 1946 (NPS 2018), but in its current location, only since the early 1970s. The design specifications for the airstrip need to conform to FAA 1968 Advisory-Circular 150/5300-4, *Design Standards for Utility Airports*, which requires a setback of 75 feet as opposed to the current standard of 125 feet (NPS 2018). In addition, vegetation in the runway safety area, "a rectangular area extending out and include an area 125 feet to the right and left of the runway centerline and 240 feet beyond each end of the airstrip" must be removed. Replacing the asphalt with gravel does not change the requirement to address the deficiencies identified by the Caltrans Division of Aeronautics.

Emigrant Junction. Emigrant Junction is west of the Stovepipe Wells area. The historic Emigrant Junction Ranger Station and associated outbuildings are on the east side of CA-190, and a rustic campground, Comfort Station, parking lot, and picnic area are on the west side of CA-190. The Ranger Station is currently closed to visitors. A free-standing low profile wayside panel outside the Ranger Station provides some interpretation of the district's history. The no-fee campground is small, with just 10 tent sites. Table 2 presents the number of campers that stayed at Emigrant Junction campground for specific high and low season months for years 2009, 2014, and 2019.

A natural spring provides potable water to the Emigrant Junction area. Water is collected in a spring box at Emigrant Spring and piped approximately 5 miles to Emigrant Junction by a waterline (a galvanized water line pipe, 2 inches in diameter) that generally follows Emigrant Canyon Road but is not situated directly adjacent to the road for its entire length. The waterline is deteriorating and corroded. Several sections of the waterline have been repaired due to corrosion that restricted water flow.

The septic system at Emigrant Junction consists of septic tanks and leach fields associated with the Comfort Station and Ranger Station. The system at the Comfort Station does not operate efficiently and requires frequent maintenance. The leach field at the Ranger Station was damaged in a flood.

Mesquite Flat Sand Dunes Trailhead. To the east of Stovepipe Wells Village is the Mesquite Flat Sand Dunes visitor use area. The Mesquite Flat Sand Dunes (figure 14) is the largest dune field in the park and the easiest to visit. The parking lot at this trailhead was improved in the last 15 years to better accommodate visitor use. Prior to these improvements visitors parked in a dispersed manner along the CA-190 road shoulder, which resulted in visitors crossing fast-moving traffic. Without a designated dunes access point, the landscape and other resources were being degraded. The current upgraded facilities include a one-way paved access loop and parking lot for approximately 40 cars and six oversized vehicles; a delineated access point into the dunes; interpretive information; and vault toilets. There are east- and west-bound turning lanes along CA-190 to access the parking area. Even with these improvements, during peak periods, parking demand exceeds capacity, so visitors park along the widened shoulder on both sides of the road, which may obstruct sight distance for other drivers and create a hazard as visitors walk along the 60-mph highway. RVs and other large vehicles park in the car parking spaces, unaware of the large vehicle parking further into the parking area from the entrance.

Figure 14. Mesquite Flat Sand Dunes
(Source: https://www.nps.gov/deva/planyourvisit/hiking.htm#Mesquite)

The park harbors some of the darkest night skies in the United States, and this dark sky is key to the park's certification as the third International Dark Sky Park in the National Park System. At present, the park recommends three locations for night sky viewing (NPS 2021c), one of which is Mesquite Flat Sand Dunes. The other two locations, Harmony Borax Works, located near the Furnace Creek visitor center and Badwater Basin, are outside the project area.

Mosaic Canyon Road and Trailhead. Directly west of Stovepipe Wells is the Mosaic Canyon Trailhead, which provides access to Mosaic Canyon, a rocky wash, and a narrow, marbleized canyon. The canyon is a popular place for a 3.5-mile long, out-and-back hike. Visitors access the trailhead via the 2.3-mile unpaved Mosaic Canyon Road (figure 15), which originates across CA-190 from the Stovepipe Wells campground. The existing unsurfaced dirt road to the canyon is rough, narrow, dusty, and subject to flooding. It is typically passable in a sedan. However, the road cannot easily accommodate large vehicles, so buses and large RVs are not recommended. Traffic on the road can be steady, creating dust plumes that can be seen for miles. The existing gravel parking area is undefined and often crowded. The *Wilderness and Backcountry Stewardship Plan* (NPS 2013) allows for up to 12 people per group and 4 support vehicles for day use hiking and photography groups and one commercial group per day in Mosaic Canyon. The National Park Service could employ additional carrying capacity limits to maintain the quality of the visitor experience and reduce resource impacts. These additional limits would be implemented through revisions to *Death Valley National Park Wilderness and Backcountry Stewardship Plan* (NPS 2013) and completing additional regulatory compliance as necessary. No restrooms or other amenities are available. Heat safety and human waste are issues in this area.

Figure 15. Mosaic Canyon Road
(Source: PaleoWest, LLC)

Devils Cornfield Parking Pullout. Devils Cornfield is located approximately six miles east of Stovepipe Wells along CA-190. The parking pullout area provides a roadside viewing area along CA-190 for Devils Cornfield, a vast, open landscape dotted with unique vegetation, including arrowweed (*Pluchea sericea*). An interpretive panel is located on the north side of the highway. There are no other visitor-serving facilities or interpretative features at this site. This parking pullout is often the initial location for illegal off-road driving incursions in the park. There are numerous tracks into the site that resemble a road and encourage additional off-road driving.

Visitor Use and Experiences Impacts Assessment

Appendix A provides a summary table of the actions included under alternative B. Several of the actions have the potential to have temporarily limited disruptions or displacements of recreation activities in the project area. However, these would be only for the duration of the construction activities and the actions would result in long-term beneficial effects. These actions are dismissed from further analysis, and the table in appendix A presents a brief description of the impacts of these actions. Impacts described below have the potential to cause important beneficial impacts or long-term or permanent limitations, disruptions, or displacement of recreational activities or lodging facilities, or limit access to undeveloped recreation areas.

Impacts of Alternative A: No-Action Alternative

Stovepipe Wells Campground. Alternative A would not make any changes to the campground. It would remain a gravel lot with 190 individual campsites and 14 campsites with hookups. The campsites would remain small, poorly located, and would continue to lack privacy and separation. The current conditions, including lack of shade structures, walking paths, and limited site amenities (e.g., no grills and limited fire rings and picnic tables) would persist. Members camping as a group would continue to occupy several individual campsites, creating an informal group site. This can be disruptive to other visitors that are camping near the group that is spread out among campsites. The comfort station would remain small for the capacity of the campground and without adequate air circulation. There would be no change to visitor use and experience. The camping experience would continue to be primitive, and use would remain low compared to other campgrounds, such as Furnace Creek campground. Visitors would continue to face safety issues from exposure to the sun and extreme temperatures and potential interactions with vehicles.

Stovepipe Wells Water and Wastewater Systems. The existing RO treatment building would be repaired to extend the life of the building; however, the building appears to be nearing the end of safe service life, evidenced by badly cracked concrete structural components. Removing or replacing interior features that are out of code, installing a ventilation system, improving the lighting system, and maintaining the roof and grading around the building would provide some benefit to park staff; however, these improvements would not address all of the building's deficiencies. The park would continue to perform routine and emergency maintenance/repairs to the potable water piping system and the wastewater system, but these systems would not be replaced or improved. Visitors would continue to experience disruptions in services due to issues with the water distribution lines and sewage backup. Over the long-term, the potable water system (both the RO treatment building and the water distribution piping) and the wastewater system would continue to be a safety risk to park staff and visitors and to adversely affect visitor experience. Further, potable water services could be interrupted if critical building or piping components fail or the RO building must be closed for safety considerations, which would result in adverse impacts on visitor use of and experience at Stovepipe Wells Village.

Emergency Services Building. The National Park Service would not replace the emergency services building under alternative A. The building and emergency services equipment and vehicles would continue to be vulnerable to extreme temperatures, damage by rodents, theft, and vandalism. These risks could delay or prevent park staff from responding to visitor emergencies promptly, resulting in adverse impacts on visitor experience.

Helicopter Landing Pad for Administrative and Emergency Services. The helicopter landing pad at the east end of the airstrip would be retained and could be expanded if needed to meet FAA requirements. The landing pad would continue to be used for administrative purposes and emergency services (e.g., utility work and medical, respectively). The National Park Service would continue to be able to respond to medical emergencies when necessary; therefore, there would be no change to visitor use and experience.

Stovepipe Wells Airstrip. The condition of the airstrip is poor with distinct cracks in the asphalt caused by salt heaving. These conditions would remain until funding is available to convert the airstrip to gravel and address the deficiencies identified by the Caltrans Division of Aeronautics on behalf of the FAA (Caltrans 2018). Funding any kind of modifications to the airstrip would continue to be a challenge because of the low use of the Stovepipe Wells airstrip and because there are two airstrips within 18 air miles of each other. The condition of the runway would remain poor and could deteriorate further. For the pilots who would like to use the airstrip, the condition of the runway could limit their ability to land and experience the park.

Following the proposed removal of the asphalt and conversion of the airstrip to gravel, the experience for pilots able and willing to land their planes on a gravel airstrip could improve based on the condition of the airstrip and the ability to use it. Pilots unable or unwilling to land their planes on a gravel airstrip would not benefit from the improved condition of the airstrip, and their experience would be adversely affected. Some pilots could be permanently displaced from landing in the park, resulting in adverse impacts on these visitors. For pilots who are willing to land their airplanes at the Furnace Creek airstrip instead, the adverse impact on their experience could be mitigated.

For visitors whose experience of the park is adversely impacted by planes landing at the airstrip, the impacts would continue while the airstrip remains in use. While converting the airstrip to gravel would maintain this use and thus the long-term adverse impact, this impact could be partially mitigated for these visitors if fewer planes are able to land at the airstrip.

Emigrant Junction. Under alternative A, visitors would continue to be able to visit the rustic campground and use the Comfort Station, but the potable water and septic systems could fail due to their age and condition. Failure of these systems could result in the lack of water and restroom facilities, potentially requiring closures at Emigrant Junction. This would result in adverse impacts on the visitor experience.

Mosaic Canyon Road. Mosaic Canyon Road would remain an unsurfaced dirt road. Maintenance would continue as necessary and within operational constraints; however, the road would continue to be susceptible to flooding and possible closures until repairs can be made. Use would continue to cause dust, and heavy use would continue to result in large dust plumes. Under alternative A, the current operations and maintenance activities would continue. Visitors would continue to experience dusty conditions, and visitors could be adversely impacted by flooding and temporary closures. The inadequate signs for Mosaic Canyon would leave visitors unaware of the lack of amenities at the trailhead, leaving them unprepared for the absence of potable water and restrooms. Visitor safety would continue to be a concern, and visitor experience would continue to be degraded from the presence of human waste and toilet paper present in the canyon. There would be no new impacts on visitor use and experience.

Impacts of Alternative B: Preferred Alternative

Stovepipe Wells Campground. During the first phase of campground improvements, all campers would benefit from the larger and more private campsites, as well as access to additional amenities and comforts, thereby improving their experience. Visitors with disabilities would benefit from the accessibility upgrades to the comfort stations and specific campsites. The addition of a formal group site would allow members of a group to stay together at one site rather than occupying several individual campsites. This would benefit all campers because the groups could camp together without disrupting other campers, especially during periods of higher visitation. Visitor use could increase due to the park offering more pleasant overall camping with separated sites and additional restrooms. The reduced number of campsites may adversely affect visitors when the campground is full. During peak holiday weekends, this would displace the recreational activities or lodging opportunities for some visitors, and visitors would have to find accommodations elsewhere. Some visitors prefer the campground in its current condition with few

amenities and no formal group site. The changes would result in an adverse effect on these campers; however, this would be limited to a small number of visitors.

If the campground were to be expanded in the future, the campground would accommodate the growing number of RV users, resulting in a beneficial experience for RV campers. All campers would benefit from the additional separation of the tents and RVs.

