RECLAMATION

Managing Water in the West

Arizona Heritage Trail System

Bureau of Reclamation Finding of No Significant Impact
Final Environmental Assessment
LC-16-14

Lower Colorado Basin Region, Boulder City, NV

U.S. Department of the Interior
Bureau of Reclamation
National Park Service
Boulder City, NV

November 2018

Mission Statements

The Department of the Interior conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

Cover Photo: Looking south towards Bullhead City and Laughlin from proposed Heritage Trail System segment south of Davis Camp entrance.

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List of Acronyms and Abbreviations

Acronym or abbreviation	Term
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
AhaMakav Cultural Society	Fort Mojave Indian Tribe Aha Makav Cultural Society
AIDTT	Arizona Interagency Desert Tortoise Team
APE	Area of Potential Effect
ASTM	American Standards for Testing and Materials
AZCA	Arizona Commerce Authority
BMPs	Best Management Practices
CAAA	Clean Air Act Amendment
CEQ	Council on Environmental Quality
CO	Carbon monoxide
CWA	Clean Water Act
DSG	Del Sol Group
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Act
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement, Lake Mead National Recreation Area General Management Plan
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FONSI	Finding of No Significant Impact
Heritage Trail System	Arizona Heritage Trail System
HUC	Hydrologic Unit Code
ITA	Indian Trust Assets
KOP	Key Observation Point
LED	Light emitting diode
kV	Kilovolt
LMNRA	Lake Mead National Recreation Area
Master Plan	2003 Colorado River Greenway Heritage Trail Master Plan
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969, as amended
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NPS	National Park Service
NRHP	National Register of Historic Places
NVDOT	Nevada Department of Transportation
O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter less than 10 microns
$PM_{2.5}$	Particulate Matter less than 2.5 microns
PWS	Public Water System
PVC	Polyvinyl Chloride
Reclamation	Bureau of Reclamation
River	Colorado River

Acronym or abbreviation	Term
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SO_2	Sulfur dioxide
SRI	Statistical Research Incorporated
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
TSP	Town Square Publications
ug/L	Micrograms per liter
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USFWS	U. S. Fish and Wildlife Service
WLB	WLB Group

Finding Of No Significant Impact (FONSI)

LC-16-14
for
Final Environmental Assessment for Arizona Heritage Trail System

Bureau of Reclamation
Boulder City, Nevada

Based on a thorough analysis of the potential environmental impacts presented in the Environmental Assessment, the Bureau of Reclamation (Reclamation) finds that implementation of the Proposed Action will not significantly affect the quality of the human environment within or adjacent to the project area, therefore an Environmental Impact Statement will not be prepared.

Accordingly, this FONSI is submitted to document environmental review and evaluation of the Proposed Action Alternative in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Prepared: Faye Streier Date: December 12, 2018
Natural Resource Specialist

Recommended: _____ Date: 12 Dec 18
Manager, Environmental Compliance Group

Approved: _____ Date: 12/17/18
Chief, Resource Management Office

Background

Reclamation and the National Park Service (NPS) are proposing to construct, operate, and maintain the approximately 5 mile Arizona Heritage Trail System (Heritage Trail System) on Federal lands by Reclamation, the NPS, and Mohave County within Lake Mead National Recreation Area (LMNRA). Mohave County manages some of these lands through agreements with Reclamation and the NPS. Reclamation as the lead Federal agency with the NPS and Mohave County as cooperating agencies; in partnership with the City of Bullhead City and Clark County, prepared the Arizona Heritage Trail System Final Environmental Assessment (EA) for the Proposed Action (Alternative 1) and one action alternative (Alternative 2). The EA is attached to and incorporated by reference into this FONSI.

This FONSI documents Reclamation's determination that implementation of the Proposed Action will not have a significant impact to any of the resources evaluated in the EA. The NPS intends to document their determination in a separate FONSI.

Alternatives Considered

A No Action Alternative, a Proposed Action Alternative, and Alternative 2 were considered. Under the No Action Alternative the Heritage Trail System would not be constructed and the recreational opportunities offered by the Heritage Trail System would not be provided.

The Proposed Action (Alternative 1)

The Heritage Trail System will be located in Mohave County, Arizona, adjacent to the Colorado River (River) and the City of Bullhead City, Arizona at the northern end of the Mohave Valley directly south of Lake Mohave. It will include a system of pedestrian and bike trails, fishing nodes, a kayak launch, two trailheads, two access nodes, and associated facilities.