Stovepipe Wells Water and Wastewater Systems. Efforts to upgrade the potable water and wastewater systems would dramatically improve the reliability of these services to visitors of Stovepipe Wells. Under alternative B, the water distribution system would be replaced, all the piping and infrastructure of the wastewater collection system would be replaced, the lagoon area would be upgraded to increase capacity, and a new energy-efficient RO treatment facility would be constructed. These actions would address deficiencies and provide safer, efficient, and reliable systems. Alternative B would have substantial beneficial impacts on visitor experience.

Emergency Services Building. Alternative B would replace the emergency services building with a new building designed to house emergency services apparatus and operation, including moving offices currently in the Stovepipe Wells visitor contact station to this location. The new facility would also include a small maintenance shop and an outdoor recreation area. The new facility would properly house and secure vehicles and equipment and provide ample space to serve as a storage area for emergency signs. Alternative B would provide a building that would meet the needs of the park's first responders for the Stovepipe Wells Developed Area, as well as the western part of the park during natural disasters, vehicle fires, traffic collisions, and other visitor emergencies, thus resulting in beneficial effects on the visitor experience.

Helicopter Landing Pad for Administrative and Emergency Services. The helicopter landing pad at the east end of the airstrip would be retained and could be expanded if needed to meet FAA requirements. As explained for alternative A, this action would not change visitor experience because the landing pad would continue to be used for administrative purposes and emergency services.

Airstrip. Under alternative B, the airstrip would be closed and the asphalt removed, except for the paved helicopter landing pad. Given its proximity to the developed area, interpretive programs, such as night sky programs, could be provided in this location. This would permanently displace recreational aviation at Stovepipe Wells and result in adverse impacts to some members of this user group who prefer the experience at Stovepipe Wells. Pilots and passengers would still be able to visit the park and surrounding area by using the airstrip at Furnace Creek, approximately 18 air miles away. Some pilots may not want to use the Furnace Creek airstrip or the Chicken Strip airstrip in Saline Valley, and these pilots would be permanently displaced from landing in the park, which would adversely affect their visitor experience. A larger number of visitors staying overnight at Stovepipe Wells accommodations would benefit from converting the area to a night sky viewing area. For visitors whose experience of the park is adversely impacted by airplanes landing at Stovepipe Wells, the long-term impact on their experience would be beneficial once the use of the airstrip stops.

Emigrant Junction Water and Septic Systems. Alternative B would rehabilitate the historic Ranger Station, which provides another point of interest at Emigrant Junction and would increase visitation to this site. These visitors would be supported by the replacement of the potable water system originating at Emigrant Spring and the septic systems at the Comfort Station and Ranger Station. By completing these upgrades, the park would be able to continue to provide consistent and reliable water and septic services to visitors, thus improving the visitor experience at Emigrant Junction.

Mosaic Canyon Road, Parking Lot, and Trailhead. Improving the road surface would have a beneficial effect on the views and experience of visitors by reducing fugitive dust. The improved surface

would also provide for safer egress during flooding events. The improved road surface would allow access for visitors that otherwise could not drive their personnel vehicles to the trailhead. The road into the parking lot would be realigned and the parking spaces would be clearly delineated, improving traffic flow patterns. The addition of a vault toilet would benefit visitors and result in less human waste encountered in the area. Informational signs would help visitors be more prepared for the environment and improve their experience.

The improved road surface may also encourage more traffic and visitors to travel to the trailhead, resulting in crowds in the parking lot and the canyon. The increased visitation has the potential to cause degradation to the wilderness experience and solitude, resulting in adverse impacts on visitor experience through increased encounters with other visitors within the wilderness canyon. If this occurs, the National Park Service may need to increase regulation and place limits on access to the Mosaic Canyon.

Conclusion for Visitor Use and Experience

Although activities available to visitors would remain largely unchanged under alternative A, visitor services, including potable water, wastewater, and emergency services could be interrupted. Without improvements to these systems, they could fail due to their age and condition. If potable water, wastewater, septic, or emergency services were to be disrupted, Stovepipe Wells or Emigrant Junction could be closed to visitors until the infrastructure or equipment was repaired, resulting in substantial adverse impacts on visitor use and experience. Conversely, alternative B would repair or replace these systems, which would allow visitors to continue to recreate at Stovepipe Wells and Emigrant Junction with safe, consistent, and reliable access to water and restroom facilities. Alternative B would also make improvements to the areas within the Stovepipe Wells Developed Area that would benefit visitors. These changes include those that would enhance existing opportunities (e.g., improvements to the Stovepipe Wells campground and Mosaic Canyon Road) and create new recreational opportunities (e.g., increases availability of interpretive programs).

Converting the airstrip to gravel under alternative A may displace some pilots from landing in Stovepipe Wells if they do not prefer gravel or their aircraft is not equipped to do so. This would result in adverse impacts on a small number of visitors. Removal of the airstrip under alternative B would eliminate the opportunity for pilots to land at Stovepipe Wells, one of the three airstrips in the park, affecting a larger but still small number of park visitors (refer to table 1 and 3 for park visitation and visitation to the Stovepipe Wells airstrip and the Furnace Creek airstrip). Reducing or eliminating aircraft landing and taking off from Stovepipe Wells would be a benefit to some visitors that do not appreciate the sight or sounds of the aircraft. Under both alternatives, a paved helicopter landing pad would be retained to allow for administrative and emergency services.

Overall, alternative B would be beneficial to visitor use and experience and would allow continued recreational use of the Stovepipe Wells Developed Area. However, recreational aviation would be permanently displaced resulting in adverse impacts to some members of this user group.

FLOODPLAINS

One of the greatest values of a properly functioning (unaltered) floodplain or alluvial fan is its ability to reduce flood flow intensity and infiltrate surface waters. Currently there is no Federal Emergency Management Agency floodplain mapping available for the park, and a formal floodplain delineation has not been performed in the Stovepipe Wells Developed Area; however, the drainage patterns at Mosaic Canyon, Stovepipe Wells Village, and Emigrant Junction indicate that they are located in active alluvial fan areas that are subject to flooding. Runoff in alluvial fans can be unpredictable, quickly changing channels, braiding into numerous smaller channels, eroding new channels, and/or abandoning channels that become choked with sediment. This section describes the flood hazards in the Mosaic Canyon,

Stovepipe Wells Village, and Emigrant Junction areas. The following flood hazards are described in the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument*.

The Stovepipe Wells Village is built on an alluvial fan produced by outwash from Mosaic Canyon in Tucki Mountain (NPS 1988). Flash floods can concentrate in Mosaic Canyon from a several-square-mile watershed. The majority of runoff from Mosaic Canyon generally flows in a dominant channel on the east side of the alluvial fan, but there is another sizeable channel to the northwest of the alluvial fan. If the floodwaters overwhelm a critical section at the mouth of Mosaic Canyon, the dominant washes may not be able to contain the runoff, and the high energy of the runoff can scour new channels. The degree of hazard from floodwater concentration in Mosaic Canyon onto the alluvial fan is unpredictable. Runoff may or may not concentrate and flow down the fan towards developed areas. Smaller floods that develop on the Stovepipe Wells alluvial fan can be a problem, but the greatest hazard to human safety and development is from floods emanating from Mosaic Canyon and flowing down the fan. Runoff from Mosaic Canyon is estimated to be 220 cubic feet per second (cfs) for the 100-year flood and 1,460 cfs for the probable maximum flood (NPS 1988). To protect the development at Stovepipe Wells Village, two primary dikes have been constructed, including the main dike, the L-shaped dike south of the Stovepipe Wells Village Hotel, and the water plant dike, above of the RO facility. According to the 1988 analysis, the main dike appears to be capable of containing the 100-year floodflow but not capable of containing the probable maximum flow. Because its upper wall is constructed perpendicular to the slope, the dike tends to stop flow rather than diverting it from the developed area. This has caused sedimentation above the upper wall, so the effectiveness of this feature has been substantially reduced from its condition in 1988 (NPS, Friese, pers. comm. 2021c). Further, the dike is permeable, so saturation of the dike could lead to breaching (NPS 1988). However, there are secondary dikes downslope ("housing and hotel dikes") that should protect the developed areas from considerable damage during a 100-year flood if the main dike is breached. The water plant dike is also an earthen dike that is somewhat permeable, but this feature is oriented such that it diverts runoff away from the water plant, and therefore it is less prone to saturation and has not been subject to the upslope sedimentation. However, the uppermost part of the dike has been breached, and it is allowing some runoff to approach the water plant and has resulted in some minor erosion of the Main dike (NPS, Friese, pers. comm. 2021c). Fortunately, Stovepipe Wells Village sits at the toe of the alluvial fan, which is less prone to dangerous flooding because this area has a gentler slope and more diffuse runoff patterns than upslope areas.

Emigrant Junction is on the Towne Pass alluvial fan adjacent to the Emigrant Wash. The flood areas are more predictable at Emigrant Junction because the water flows through more defined channels; however, the focus of flow energy within these defined channels increases the potential for hazardous conditions at Emigrant Junction compared to Stovepipe Wells Village where the energy of the flow is dissipated across multiple distributary channels of the alluvial fan toe. The Emigrant Wash conveys floodwaters from portions of the Towne Pass drainage basin, Emigrant Canyon, and Harrisburg Flats. Emigrant Wash passes approximately 700 to 1,000 feet west of the Emigrant Junction Ranger Station. This wash would contain the 100-year and probable maximum flood (NPS 1988), but facilities and visitors in the Emigrant Junction area may still be susceptible to risks from floods as flood channels can change quickly during a major flood event due to sedimentation and erosion and potential failure of flood control features. There is a 640-foot dike between the development and the flood channel, and a cross section in the 1988 flood report indicates that the dike is approximately 6-feet high on the side of the main channel. This dike is composed of permeable materials and therefore is susceptible to failure (NPS 1988), but aerial imagery back to 1985 indicates that the flood waters of the main channel have not approached the dike. Furthermore, the aerial imagery indicates that the main channel has been degrading, thereby increasing the effective height of the dike and decreasing the likelihood that flow in the main channel would reach the dike.

Floodplains Impacts Assessment

This section describes the impacts on the natural functions of the floodplain. Based on the flood hazards described in the 1988 Flood Mitigation Study and review of aerial photography, actions that could affect floodplain functions and/or increase risk to human health or capital investment would be limited to Stovepipe Wells Village, Mosaic Canyon Road and trailhead, and Emigrant Junction. Actions at the Mesquite Flat Sand Dunes trailhead and the Devils Cornfield parking pullout are outside of any mapped floodplain. The impacts table in appendix A identified which actions have the potential to result in impacts on floodplains; these potential impacts are also described below. Actions not described are dismissed from further analysis and the table in appendix A presents a brief description of the impacts of these actions. Because the actions at the Stovepipe Wells Developed Area are in the planning phase, impacts on floodplains are discussed qualitatively. A draft floodplains statement of findings has been prepared for this project and is included as appendix B.

Impacts of Alternative A: No-Action Alternative

Under alternative A, the current operations and maintenance activities would continue in the Stovepipe Wells Developed Area. The deficiencies of the main dike and the water plant dike would be restored consistent with the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument* (NPS 1988). Although these improvements may result in additional fill in the floodplain, they are located in a previously disturbed area of the floodplain and would prevent up to 100-year flood flows from entering the developed area. Future flood flows in the Stovepipe Wells alluvial fan would continue to cause erosion and safety issues along Mosaic Canyon Road, as use and grading of the road have altered the way flood flows travel through the alluvial fan. However, risks to the development and visitors and park staff at the Stovepipe Wells Developed Area would be reduced, as the repaired dikes would provide structural protection from most floodwaters. Existing facilities within Emigrant Junction would continue to be at risk of flood damage, and the safety of visitors and park staff at these locations would continue to be at risk from flash flooding.

Impacts of Alternative B: Preferred Alternative

The floodplains in the Stovepipe Wells Village and Emigrant Junction areas serve to dissipate the energy of runoff, encourage infiltration, support native vegetation, transport sediment and nutrients to downslope areas, and support the geomorphic processes and landscape dynamics for which Death Valley is known. These floodplain values could be diminished by the introduction of fill, impervious surfaces, or features that disrupt natural runoff. Overall, alternative B would increase the amount of fill, disturbance, and impervious surface within the floodplains in the project area, but the modifications would affect only a small portion of these large floodplains, and therefore, the natural functions of the floodplains would remain largely intact.

The floodplain values in the project areas have been previously altered by human activities, and the actions under alternative B would contribute slightly to these impacts. During construction activities, the floodplain would be temporarily impacted by the disruption of runoff caused by the presence of staging areas, construction equipment, and materials in the floodplain. Although the area is naturally sparsely vegetated, there could be an increased erosion potential in disturbed areas before vegetation recovers. Best management practices would be implemented to minimize erosion and sedimentation during construction activities, and disturbed areas would be protected and allowed to revegetate following construction. Given the infrequency of flood events and the relatively short duration of the construction, it is doubtful that construction activities would result in any significant impacts on floodplain values. Furthermore, most large flood events occur in the summer when construction activity is unlikely due to the extreme temperatures.

Existing flood control dikes at Stovepipe Wells Village have protected approximately 76 acres from flooding since at least the early 1980s. The additional facilities proposed under alternative B at Stovepipe Wells are within this protected area, and they would result in only a small additional footprint of disturbance. Two existing flood dikes would be rehabilitated, which are needed for public safety and to protect facilities and infrastructure. However, the flood dikes will continue to prevent natural floodplain processes across 76 acres of developed area, which is a very small portion of the 2,900-acre alluvial fan, and therefore, this should not have any appreciable impact on floodplain functions.

Many actions at Stovepipe Wells and Mosaic Canyon would have a small footprint on the floodplain, such as installing signs, fencing, screening, seating, campground, and day-use amenities (e.g., shade structures, grills, lantern posts, waysides), replacing the blockhouse, replacing and extending utility lines, improving the main dike and the water plant dike, and replacing structures in kind. The footprints of these facilities would be similar to the existing footprints, resulting in a negligible alteration of the floodplain. Other actions, including constructing new employee housing, replacing and installing comfort stations, replacing the emergency services building, replacing the visitor contact station, constructing a new RO water treatment building, and stabilizing the bank at the Mosaic Canyon parking lot would have a larger footprint than the current conditions and would result in an increase in fill in the floodplain and/or an increase in impervious surface. Several new features would also result in new fill and increased impervious surface, including flush roadside islands to define pedestrian walkways, curbing and sidewalks in the Stovepipe Wells campground, an amphitheater at Stovepipe Wells Village, vault toilets at the Mosaic Canyon trailhead, and RV sites at the Stovepipe Wells campground. Roads in the Stovepipe Wells campground and those servicing the employee housing would be redesigned and widened, respectively, but the surface would remain pervious. A trail would be developed to connect Stovepipe Wells Village and Mesquite Flat. The trail would be developed with a pervious surface; however, some vegetation removal may be necessary.

The rehabilitation of Mosaic Canyon Road is the component under alternative B that presents the most potential for the introduction of fill. However, the purpose of the fill would be to restore the natural grade and runoff patterns, which would improve floodplain function. A future design effort would establish the material used for surface treatment(s). The treatments could be either pervious (e.g., decomposing granite, porous paving products, gravel) or impervious (e.g., soil cement, chip seal over gravel, asphalt). Leaving Mosaic Canyon Road a natural surface would allow for beneficial infiltration during runoff events, so this option may be preferable with regard to floodplain function. However, a natural surface may require more work to maintain the grade (also important to floodplain function) than a more resistant paved surface would. Adding impervious surfaces in a floodplain prevents infiltration, potentially increasing localized flooding. The rehabilitation of Mosaic Canyon road would also present the most potential for additional impervious surface if the decision is made to pave it, but paving may be a long-term benefit to the floodplain if it results in easier maintenance of the natural grade and prevents the re-channelization of the road. Impacts from the potential addition of an impervious surface would be somewhat offset by the removal of the impervious surface at the Stovepipe Wells airstrip.

The stabilization of the bank to prevent erosion of the Mosaic Canyon trailhead may require the introduction of fill in the form of riprap or cobble-filled gabion baskets. The armoring of up to 200 feet of the eastern bank of the main channel may interfere slightly with the natural widening or migration of the main channel. However, the main channel is currently on the eastern side of the fan, and it would likely take thousands of years for the channel to overcome the hydrographic apex and migrate to the west side of the fan.

Actions at Emigrant Junction under alternative B would have minor and localized impacts on the floodplain function. Improvements such as replacing the Emigrant water line would result in only a small disturbance in the floodplain where it crosses Emigrant Wash. The replacement of leach fields and the installation or rehabilitation of flood dikes would result in new disturbance within the floodplain.

However, it is expected that the diversion of runoff by the dikes will affect less than 6 acres of the 1,800-acre floodplain, and any diverted runoff will re-enter natural channels immediately downslope from the developed area. Installation of the RV pads and paving the entry road apron at Emigrant Junction would result in only a small increase in impervious surface at the site.

Conclusion for Floodplains

Both alternatives would improve the main dike and the water plant dike. The developed areas of Stovepipe Wells, Mosaic Canyon Road and trailhead, and Emigrant Junction would continue to be at risk of flood damage, and visitors and park staff would continue to be at risk from flash flooding; however, Stovepipe Wells Village would be substantially safer with the dike improvements. There would be no other floodplain impacts under alternative A, but Emigrant Junction would continue to be at risk of flood damage and the safety of visitors and park staff at these locations would continue to be at risk from flash flooding. Alternative B would increase the amount of fill, disturbance, and impervious surface within the floodplain of the Stovepipe Wells Developed Area. These modifications would affect a small portion of the large watershed areas within Stovepipe Wells and Emigrant Junction and should result in no long-term negative net impact to floodplain function compared to alternative A. New facilities would largely occur within previously disturbed areas, and the introduction of impervious surfaces would be minimized. Restoring the grade of Mosaic Canyon Road to accommodate natural flow patterns would have a beneficial impact on floodplain values, and the removal of the asphalt airstrip would restore a large area of naturally permeable surface within the floodplain. Alternative B would install protection structures at Emigrant Junction, providing flood protection for the developed features, visitors, and park staff. The rehabilitation of flood control features under both alternatives and the addition of new flood control alternatives under alternative B would enhance human safety and protect capital investment. Although these flood control features would alter natural flow patterns in the floodplains, they would divert flow from less than 2% of the entire floodplains area. The Stovepipe Wells and Emigrant Wash alluvial fans would continue to reduce the energy of the runoff, allowing it to dissipate through overland flow, and improved or new flood protection structures would divert flood waters from the developed areas of Stovepipe Wells Village and Emigrant Junction. Developed areas could continue to be at risk of flood damage, and visitors and park staff would continue to be at risk from flash flooding, although the developed areas of Stovepipe Wells, Mosaic Canyon Road and trailhead, and Emigrant Junction would be substantially safer. The impacts of alternative B on floodplains are discussed further in the floodplains statement of findings in appendix B.

CHAPTER 4: CONSULTATION AND COORDINATION

This chapter summarizes the consultation and coordination process for the Stovepipe Wells Developed Area Improvement Plan.

PUBLIC PARTICIPATION

Civic Engagement. The National Park Service notified the public of the proposed modifications to the Stovepipe Wells Developed Area through a press release on November 20, 2020 that was distributed electronically and posted on the park's website, and through a newsletter posted on the NPS Planning, Environment, and Public Comment (PEPC) website. The park also posted the proposed changes and a link to the NPS PEPC site on social media. These documents and posts notified interested parties of the 30-day comment period that was open through December 23, 2020. The public was encouraged to submit their comments on the Stovepipe Wells Developed Area Project electronically through the NPS PEPC website. Public comments were also accepted in writing by hard copy mailing and emailing comments to the park. During the public comment period, 3,171 individual correspondences were received. These comments were summarized in a report, which is presented in appendix C.

Public Review. The EA will be on formal public and agency review for 30 days and has been distributed to a variety of interested individuals, agencies, and organizations. It also is available on the NPS PEPC website at https://parkplanning.nps.gov/StovepipeWellsPlan.

AGENCY CONSULTATION

The park is required by Section 106 of the National Historic Preservation Act to consult with the California SHPO and associated Tribes to assess the effect of the project on cultural resources. The park is preparing documents for consultation with the California SHPO and tribes related to the Cultural Resource Inventory of the Death Valley Stovepipe Wells Developed Area Improvements Project and Assessment of Effects completed for this project.

American Indian religious concerns are legislatively considered under several acts and Executive Orders, including the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Environmental Assessment Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007, "Indian Sacred sites" (1996). These, plus other provisions, such as those found in the NHPA and the Archaeological Resources Protection Act of 1979, require the National Park Service to consider important ethnographic and cultural properties and not unduly infringe upon these resources. Specific consultation with the Timbisha Shoshone Tribe for the Stovepipe Wells Developed Area Improvements plan is pending.

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APPENDIX A: POTENTIAL EFFECTS TO RESOURCES FROM THE PREFERRED ALTERNATIVE

APPENDIX A. POTENTIAL EFFECTS TO RESOURCES FROM THE PREFERRED ALTERNATIVE

This appendix presents a summary table of the actions included in alternative B, the preferred alternative, and briefly describes the potential impacts the actions would have on archeological resources, historic districts/structures, ethnographic resources, visitor use and experience, and floodplains. The impacts of all actions proposed under alternative B were considered. The National Park Service fully analyzed those actions that would result in important adverse or beneficial changes to a resource or provided an important comparison between the alternatives that would help decision-makers determine which alternative to implement. This table identifies which actions are fully analyzed and those that have been dismissed from full analysis. As stated in chapter 3, the National Park Service based these impact analyses and conclusions on a review of existing literature, studies, and research performed by park staff, information provided by experts within the National Park Service, and other agencies and institutions, professional judgment, park staff expertise and insights, and public input. The specific methods used to assess impacts for each resource varies and are described under each impact topic in chapter 3. As noted in chapter 2, some actions would require additional compliance at the design phase and impacts would be analyzed at the time of compliance.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Stovepipe Wells Village Circulation and Access	▪ New advance signs approaching Stovepipe Wells from both directions would be installed so drivers have a stronger visual cue that they are approaching a developed area. ▪ A painted pedestrian crosswalk using high-visibility crosswalk markings and overhead lighting consistent with the International Dark Sky Association program would be installed across CA-190. Flashing beacons would be installed to alert drivers to the crosswalk. ▪ In the short term, gravel head-in parking adjacent to CA-190 would be eliminated using a berm. Final improvements would be determined at the design phase and would be designed to prevent vehicles backing onto CA-190 and preserve sight distance along CA-190. Some parking would be retained in front of the hotel for visitors that are checking in. ▪ Pedestrian walkways could be defined using flush roadside islands and fencing installed outside the clear zone in front of the Stovepipe Wells Village Hotel. ▪ If over time, the park and Caltrans determine that additional measures are needed, mumble strips could be installed perpendicularly across travel lanes.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in Stovepipe Wells Village. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The changes in circulation and access would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The changes in circulation and access would result in beneficial effects on both pedestrians and drivers through improved safety measures. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Replacing signs, adding a crosswalk, and adding a berm would occur within previously developed areas of Stovepipe Wells Village and would not result in impacts to floodplain functions. These actions are dismissed from the analysis. ▪ If flush roadside islands, fencing, and new signs are installed, these actions would represent new fill or impervious surfaces in the floodplain. These actions will be analyzed in detail.
Stovepipe Wells Campground	▪ The campground would be redesigned to enhance the camping experience, including improving privacy at each site, providing additional site amenities, and improving walking paths and traffic flow. ▪ Each campsite would include parking and camping areas and would be spaced to provide a buffer area for privacy and surface drainage. Each site would include a shade structure, a steel grill, a fire ring, a post to hang a lantern, and a picnic table. These improvements would require a reduction in the total number of sites. ▪ A formal group site would be added. ▪ The roads and walkways would be redesigned and physically improved for better circulation and safety and would include hardening the surfaces, adding curbing where appropriate, and adding sidewalks. ▪ The existing comfort station would be demolished and replaced in a location appropriate to the redesign, and a second comfort station would be installed. Each comfort station would include toilets, sinks, and showers. ▪ The campground comfort stations, as well as an appropriate number of the campsites, would be constructed to be consistent with ABAAS. ▪ Utilities would be installed, including potable water, sanitary sewer, and electrical power to comfort stations, and trash enclosures would be made available at the campground. A new dump station may be required for ease of access and efficient operation. ▪ In the future, the campground could be expanded with sites spaced to accommodate larger RVs with electric and water hookups.	▪ A portion of the Stovepipe Wells campground is within the Mesquite Flat Archeological District. If avoidance is not possible, additional consultation with SHPO would be required prior to implementation. ▪ In the future, if the campground is expanded, additional surveys would be necessary to determine the presence of archeological resources. ▪ Surveys have not identified any new NRHP-eligible archeological sites or historic properties in the vicinity of the campground. ▪ Because these actions are within the archeological district, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ The campground improvements would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The proposed actions would result in an improved visitor experience through the added amenities and comforts, increased accessibility, addition of a formal group site, and the separation of tents and RVs. ▪ If expanded, the campground would accommodate the growing number of RV users, benefiting these campers. ▪ Some visitors would not like the change from the existing rustic campground. ▪ A reduced number of campsites may adversely affect visitors when the campground is full, and visitors would have to find accommodations elsewhere. ▪ Because visitor experience is central to this proposal, these actions are carried forward for more detailed analysis.	▪ The changes to the Stovepipe Wells campground would have an impact on floodplains from the addition of new features and amenities. These actions will be analyzed in detail.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Stovepipe Wells Visitor Contact Station	▪ The current visitor contact station east of Stovepipe Wells Village would be demolished. ▪ A new ABAAS-compliant visitor contact station would be constructed as part of the new day-use area. The facility would be approximately 1,700 to 1,800 square feet and could include a small exhibit space, an interpretive sales area, and public restrooms. ▪ Stovepipe Wells General Store parking lot would be improved and shared between the General Store and the visitor contact station. It would be configured for improved circulation with delineated parking for passenger vehicles and RVs and a visitor drop-off area. ▪ There would be an outdoor area (approximately 600 square feet) for 24-hour visitor information and fee payment. ▪ Improved informational signs would be installed.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the contact station. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The new contact station would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new contact station would result in a beneficial effect to all visitors by making the contact station more convenient, accessible, and larger. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ The removal of the existing visitor contact station and construction of a new, larger contact station would increase the amount of development in the floodplain. These actions will be analyzed in detail.
Stovepipe Wells Visitor Day-Use Area	▪ A new visitor day-use area would be created adjacent to the proposed visitor contact station and Stovepipe Wells General Store parking lot. ▪ The day-use area would include amenities, such as shade structures, a picnic area, backcountry information, interpretive waysides, trash receptacles, and an amphitheater. ▪ The day-use area would create a welcoming entry for visitors to Stovepipe Wells Village.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the day-use area. ▪ Therefore, there will be No Effect on historic properties under these proposed actions.	▪ The new visitor day-use area would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new day-use area would result in a beneficial effect to all visitors by making the area more comfortable and convenient. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ The new visitor day-use area would be constructed in a previously disturbed area, but the new amenities could have an impact on floodplains. These actions will be analyzed in detail.
Trail Connecting Stovepipe Wells Village and Mesquite Flat Sand Dunes	▪ A trail (approximately 2 miles) would be developed to connect Stovepipe Wells Village to Mesquite Flat Sand Dunes. ▪ The trail would be accessible, and the trail surface would be determined during design. ▪ The trail would roughly parallel the north side of CA-190 and would be located to protect visitors from vehicle traffic but also avoid impacts to designated Wilderness. ▪ If there is sufficient interest, the park would consider making this a multiuse trail, which would allow for use by bicycles.	▪ The Mesquite Flat Archeological District, an NRHP-eligible archeological district, is located in the vicinity of this proposed action. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ The new trail would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new trail would provide an additional recreational activity for visitors, and possibly reduce parking congestion at the Mesquite Flat Sand Dunes, resulting in a beneficial effect to visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ The development and use of the new trail may require the removal of some vegetation and the placement of pervious fill material to create the trail surface. These actions will be analyzed in detail.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Stovepipe Wells Gas Station	▪ A new above-ground fuel storage tank and dispensing equipment would be installed. ▪ A second island would be constructed for diesel fuel. ▪ The existing parking lot would be realigned to accommodate larger vehicles. ▪ The existing access to the gas station from CA-190 would be realigned to improve circulation and safety.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the gas station. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The changes to the gas station would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The addition of a second fueling island, diesel fuel, and realignment of the parking lot and access would provide greater convenience for visitors using the gas station. This would result in beneficial effects to visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ The improvements to the gas station would occur within a previously developed area. The improvements would not result in additional impacts on floodplains; therefore, these actions are dismissed from full analysis.
Stovepipe Wells Village Hotel	▪ The existing blockhouse would be replaced and visually screened. ▪ A fire suppression system would be added to the hotel registration area and curio shop. ▪ The pool would be sealed, and some new shade structures installed in the pool area.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the hotel. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis	▪ The hotel improvements would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new visual separation would be a more visually pleasing experience. The fire suppression system would add additional safety measures for visitors. The shade structures would provide additional comfort for visitors. This would result in beneficial effects to visitors. Sealing the pool would conserve water but would likely go unnoticed by visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Replacement of the blockhead may result in a small increase in fill in the floodplain. This action will be analyzed in detail. ▪ The addition of the fire suppression system and pool repairs would occur within a previously constructed infrastructure and would not impact the floodplain. These actions are dismissed from detailed analysis.
Stovepipe Wells Village Landscape	▪ A visual separation between the guest room buildings at the resort and the employee, maintenance, and dining areas would be installed. ▪ Interpretive messaging could be included in the screening efforts. ▪ Outdoor seating areas would be added for use by visitors.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the hotel. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The landscape changes would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new visual separation, messaging, and seating area would provide for a more comfortable and visually pleasing experience. This would result in beneficial effects to visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Installation of screening, signage, and seating could add fill to the floodplain. These actions will be analyzed in detail.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Stovepipe Wells Concession Housing	▪ A new dormitory would be constructed with shared living space, laundry, storage, and adequate standard and accessible parking. The dormitory would tie into existing sanitary and potable water/fire systems, electric service, and other dry utilities. ▪ The existing road to the housing area would be realigned and widened for better traffic flow and to accommodate parking. Road surfaces would be hardened, and curbing would be added where appropriate. A road and staging area would be constructed behind the dormitory for delivery access. ▪ Outdoor gathering spaces would be delineated near the dorm with amenities, such as shade structures, fire rings, and picnic tables. ▪ The existing concession employee RV sites would be renovated with site amenities and improvements, including hardened RV pads, shade structures, cooking grills, fire rings, post to hang lanterns, and picnic tables. Utilities would be repaired where necessary, and sanitation hookups could be added. These improvements may reduce the number of RV sites. ▪ When the dorm is rebuilt, the NPS administrative RV sites would be relocated based on operational efficiency and the anticipated use of the sites, which would be determined during the design process for the dorm. These RV sites would include hardened RV pads, shade structures, cooking grills, fire rings, posts to hang lanterns, and picnic tables. Sanitation hookups could be added.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the concession housing. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The improvements to the concession housing would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ New concession housing would allow the concessioner to attract and maintain employees to work at Stovepipe Wells. This would result in beneficial effects to visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Constructing a new dormitory, widening roads, and adding curbing and amenities would add fill and increase impervious surfaces in the floodplain. These actions will be analyzed in detail.
Stovepipe Wells Potable Water System	▪ The water main and all service laterals of the potable water distribution piping would be replaced. ▪ The new water distribution system would be properly designed to handle high water temperatures. ▪ The water lines would be extended to all new facilities at Stovepipe Wells Village. ▪ In the short term, portions of the existing RO facility would be repaired to extend the life of the building (e.g., replacing the staircase and the air conditioning unit, installing a ventilation system, improving the lighting system, maintaining the roof, grading around the building to improve drainage) until a new facility can be constructed. ▪ In the future, a new, energy-efficient RO water treatment building would be built near the existing treatment building and constructed to meet all current codes and health and safety requirements. The new building would be designed to be consistent with the character of the Stovepipe Wells Village and be unobtrusive to park visitors. The new RO building would also include office space, restrooms, and sufficient building volume for the expansion of potable water production capacity. ▪ A backup generator would ensure power availability for water production in the event of grid power outages.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the potable water system. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The improvements to the potable water system would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The potable water system upgrade would reduce maintenance and provide a reliable water system without disruption in service to visitors. ▪ These upgrades would be beneficial and key to maintaining visitor use and improving visitor experience at Stovepipe Wells. These actions will be analyzed in detail.	▪ Improvements to the potable water main and service laterals would replace existing infrastructure, and no new long-term impacts to the floodplain are expected. These actions are dismissed from detailed analysis. ▪ Extending potable water lines to new facilities would add fill within the floodplain and constructing a new RO water treatment building would add fill and increase impervious surface in the floodplain. These actions will be analyzed in detail.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Stovepipe Wells Wastewater System	▪ The existing system would be improved including replacing the sewage collection main lines, lateral service lines, and manholes to reduce pipe plugging in the sewer collection system. ▪ The lagoon, comprising two treatment cells and one percolation/ evaporation cell, would be reshaped to its original size and form to increase the capacity of the treatment system. A third lagoon could be added to increase capacity, providing operational redundancy, and allowing one of the existing lagoons to be taken off-line for cleaning without affecting treatment quality. ▪ Although the existing lagoon should be adequate for the volume of wastewater when combined with other water savings measures (separate subsurface disposal of RO reject water, low flow fixtures, and reshaping the existing cells), the treatment cell would be enlarged if increased capacity is needed. ▪ Upgrades to the aerators would improve system performance and minimize lagoon odors. Other improvements (e.g., sand collection chamber, wind fences) would be made to prevent sand accumulation that reduces lagoon capacity. ▪ Mesquite bushes or similar could be incorporated into the wind fence design to soften the visual effects of the lagoons. ▪ A gate would be installed on the road to the sewage lagoons.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the wastewater system or lagoon. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The improvements to the wastewater system would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The wastewater system upgrade would reduce maintenance, disruption of service for guests, and odors emanating from the lagoons. ▪ These upgrades would be beneficial and key to maintaining visitor use and improving visitor experience at Stovepipe Wells. These actions will be analyzed in detail.	▪ The improvements at the lagoons would be outside of the floodplain and are dismissed from detailed analysis. ▪ Improvements to the wastewater system would replace existing infrastructure; no new long-term impacts to the floodplain are expected. These actions are dismissed from detailed analysis.
Stovepipe Wells Emergency Services Building	▪ The existing facility would be demolished and replaced in its current location with a new, energy-efficient building. The new facility would be large enough to house and secure NPS emergency response vehicles and equipment and include storage space and a small maintenance shop. ▪ An outdoor recreation area would be created with a shade structure, picnic tables, and grills for park staff. ▪ Park staff offices associated with the existing visitor contact station would be relocated to this new building.	▪ The Stovepipe Wells emergency services building has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the Emergency Services Building. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ The new emergency services building would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new emergency services building would reduce maintenance on emergency vehicles and provide ample storage for emergency equipment. ▪ This upgrade would be beneficial and key to maintaining safe visitor use and improving visitor experience at Stovepipe Wells. This action will be analyzed in detail.	▪ Constructing a larger emergency services building would add fill and increase impervious surfaces in the floodplain. Installing amenities for an outdoor recreation area would add fill within the floodplain. These actions will be analyzed in detail.
Stovepipe Wells Helicopter Land Pad for Administrative and Emergency Services	▪ As per the 2002 GMP, the helicopter landing pad on the east end of the existing airstrip would be maintained as asphalt for administrative and emergency purposes. ▪ The landing pad would be enlarged if necessary to be consistent with FAA regulations.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the helicopter landing area. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. This action is dismissed from detailed analysis.	▪ Retaining the helicopter landing area would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ Retaining the helicopter landing area would not affect visitor use and experience; however, this action is analyzed in detail because it is integral to maintaining utilities and providing emergency services to visitors. ▪ This action is analyzed in detail.	▪ Retention of the helicopter landing pad would not affect floodplains. Increasing the size of the helicopter pad would still be beneficial over existing conditions, as the entire airstrip is currently asphalt. This action is dismissed from detailed analysis.

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Stovepipe Wells Airstrip	▪ The 2002 GMP would be amended, and the existing asphalt airstrip would be closed and removed. All aircraft would be directed to the Furnace Creek Airport, 18 air miles to the southeast. ▪ An area for interpretive programming, including night sky viewing, could be established on the eastern end of the airstrip. The location would be designated based on the appropriate distance from the helicopter landing area, the proximity to the Stovepipe Wells campground and hotel, and the ability to provide ABAAS-compliant access and improvements, including parking and a vault toilet. ▪ If necessary, the park may consider installing visual barriers within the previously disturbed area to shield it from headlights along CA-190, Cottonwood Canyon Road, and the development at Stovepipe Wells Village. ▪ The disturbed area no longer in use as an airstrip would be restored, including revegetation with native seeds and plant materials.	▪ Surveys have not identified any NRHP-eligible archeological sites or historic properties in the vicinity of the airstrip. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ Removal of the Stovepipe Wells airstrip would increase the use of the airstrip at Furnace Creek near the Timbisha Village, resulting in noise from planes and safety and crash concerns. This action will be analyzed in detail.	▪ The closure of the airstrip would result in an adverse effect on a user group. ▪ These actions will be analyzed in detail.	▪ The removal of the airstrip would result in beneficial impacts on the floodplain, as a majority of the asphalt would be removed, reducing the amount of impervious surface from the floodplain, and restoring floodplain function in this area. These actions will be analyzed in detail.
Stovepipe Wells Flood Control Structures	▪ The two primary flood control features (the main dike and the water plant dike) would be repaired, consistent with the 1988 *Flood Mitigation Study and Environmental Assessment for Death Valley National Monument*. ▪ The main dike would be restored by grading the upslope side in a way that diverts the runoff away from the development, allowing for a more natural flow pattern off of the eastern edge of the dike. ▪ The water plant dike would be rebuilt and reinforced in two areas where it is vulnerable to erosion.	▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of the flood control structures. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ Repair of the two primary dikes would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ These upgrades would improve safety by reducing risks to visitors from flood hazards and protecting development from flooding. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Repair of the two primary dikes would add some fill to the floodplain; however, these structures would reduce the risks of flood damage on developed areas and flood risks to park staff and visitors, resulting in overall beneficial impacts; these actions are analyzed in detail.
Stovepipe Wells Other Operational Improvements	▪ Backup power transfer switches and cord and plug generator connections would be installed to housing units, the emergency services building, and the RO water treatment building, as appropriate. ▪ New water meters would be installed and existing toilets, urinals, faucets, dishwashers, and laundry washing machines would be replaced with low-flow fixtures in buildings and facilities.	▪ The Stovepipe Wells Village has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of these operational improvements. ▪ Therefore, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis.	▪ These operational improvements would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ These upgrades would reduce water use and provide backup power for critical systems. These upgrades would not have a perceptible effect on visitors. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Operational improvements would occur within existing buildings and would not affect floodplains. These actions are dismissed from detailed analysis.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Emigrant Junction Circulation and Access	▪ On the approach to Emigrant Junction along CA-190, the existing "Entering Fee Area" sign would be moved closer to the NPS boundary, or a fee kiosk and a new guide sign with information on facilities at Emigrant Junction and Emigrant Canyon Road would be installed. ▪ To accommodate potential increased pedestrian activity at Emigrant Junction between the historic Comfort Station, picnic area, and the historic Ranger Station, visitors would be encouraged to cross CA-190 in a specific area, and warning signs would be installed in both directions to alert drivers. These improvements would be made in partnership with Caltrans. ▪ Signs to indicate a historic district would be located to alert drivers. ▪ Additional safety measures could include the installation of a rapid-flashing beacon that is triggered by an oncoming vehicle, a speed feedback sign, an island, wider edge lines and centerlines, and post-mounted delineators. ▪ The National Park Service could also employ the following strategies: reduce the posted speed through Emigrant Junction, install mumble strips or stripes, develop a deceleration lane or left turn lane, and add a right turn lane at Emigrant Junction parking.	▪ These proposed actions would occur within an NRHP-eligible historic district. These actions have the potential to affect historic structures and district and are analyzed in greater detail. ▪ There would be No Effect to archeological resources under these proposed actions within the district boundaries; however, there could be effects to archeological resources outside the district.	▪ Improvements to circulation and access would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The changes in circulation and access would result in a beneficial effect on both pedestrians and drivers through improved safety measures. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Installation of new signs and safety devices would increase fill in the floodplain slightly; these actions are analyzed in detail. ▪ All improvements in the road (median island, wider lines, post-mounted delineators, mumble strips/stripes; deceleration lane; turn lanes) would occur within previously developed and impervious areas. No further impacts on floodplains would occur, so these actions are dismissed from detailed analysis.
Historic Emigrant Junction Ranger Station	▪ The historic Emigrant Junction Ranger Station and surrounding area would be improved to support a primarily self-guided outdoor/exterior visitor interpretive experience and could function as a gateway to the park. ▪ The exterior area around the Ranger Station would feature wayside exhibits and an interpretive trail that would connect the Ranger Station to the other features, such as the generator buildings and the foundation of the original 1935 Ranger Station. ▪ A portion of the interior of the historic Emigrant Junction Ranger Station would be rehabilitated (e.g., replacement of flooring, cabinetry, plumbing fixtures, and electrical wiring) to accommodate either housing or exhibit space, and the entrance would be modified for accessibility. ▪ A solar power system would be installed to provide power for the Ranger Station, Comfort Station, and volunteer host sites.	▪ The Emigrant Junction Ranger Station contributes to an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Rehabilitation of the Ranger Station would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The rehabilitated Ranger Station and surrounding area would result in a beneficial effect to all visitors by making the station more accessible, and by creating an interpretative experience. If the space is used for housing, there would be no new effect to visitors since the ranger station is currently closed to the public. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Installation of signs, a trail, and a solar power system would increase fill in the floodplain and remove vegetation. These actions are analyzed in detail.
Historic Emigrant Junction Comfort Station and Parking Area	▪ The interior of the Comfort Station would be rehabilitated – the existing restroom partitions and all current fixtures would be removed and replaced with historic replicas and internal plumbing would be repaired. ▪ The restroom would be unisex to reduce overall alterations to the structure, and one room would be renovated to meet ABAAS requirements. ▪ The Comfort Station would be connected to the solar power system to allow for night-time use. ▪ The parking lot would be realigned and repaved to separate it from CA-190 for more efficient parking and safer egress and ingress. The design would also provide a visual separation from CA-190. ▪ A stop sign would be installed, and a stop bar painted on the parking area exit road. The exit road would be designed to be perpendicular to CA-190.	▪ The Emigrant Junction Comfort Station contributes to an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Rehabilitation of the Comfort station would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The rehabilitated Comfort Station would result in a beneficial effect to all visitors by making the Comfort Station more accessible, having power for night use, and being more reliable. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Installation of a stop sign and a solar power system would increase fill in the floodplain. These actions are analyzed in detail. ▪ Improvements to building interiors would not impact floodplains. Parking area improvements would occur within the existing disturbed area. These actions are dismissed from detailed analysis.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Emigrant Junction Volunteer Host RV Sites	▪ The Ranger Station could be staffed by volunteers serving as Volunteers in Park and campground hosts during the busy seasons. ▪ Two RV pads would be installed behind the Ranger Station with water hookups and connections to the solar power system.	▪ These proposed actions will occur within an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ New volunteer host sites would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The new volunteer host sites would result in a beneficial effect on visitors by having a resource for assistance and information about the area and park. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ Installation of the RV pads would introduce new fill and impervious surface. This action is analyzed in detail.
Emigrant Junction Picnic Area and Campground	▪ The campground and picnic area would be retained in their current rustic condition with minor improvements (e.g., install a trash enclosure, replace the existing picnic tables, as necessary, and improve the trail to the Comfort Station). ▪ The existing campground entrance gate would be replaced. ▪ The entry road apron off of CA-190 would be paved.	▪ These proposed actions will occur within an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Improvements to the picnic area and campground would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ These upgrades would not have a perceptible effect on visitors. ▪ Because the effects would not be noticeable, these actions are dismissed from detailed analysis.	▪ Paving the entry apron would increase impervious surface; this action is analyzed in detail. ▪ Installation of a gate would not result in new impacts on the floodplain. This action is dismissed from detailed analysis.
Emigrant Junction Water System	▪ Approximately 26,500 linear feet of the 2-inch diameter galvanized piping would be replaced with high-density polyethylene pipe and moved adjacent to the road. This would reduce maintenance and improve reliability. ▪ The existing spring box would be replaced with a new collection system.	▪ These proposed actions will occur near an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Improvements to the potable water system would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The potable water system upgrade would reduce maintenance and provide a more reliable water system. ▪ These upgrades would be beneficial and key to maintaining visitor use and improving visitor experience at Emigrant Junction. These actions will be analyzed in detail.	▪ Replacing and moving the waterline closer to the road would not result in new long-term impacts on the floodplain. This action is dismissed from detailed analysis. ▪ Installing a new collection system has the potential to increase fill in the floodplain. This action is analyzed in detail.
Emigrant Junction Septic System	▪ The existing Comfort Station leach field would be replaced with a new design in a new location, and a flood protection structure would be added to prevent scour during flood events. ▪ During the rehabilitation of the Ranger Station, a replacement leach field and flood protection structure would be constructed. The leach field would also connect to Ranger Station, as well as the volunteer host sites.	▪ These proposed actions will occur within and near an NRHP-eligible historic district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Improvements to the septic system would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The sewer system upgrade would reduce maintenance and provide a more reliable sewer system. ▪ These upgrades would be beneficial and key to maintaining visitor use and improving visitor experience at Emigrant Junction. These actions will be analyzed in detail.	▪ Replacement and installation of the leach fields and installation of a flood protection structure have the potential to increase fill in the floodplain. These actions are analyzed in detail.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Mesquite Flat Sand Dunes Parking Area and Access to the Dunes	▪ A guide sign with mileage to Stovepipe Wells Village and Furnace Creek and a "Large Vehicle Parking Ahead" sign would be added to improve traffic flow in the parking lot. ▪ "No Parking" signs would be installed at the intersection of CA-190 and the entrance road to maintain sight distances. ▪ Parking would continue to be allowed on the wide, graveled shoulder on the north side of the highway and along the outside curve of the parking lot entrance road. ▪ The trailhead would be redesigned to encourage more focused visitor access to the dunes and could include the installation of benches along the trail. ▪ Interpretive signs would be sited so they could be viewed by visitors accessing the area from several vantage points yet avoid obstructing views of the sand dunes. Messaging would focus on natural history, safety, and park regulations. ▪ The parking lot could be expanded; however, the expansion would be limited by the designated Wilderness boundary and drainage.	▪ These proposed actions will occur within and near an NRHP-eligible archeological district. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Improvements to the Mesquite Flat Sand Dunes parking area and trailhead would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The improvements to the parking area and trailhead would improve visitor experience. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ These actions would be outside the floodplain and are therefore dismissed from the analysis.
Mosaic Canyon Road	▪ The existing road would be graded, and fill could be added to bring the roadbed to the natural grade. ▪ A range of surfaces for Mosaic Canyon Road would be considered based on the results of a future design process and could include soil cement, decomposing granite, porous paving products, gravel, chip seal over gravel, asphalt, or other appropriate surface. ▪ A new gate would be installed on Mosaic Canyon Road at the junction with CA-190. ▪ Following road improvements, if crowding impacts park resources or visitor experience, the National Park Service could develop additional strategies to limit the number of visitors to the area. These strategies would be implemented through revisions to *Death Valley National Park Wilderness and Backcountry Stewardship Plan*.	▪ Mosaic Canyon Road has been recommended not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of Mosaic Canyon Road. ▪ If SHPO concurs with determination, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis in this environmental assessment. ▪ If SHPO does not concur with determination, additional consultation and compliance would be required.	▪ Improvements to Mosaic Canyon Road would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ Improving the road surface would have a beneficial effect on the view and experience of visitors by reducing dust. ▪ The improved road surface may encourage more traffic and visitors to the trailhead, resulting in crowds in the parking lot and the canyon, adversely affecting the visitor experience. ▪ These actions will be analyzed in detail.	▪ Bringing the road to natural grade would involve the addition of fill to the floodplain and applying a surface treatment could result in additional loss of floodplain functions. Installation of a gate would also add fill within the floodplain These actions will be analyzed in detail.
Mosaic Canyon Parking Lot and Trailhead	▪ The parking lot would be graded and resurfaced with the same surface treatment as the road. ▪ The existing road would be realigned where it connects to the parking lot, and the parking spaces would be clearly delineated. ▪ Based on the results of a future design process, the bank of the wash at the mouth of Mosaic Canyon (adjacent to the parking lot) may be stabilized using a range of options to prevent erosion of the parking lot. ▪ The existing wayfinding sign for Mosaic Canyon would be replaced with a new sign that also notes that the area does not have water. ▪ The Mosaic Canyon trailhead area would be improved, including installing a vault toilet and providing visitor information signs with appropriate safety messages.	▪ The Mosaic Canyon Road has been determined not eligible for listing in the NRHP. ▪ Surveys have not identified any NRHP-eligible archeological sites in the vicinity of Mosaic Canyon Road. ▪ If SHPO concurs with determination, there will be No Effect on historic properties under these proposed actions. They are dismissed from detailed analysis in this environmental assessment. ▪ If SHPO does not concur with determination, additional consultation and compliance would be required.	▪ Improvements to the Mosaic Canyon parking lot and trailhead would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ Improving the parking area and adding a vault toilet and safety information at the trailhead would benefit the visitor experience. ▪ Improving visitor experience is central to this proposal, therefore, these actions will be analyzed in detail.	▪ Applying a surface treatment could result in loss of floodplain functions. This action will be analyzed in detail. ▪ Replacement of the sign would not result in new impacts on the floodplain. This action is dismissed from detailed analysis.

Location/ Category	Proposed Action/NPS Preferred Alternative	Cultural Resources (Archeological Resources, Historic Districts/Structures)	Ethnographic Resources	Visitor Use and Experience	Floodplains
Devils Cornfield Parking Pullout	▪ In partnership with Caltrans, the roadway would be re-striped with a double yellow (no passing) centerline in this area. ▪ Advance signing for scenic area parking would be improved, and advance pedestrian crossing warning signs would be added. ▪ The existing pullout parking area would be retained in its current size and configuration with the existing wayside on the north side of the road; an additional wayside would be added to the southern pullout. ▪ The existing smaller-sized rocks would be replaced with a more effective barrier consistent with Caltrans standards to discourage off-road travel. The barrier would extend approximately 1.75 miles westward on the northern side of the road for additional protection from off-road driving.	▪ These actions would occur within the boundaries of the proposed Mesquite Flats Archeological District. ▪ Therefore, these actions have the potential to affect historic properties and are analyzed in greater detail.	▪ Improvements at Devils Cornfield would not result in a change to known ethnographic resources. This action is dismissed from detailed analysis.	▪ The changes in circulation and access would result in a beneficial effect on both pedestrians and drivers through improved safety measures. ▪ The effects would all be beneficial. Because the effects would not be vastly different from the no-action alternative and would not help decision-makers determine which alternative to implement, these actions are dismissed from detailed analysis.	▪ These actions would be outside the floodplain and are therefore dismissed from the analysis.

APPENDIX B: FLOODPLAINS STATEMENT OF FINDINGS

Statement of Findings for
NPS Director's Order 77-2, "Floodplain Management

Stovepipe Wells Developed Area Improvement Plan
Environmental Assessment
Death Valley National Park

Recommended: _____ _____

Superintendent — Date
Death Valley National Park
National Park Service

Certified for Technical Adequacy and Servicewide Consistency

_____ _____

Chief — Date
National Park Service, Water Resources Division

Concurred: _____ _____

Safety Officer — Date
National Park Service, IR 8, 9, 10, 12

Approved: _____ _____

Regional Director — Date
National Park Service, IR 8, 9, 10, 12

FLOODPLAINS STATEMENT OF FINDINGS

This statement of findings has been prepared in accordance with Executive Order (EO) 11988, "Floodplain Management." The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. It has also been prepared in accordance with EO 13690, "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input," which establishes a Flood Risk Management Standard for federally funded projects to improve the nation's resilience to floods and to ensure new federal infrastructure will last as long as intended. Finally, this statement was prepared in accordance with NPS Director's Order (DO) #77-2, *Floodplain Management*, and Procedural Manual #77-2.

This floodplain statement of findings (FSOF) summarizes the proposed floodplain development associated with actions to improve flood resilience and visitor services at several locations within the park. The FSOF also describes the reasons why encroachment into the floodplain is required to implement the project, the site-specific flood risks involved, and the measures that would be taken to mitigate floodplain impacts.

PROJECT AREA

The National Park Service is preparing an environmental assessment to consider the environmental consequences related to improving the Stovepipe Wells Developed Area in Death Valley National Park (the park), Inyo County, California. The Stovepipe Wells Developed Area includes Stovepipe Wells Village, Emigrant Junction, Mesquite Flat Sand Dunes trailhead, Mosaic Canyon Road and trailhead, and Devils Cornfield parking pullout. Based on the flood hazards described in the 1988 *Death Valley Flood Mitigation Study and Environmental Assessment* and review of aerial photography, actions subject to DO #77-2 that could affect floodplain functions and/or increase risk to human health or capital investment would be limited to Stovepipe Wells Village, Mosaic Canyon Road and trailhead, and Emigrant Junction (figure 1).

Stovepipe Wells Village is the oldest visitor-serving area, as well as the first tourist destination in the park. Stovepipe Wells Village is located in the center of the park between the Panamint, Cottonwood, and Funeral mountain ranges, and positioned on an alluvial fan at the base of Tucki Mountain. The village is bisected by California Highway 190 (CA-190), and there are facilities on both sides of the highway which include a hotel, housing, administrative buildings, water and wastewater treatment facilities, campground, and a general store. There are four main flood control features protecting these facilities (figure 2).

Emigrant Junction is located just north of the intersection of Emigrant Canyon Road and CA-190, approximately 9 miles southwest of Stovepipe Wells Village. The site has a number of historic buildings including a stone ranger station on the east side of CA-190 and a stone comfort station on the west side. Additionally, there is a parking lot, a picnic area, and a10-site tent-only campground on the west side of CA-190. A 5-mile pipeline transports water from Emigrant Spring to Emigrant Junction. The pipeline is buried and roughly follows Emigrant Canyon Road. The water line connects to the comfort station and campground at Emigrant Junction, and the campground has a spigot for campers. The site includes two septic systems, one on each side of CA-190, that serve the comfort station and the ranger station respectively. There is a flood control dike on the east side of the development (figure 3).

Mosaic Canyon Road is 0.2-mile west of Stovepipe Wells Village along CA-190. The 2.3-mile unpaved Mosaic Canyon Road terminates at a gravel parking lot and the Mosaic Canyon trailhead (figure 4). The trailhead leads into a rocky wash and narrow marbleized canyon. The canyon is popular for a 3.5-mile round-trip hike.

PREFERRED ALTERNATIVE

The preferred alternative is alternative B in the environmental assessment, and under this alternative the following actions would be implemented to provide protection for visitors and staff, improve visitor experience, protect natural and cultural resources, protect and repair critical and failing infrastructure, restore some floodplain function, and improve park operations.

Stovepipe Wells Village

The deficiencies of the primary flood dikes (Main dike and the Water Plant dike in figure 2 would be restored consistent with the 1988 *Flood Mitigation Study*. Deficiencies of existing infrastructure would be addressed by the rehabilitation or replacement of facilities in approximately the same location within the existing footprint of the Stovepipe Wells Village. The existing concession employee dormitory, emergency services building, and reverse osmosis water treatment plant would be replaced with structures designed to address operational issues and make park and concession management more efficient and effective. The campground would be redesigned to provide more distance between campsites and would include the addition of amenities, such as shade structures and fires rings. Roadways within the campground would be better defined and walking paths would be developed. The existing comfort station would be replaced, and an additional comfort station would be constructed. The existing visitor contact station would be replaced with a new building constructed closer to the general store. A new trail would be constructed to link the Stovepipe Wells Campground with the Mesquite Flat Sand Dunes. The helicopter landing pad would be retained and could be expanded consistent with Federal Aviation Administration requirements. The asphalt airstrip would be removed, and the disturbed area would be revegetated.

Mosaic Canyon Road and Parking Lot

The existing road has become channelized and bermed from decades of erosion and repeated grading, and the placement of fill and removal of the berms would bring the roadbed back to the natural grade. Mosaic Canyon Road and the parking lot at the trailhead would be improved through re-grading, the addition of fill, and the application of one of several potential surface treatments. A range of surfaces for the Mosaic Canyon Road to reduce dust and improve drainage would be considered based on a design process that would be completed in the future. Surface materials that would be considered could be either pervious (e.g., decomposed granite, porous paving products, gravel) or impervious (e.g., soil cement, chip seal over gravel, asphalt). The parking lot would be graded and resurfaced with the same surface treatment as the road. The parking lot is located adjacent to a wash at the mouth of Mosaic Canyon, and based on the results of a future design process, the bank may be stabilized using a range of options (e.g., riprap and/or gabion baskets) to prevent erosion of the parking lot. A vault toilet would be added in the parking area.

Emigrant Junction

Approximately 5 miles of the historic Emigrant Junction water system (2-inch diameter galvanized piping, which is deteriorated and corroded) would be replaced with buried pipeline**.** The existing comfort station leach field would be replaced, and a flood protection structure would be added to prevent scour during flood events. The new leach field and flood dike would be an engineered design that may require a hydrologic analysis, so the exact location and configuration cannot be identified at this time. Figure 3 shows a potential configuration of a flood dike that would provide protection of the campground, as well at the new leach field. The flood dike would likely be constructed of wire gabion baskets filled with cobble rock. The second leach field would be replaced as part of the rehabilitation of the ranger station. The ranger station may be used to enhance visitor services or provide living quarters for park staff. The second leach field would also require an engineered design that would include a flood protection structure. Siting of this leach field would be determined at the time of the design, which would be based

on a hydrologic analysis, but the leach field would likely be adjacent to CA-190 in a previously disturbed area. Flood control would most likely involve the rehabilitation of an existing dike (figure 3), which would provide protection for the new leach field, as well as the rest of the development on the east of CA-190. The proposed action also includes development of two recreational vehicles (RV) sites for personnel near the ranger station. Final designs would be determined during planning and consultation with the State Historic Preservation Officer.

SITE AND FLOOD HAZARD DESCRIPTION

Because of the nature of flooding on alluvial fans and desert washes, precise floodplain boundaries are difficult to establish, and site-specific depths and velocities of design floods cannot be accurately predicted. However, overall flood hazard can be assessed and evaluated and effective mitigative measures may be prescribed. Following DO #77-2, the proposed improvements are Class I Actions, and the corresponding Regulatory Flood is the one-percent annual exceedance probability (1% AEP) flood, commonly referred to as the 100-year flood. Furthermore, following EO 13690, capital investment by the National Park Service requires consideration of an additional Federal Flood Risk Management Standard (FFRMS) to provide additional flood resiliency to expensive infrastructure. Lastly, human occupation in a presumed flash flood area is a Class III Action as per DO #77-2. While the proposed project does not specifically add new risks to human life, elements of the project do support continued human occupation, and measures to mitigate this risk are also a part of the proposed project. Every road and most developed areas in the park are subject to flash flood hazard (NPS 1988). Currently there is no Federal Emergency Management Agency floodplain mapping available for the park, and a formal floodplain delineation has not been performed in the areas of the proposed action. However, the drainage patterns at Mosaic Canyon, Stovepipe Wells Village, and Emigrant Junction indicate that they are located in active alluvial fan areas that are subject to flooding. Runoff in alluvial fans can be unpredictable, quickly changing channels, braiding into numerous smaller channels, eroding new channels, and/or abandoning channels that become choked with sediment.

Stovepipe Wells Village is built upon an alluvial fan produced by outwash from Mosaic Canyon in Tucki Mountain (NPS 1988). Flash floods can concentrate in Mosaic Canyon from a several-square-mile watershed. The majority of runoff from Mosaic Canyon generally flows in a dominant channel on the east side of the alluvial fan, but there is another significant channel to the northwest of the fan. If the floodwaters overwhelm a critical section at the mouth of Mosaic Canyon, the dominant washes may not be able to contain the runoff, and the high energy of the runoff can scour new channels. The degree of hazard from floodwater concentration in Mosaic Canyon onto the alluvial fan is unpredictable. Runoff may or may not concentrate and flow down the fan towards developed areas. Smaller floods that develop on the Stovepipe Wells alluvial fan can be a problem, but the greatest hazard to human safety and development is from floods emanating from Mosaic Canyon and flowing down the fan. Runoff from Mosaic Canyon is estimated to be 220 cubic feet per second (cfs) for the 1% AEP flood and 1,460 cfs for the probable maximum flood (NPS 1988). To protect the development at Stovepipe Wells Village, two primary dikes have been constructed, including the main L-shaped dike (Main dike) south of the Stovepipe Wells Village Hotel and the dike above the water plant (Water Plant dike) (figure 2). According to the 1988 analysis, the Main dike should be capable of containing the 1% AEP flood flow, but not capable of containing the probable maximum flow. Because its upper wall is constructed perpendicular to the slope, the dike tends to stop flow rather than diverting it from the developed area. This has caused sedimentation above the upper wall, so the effectiveness of this feature has been substantially reduced from its condition in 1988 (Friese, pers comm 2021). Further, the dike is permeable, so saturation of the dike could lead to breaching (NPS 1988). However, the secondary Housing and Hotel dikes downslope that should protect the developed areas from a 1% AEP if the main dike is breached (figure 2). The Water Plant dike is also an earthen dike that is somewhat permeable, but this feature is oriented such that it diverts runoff away from the water plant, and therefore it is less prone to saturation

and has not been subject to the upslope sedimentation. However, the uppermost part of the dike has been breached, and it is allowing some runoff to approach the water plant and has resulted in some incipient erosion of the Main dike (Friese, pers comm 2021). Fortunately, Stovepipe Wells Village sits at the toe of the alluvial fan, which is less prone to dangerous flooding because this area has a gentler slope and more diffuse runoff patterns than upslope areas.

Emigrant Junction is on the Towne Pass alluvial fan adjacent to the Emigrant Wash. The flood areas are more predictable at Emigrant Junction because the water flows through more defined channels. However, the focus of flow energy within these defined channels increases the potential for hazardous conditions at Emigrant Junction compared to Stovepipe Wells Village—where the energy of the flow is dissipated across multiple distributary channels of the alluvial fan toe. The Emigrant Wash conveys floodwaters from portions of the Towne Pass drainage basin, Emigrant Canyon, and Harrisburg Flats. Emigrant Wash passes approximately 700 to 1,000 feet west of the Emigrant Junction Ranger Station. This wash would contain the 100-year and probable maximum flood (NPS 1988), but facilities and visitors in the Emigrant Junction area may still be susceptible to risks from floods as channels can change quickly during a major flood event due to sedimentation and erosion and potential failure of flood control features. There is a 640-foot dike between the development and the flood channel, and a cross section in the 1988 flood report indicates that the dike is approximately 6 feet high on the side of the main channel. This dike is composed of permeable materials and therefore is susceptible to failure (NPS 1988), but aerial imagery back to 1985 indicates that the flood waters of the main channel have not approached the dike. Furthermore, the aerial imagery indicates that the main channel has been degrading, thereby increasing the effective height of the dike and decreasing the likelihood that flow in the main channel would reach the dike.

JUSTIFICATION FOR THE USE OF THE FLOODPLAIN

Stovepipe Wells Village is the oldest visitor-serving area and the first tourist destination in the park. Stovepipe Wells Village continues to be a popular destination with a peak monthly overnight visitation of 7,700 and an average of 950 vehicles per day traveling through the Village. The proposed actions are in direct support and protection of existing and well-established park infrastructure and visitor services and are therefore tied to the current locations. CA-190 is surrounded by floodplain in this area, and the only way that the facilities could be relocated it to move them far from CA-190. Since the facilities are dependent on CA-190, there is no practicable alternative to locating these proposed actions in the area. Moreover, if the facilities were moved it would put them in conflict with many other resources, and/or result in them being located on an unstable building formation, such as sand.

Emigrant Junction is one of the main entrance points for visitors in the park, and the effectiveness and utility of the Emigrant Junction facilities is dependent on their proximity to CA-190. CA-190 is surrounded by floodplain in this area, and the only way that the facilities could be relocated is to move them far from CA-190. The Ranger Station, Comfort Station, generator buildings, and other features were constructed by the Civilian Conservation Corps in the 1930s, and the Emigrant Junction Historic District has been determined to be eligible for the National Register of Historic Places. The historical significance of these structures is tied to their location.

FLOODPLAIN IMPACTS

Natural Floodplain Values

The floodplains in the Stovepipe Wells Village and Emigrant junction areas serve to dissipate the energy of runoff, encourage infiltration, support native vegetation, transport sediment and nutrients to downslope areas, and support the geomorphic processes and landscape dynamics that Death Valley is known for. These floodplain values could be diminished by the introduction of fill, impervious surfaces, or features that disrupt natural runoff. Overall, alternative B would increase the amount of fill, disturbance, and

impervious surface within the floodplains in the project area. However, these modifications would affect only a small portion of these large floodplains, and the natural functions of the floodplains would remain largely intact.

The floodplain values in the project areas have been altered by human activities, and the actions under alternative B would contribute slightly to these impacts. During construction activities, the floodplain would be temporarily impacted by the disruption of runoff caused by the presence of staging areas, construction equipment, and materials in the floodplain. Although the area is naturally sparsely vegetated, there could be an increased erosion potential in disturbed areas before vegetation recovers. Best management practices would be implemented to minimize erosion and sedimentation during construction activities, and disturbed areas would be protected and allowed to revegetate following construction. Given the infrequency of flood events and the relatively short duration of the construction, it is doubtful that construction activities would result in any significant impacts on floodplain values. Furthermore, most large flood events occur in the summer when construction activity is unlikely due to the extreme temperatures.

Existing flood control dikes at Stovepipe Wells Village have protected approximately 76 acres from flooding since at least the early 1980s. The additional facilities proposed under alternative B at Stovepipe Wells are within this protected area, and they would result in only a small additional footprint of disturbance. Two existing flood dikes, which are needed for public safety and to protect facilities and infrastructure, would be rehabilitated. However, the flood dikes will continue to prevent natural floodplain processes across 76 acres of developed area, a very small portion of the 2,900-acre alluvial fan. Therefore, this should not have any appreciable impact on floodplain functions.

The rehabilitation of Mosaic Canyon Road is the component in the proposed action that presents the most potential for the introduction of fill. However, the purpose of the fill would be to restore the natural grade and runoff patterns, which would improve floodplain function. Leaving Mosaic Canyon Road a natural surface would allow for beneficial infiltration during runoff events, so this option may be preferable with regard to floodplain function. However, a natural surface may require more work to maintain the grade (also important to floodplain function) than a more resistant paved surface would. Adding impervious surfaces in a floodplain prevents infiltration, potentially increasing localized flooding. The rehabilitation of Mosaic Canyon road would also present the most potential for additional impervious surface if the decision is made to pave it, but paving may be a long-term benefit to the floodplain if it results in easier maintenance of the natural grade and prevents the re-channelization of the road. Impacts from the potential addition of an impervious surface would be somewhat offset by the removal of the impervious surface at the Stovepipe Wells airstrip.

The stabilization of the bank to prevent erosion of the Mosaic Canyon trailhead may require the introduction of fill in the form of riprap or cobble-filled gabion baskets. The armoring of up to 200 feet of the eastern bank of the main channel may interfere slightly with the natural widening or migration of the main channel. However, the main channel is currently on the eastern side of the fan, and it would likely take thousands of years for the channel to overcome the hydrographic apex and migrate to the west side of the fan.

Actions at Emigrant Junction under alternative B would have minor and localized impacts on floodplain function. Improvements such as replacing the Emigrant water line would result in only a small disturbance in the floodplain where it crosses Emigrant Wash. The replacement of leach fields and the installation or rehabilitation of flood dikes would result in new disturbance within the floodplain. However, it is expected that the diversion of runoff by the dikes would affect less than 6 acres of the 1,800-acre floodplain, and any diverted runoff will reenter natural channels immediately downslope from the developed area. Installation of the RV pads and paving the entry road apron at Emigrant Junction would result in only a small increase in impervious surface at the site.

Capital Investment

The proposed capital improvements within floodplains are intended to enhance visitor experience, repair failing infrastructure, improve park operations, and restore floodplain function. The facilities that are proposed for possible replacement within a floodplain include a concession employee dormitory, an emergency services building, two comfort stations, a visitor contact station, a reverse osmosis water treatment plant, a water line, and two leach fields. Facilities proposed for potential rehabilitation within a floodplain include a helicopter pad, Mosaic Canyon road and trailhead, Stovepipe Wells campground, and two or three flood dikes. New facilities include one or two flood dikes at Emigrant Junction, a vault toilet at Mosaic Canyon trailhead, and two trails. The enhancement and addition of flood dikes would protect the rehabilitated, new, and existing NPS assets.

Human Health and Safety

Although the proposed actions do not directly impact health and life, elements do support continued human occupancy in a flash-flood prone area, and consequently, protection of human life is considered. The focus of human activity in the project area is Stovepipe Wells Village, which is at the toe of the alluvial fan where runoff energy will be most diffuse and therefore less dangerous. The flood control enhancements and additions would provide a degree of risk management and increase the safety factor for human occupancy within the flood zone. However, given the nature of flooding on alluvial fans, risk management up to a specific level such as the 1% AEP flood is problematic, and therefore additional measures will be taken. These measures would include flood warning and evacuation planning, as well as messaging to visitors and staff to identify flood hazard zones.

FLOOD MITIGATION MEASURES

Mitigation measures to protect natural floodplain values, capital investment, and human health and safety, are outlined below.

Natural Floodplain Values

- Best management practices would be used to minimize erosion and sedimentation during construction activities.
- Soil compaction in the floodplain would be minimized during construction, and the soil surface restored if needed after construction.
- Appropriate drainage would be considered in the design of all project components to prevent accelerated runoff within the project area.
- The improvements of Mosaic Canyon road would be designed to improve floodplain function by restoring the natural grade and runoff.

Capital Investment

- New and rehabilitated flood protection structures would divert flood waters from the developed areas of Stovepipe Wells Village and Emigrant Junction.
- The stabilization of the bank at the Mosaic Canyon parking lot would protect the trailhead and new vault toilet
- Building materials would be flood resistant and appropriate for the environment in the park.
- Building designs would be flood resilient.
- Building locations would be selected to minimize flood exposure, and the park could consider additional measures such as introducing fill to raise buildings above grade.

- All construction designs and materials would follow National Flood Insurance Program (NFIP) Guidelines as directed by EO 11988 and DO #77-2, National Flood 5 Insurance Program's Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3), and in accordance with county or state requirements for flood-prone areas.

Human Health and Safety

- The National Weather Service (NWS) issues flash flood advisories, which allow for warnings and potential evacuation for protection of human life. NWS flash flood advisories would be posted on the outside of the comfort stations along with signage describing evacuation procedures in the event of a flood.

SUMMARY

Through the FSOF process, the National Park Service has determined that there are no practicable, non-floodplain locations for the proposed action. The terrain and topography preclude any alternate locations for the Mosaic Canyon facilities, and the functionality of Stovepipe Wells and Emigrant Junction are dependent on their proximity to CA-190, which is surrounded by floodplain. Potential impacts to human life and health would be mitigated through the posting of NWS flood advisories and the installation of signage with evacuation information. Potential impacts to capital investment would be mitigated through a combination of implementing design standards consistent with the National Flood 5 Insurance Program's Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3) and in accordance with county or state requirements for flood-prone areas. The replacement and rehabilitation of facilities should result in no long-term negative net impact to floodplain function compared to the no-action alternative. New facilities would largely occur within previously disturbed areas, and the introduction of impervious surfaces will be minimized. Restoring the grade of Mosaic Canyon Road to accommodate natural flow patterns would have a beneficial impact on floodplain values, and the removal of the asphalt airstrip would restore a large area of naturally permeable surface within the floodplain. The project includes the addition and rehabilitation of flood control features, which would enhance human safety and protect capital investment. While these flood control features would alter natural flow patterns in the floodplains, it will divert flow from less than 2% of the entire floodplains area. Therefore, the National Park Service finds that the proposed action would not have any material additional adverse impacts on floodplains and their associated values.

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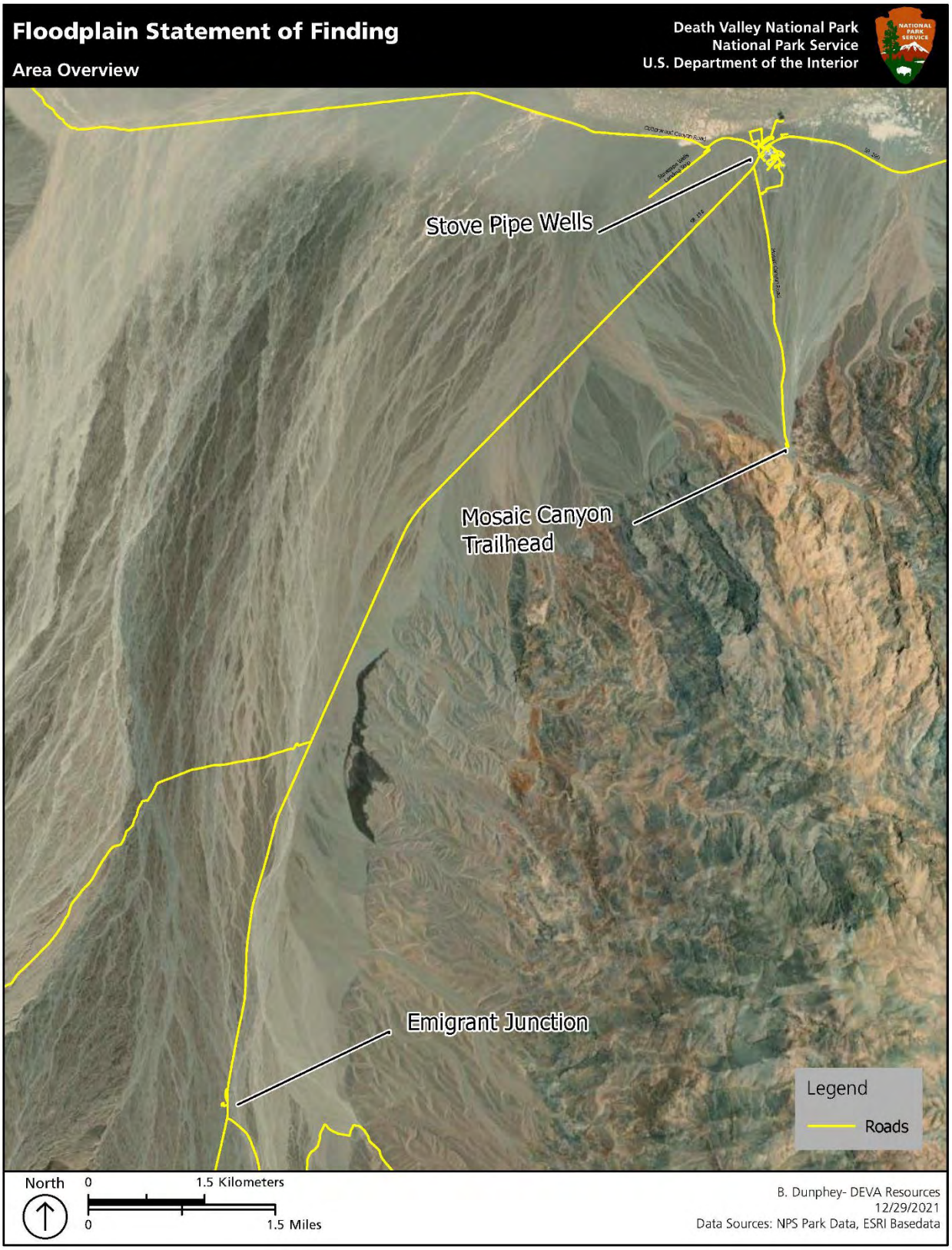

Figure 1. Project Area Overview

Figure 2. Stovepipe Wells Village

Figure 3. Emigrant Junction

Figure 4. Mosaic Canyon Trailhead and Parking Area

APPENDIX C: CIVIC ENGAGEMENT COMMENT SUMMARY REPORT

SUMMARY OF COMMENTS RECEIVED DURING CIVIC ENGAGEMENT

This comment analysis report provides a summary of the civic engagement comments received during the public review of the proposed modifications to the Stovepipe Wells Developed Area. Civic engagement is a process of sharing possible ideas and concepts with the public and stakeholders and collecting information to assist in the identification of issues and concerns relevant to a potential project.

The civic engagement comment period was November 20 through December 23, 2020. The park notified the public of the comment period via a press release, posting on the park's website, and the park's Facebook page.

A civic engagement newsletter was posted on the NPS PEPC website at https://parkplanning.nps.gov/StovepipeWellsPlan. The newsletter included an overview of the potential modifications to the Stovepipe Wells Developed Area, a timeline of the planning process, and instructions on how to provide comments. The newsletter listed four topic questions to prompt responses from the public:

1. What suggestions do you have for us to consider when redesigning Stovepipe Wells campground?
2. What suggestions do you have regarding the proposal to remove the airstrip and create a night-sky viewing area?
3. We are considering changes to Mosaic Canyon Road, which could include paving it and improving the parking area. What suggestions do you have?
4. What other comments do you have about the proposed improvements to the Stovepipe Wells Developed Area at Stovepipe Wells Village, Emigrant Junction, the Mesquite Flat Sand Dunes, Mosaic Canyon, and Devils Cornfield?

The public was encouraged to submit their comments electronically through the NPS PEPC website, but comments were also accepted by mail and email.

The NPS PEPC database was used to manage the comments. The database stores the full text of all correspondence and allows each comment to be coded by topic. The database produces tallies of the total number of correspondences and comments received, can sort and report comments by a particular topic, and provides demographic information on the source of each correspondence. All comments not received directly through the PEPC system (i.e., mail, email, and voice mail) were transcribed into the PEPC system for analysis.

During the public comment period, 3,171 individual correspondences were received. Of these, a majority (3,133 correspondences) were submitted directly through the PEPC system. The National Park Service received correspondence from all states (except for Delaware) and the District of Columbia. Correspondence was also received from Canada, United Kingdom, Germany, Australia, Belgium, France, Israel, Italy, Netherlands, Spain, and Switzerland.

Every correspondence submitted to the National Park Service was read. The planning team analyzed each correspondence for discrete comment topics. Comments on similar topics were compiled and summarized.

Some comments indicated that the original communication was not clear enough. This information helps better materials to be prepared in the future.

Some comments were out of scope for this project because they did not relate to the purpose and need of the project. More frequently, comments were considered out of scope because they reflect a greater level

of detail than is being addressed in this document. These comments have been saved for reference during implementation designs in the future. Comments in this category included recommendations for specific amenities that could be provided in the Stovepipe Wells Developed Area, such as charging stations for electric vehicles and opportunities to rent e-bikes. The feasibility of these suggestions could be considered during the design phase of future projects.

SUMMARY OF COMMENTS RECEIVED

The comment summary is designed to share a sense of the comments received during civic engagement. Comments received from the public and other stakeholders helped inform the projects proposed in this plan and could continue to inform the implementation of the plan. It should be noted that not all suggestions received are feasible or consistent with legislation that established the national park, NPS policies, or approved management decisions.

The comment summary does not include the number of times a similar comment was received. The number of comments for or against a particular proposed action is often heavily influenced by awareness of the proposal and the public comment period. For this reason, the number of responses can be heavily influenced by interest groups. Research has also shown that people are more likely to comment when they oppose an action than when they support or are neutral about that action. For these reasons, the raw numbers of comments for or against a proposal received during a public comment period is not a reliable indicator of the level of support for a proposal.

Many of the comments focused on the type of experience available to visitors in the project area. For example, some appreciated the rustic nature of the campground experience at Stovepipe Wells and suggested no change was necessary. Others supported the proposed changes but also expressed concern that the number of sites could be fewer than is currently available. Concerns were raised about the addition of a formal group site because of the potential for increased noise and disruptions to other campers. Some expressed concern about the potential for additional RV sites because of the potential for noise, while others support the additional sites because the vehicles are increasingly popular. Similarly, some visitors expressed a preference for flying into Stovepipe Wells over Furnace Creek; for these visitors flying into Furnace Creek would not provide the same experience. Other comments suggested that flying into the Furnace Creek airstrip would be an acceptable option. Comments related to proposals at Emigrant Junction expressed a preference for maintaining the current character of the area while also supporting improvements to the comfort station and the use of the Ranger Station for interpretive purposes. The importance of including the perspectives of the Timbisha Shoshone in interpretive materials was noted.

With respect to Mosaic Canyon Road, comments noted the challenges associated with the dust from the dirt road and parking area but supported different approaches to resolving these challenges. Some suggested the road should remain a dirt road because it would be consistent with the experience at Death Valley National Park. Some also suggested that maintaining the current condition of the road would help protect this popular destination from damage to resources and maintain the quality of the experience for the people who are able to make it up the road. Conversely, others suggested not only paving the road but allowing more intensive use, such as expanding the parking lot, providing parking for RVs, and providing night sky programming in the parking lot.

There was consistent support for proposals to notify drivers they were approaching developed areas at Emigrant Junction, Stovepipe Wells, and Devils Cornfield. Comments focused on the safety of visitors crossing CA-190 at these locations and supported reducing the speed limit in these three areas, as well as adding crosswalks and flashing beacons to calm traffic and focus pedestrian crossings. Some of these same comments expressed concern about the impacts of these measures on the night sky and visitor experience in the campgrounds at Emigrant Junction and Stovepipe Wells.

At Devils Cornfield, comments also focused on efforts to prevent off-highway vehicle incursions. Some comments supporting barriers included suggested materials, such as large rocks. Other comments, while offering support, cautioned against barriers that would interfere with views of the area and efforts to photograph the distinctive landscape. Some comments opposed the barriers suggesting it would just push violators to other areas; a better approach would be more education and enforcement.

The National Park Service received quite a few comments from pilots opposed to closing the Stovepipe Wells airstrip. Comments included support for the experience of flying into a national park. Some commenters offered alternative approaches to managing the airstrip. Some of these suggestions are reflected in the alternatives analyzed in this plan, for example changing the surface of the airstrip to gravel. Other alternatives were analyzed and not carried forward; these are discussed in the "Actions Considered but Dismissed from Detailed Analysis" section of chapter 2. Many comments were outside the scope of this plan. For example, comments suggested that keeping the airstrip open would encourage interest in general aviation. Supporting interest in general aviation is outside the scope of this plan and is not reflected in the purpose and significance of Death Valley National Park.

Two of the actions proposed by the National Park Service during civic engagement included closing the airstrip at Stovepipe Wells and developing a night sky viewing area in the area that was formerly used for the airstrip. Many of the comments received expressed concern that the National Park Service was closing an experience for some visitors in favor of others. It was suggested that this "trade-off" was unnecessary, and the two uses were compatible. The rationale for closing the airstrip is described as part of alternative B and includes a discussion of how the area that is now the airstrip would be used.