The approximately 5 mile Heritage Trail System would begin on the Arizona side of Davis Dam and end at the Laughlin/Bullhead City Bridge. It will connect with the Laughlin Colorado River Greenway Heritage trail, resulting in an approximately 18 mile trail system that connects the communities of Bullhead City and Laughlin.

The Heritage Trail System will be managed by the City of Bullhead and Mohave County through agreements with Reclamation and NPS.

Alternative 2

Alternative 2 was proposed because the trail's location on an existing road and its shorter overall distance compared to Alternative 1 was anticipated to reduce costs of construction. It would differ from Alternative 1 in that it would not include the portion of the main trail, the Desert Trail, which traverses the uplands between the service road entry monument and the large east-west trending wash.

Environmental Commitments

The following measures will be implemented as part of the Proposed Action to reduce or eliminate impacts to resources:

Air Quality

A Grading Plan and Fugitive Dust Control Plan will be prepared for the Proposed Action.

Visual Resources

As a treatment to reduce visual effects vertical elements such as light posts, interpretive displays, restrooms will be designed to have a relatively low profile. Colors for the structures and metal work will be finished in NPS approved brown and tan colors that will blend with the surrounding natural environment. The lighting to be installed at the trailheads will be low intensity light emitting diode lightning that conforms to Flagstaff, Arizona Lighting Code Outdoor Lighting Standards.

Soils

As feasible, segregation of the soil horizons will be conducted where soils will be disturbed. At a minimum, the initial 3 inches of the surface horizon will be separated and stockpiled from lower horizons and used in site restoration following construction.

Best Management Practices would be implemented to control erosion and sedimentation.

Surface and groundwater quality and quantity

Prior to construction, a Clean Water Act Section 404 permit and Section 401 Water Quality Certification will be required from the U.S. Army Corps of Engineers (USACE), and the Arizona Department Environmental Quality (ADEQ), respectively, for all work occurring in Waters of the U.S. The contractor will adhere to all conditions, including the ADEQ - Stormwater Construction General Permit (AZG2013) and Storm Water Pollution Prevention Plan (SWPPP) and any special conditions, of all permits during construction activities, and no construction activities will occur when flow is present in the ephemeral washes that cross the project area.

Potable water will be obtained from a public water system that is in compliance with all applicable Federal, State, and County laws and standards.

Biological Resources

To prevent the spread of noxious and invasive weeds, equipment used for this project shall be thoroughly cleaned prior to entering and leaving the project site. The cleaning process will ensure that all dirt and debris that may harbor noxious or invasive weeds seeds are removed and disposed of at an appropriate facility. Reclamation's Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species: 2012 Edition should be referenced for inspection and cleaning activities. The manual can be found at:

http://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2012.pdf

Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (AGFD 2014) and Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat (AIDTT 2008) will be utilized and implemented as appropriate.

The following Conservation Measures from the U.S. Fish and Wildlife Service (USFWS) concurrence letter dated August 14, 2018 will be implemented (Appendix C):

- To minimize the potential for sediments entering the water due to construction; construction activities will be timed to coincide with periods when lake levels are low as a result of normal reservoir operations. Also, construction of the kayak launch will take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

- A few small salt cedar trees along the Lake Mohave Spur Trail will be removed and the area revegetated with native vegetation. Native vegetation will be seeded/planted at the trailheads, access nodes, Davis Camp entrances, within Davis Camp, and where needed to revegetate areas disturbed by construction.

- Areas with suitable migratory bird habitat will be surveyed by a qualified biologist prior to construction. If breeding activities are occurring within the area, work will stop until the young have fledged and left the nest. The migratory bird breeding season generally occurs between February 15 and September 1.

- Prior to ground disturbing activities areas of the project not infested with invasive species will be delineated and all equipment and vehicles will be cleaned prior to entering uninfested sites from known infested sites.

- Areas disturbed by construction will be replanted or reseeded as needed. All seed and plant species used for revegetation will be native and approved by Reclamation and the National Park Service.

- A biological monitor, approved by Reclamation, is required during all construction activities.

- Interpretative panels that include a description of bonytail chub (*Gila elegans*) and razorback sucker (*Xyrauchen texanus*) and how the public can help protect these species will be placed near the fishing nodes.

- Construction of the kayak launch will take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

- Construction will also take advantage of an annual drawdown of the lake in October, thereby minimizing activities occurring below shoreline.

- All concrete used in construction of the kayak launch will be pre-formed and fully cured prior to being placed in the water. Uncured concrete placed in water can raise water pH and be toxic to fish species.

- To reduce the likelihood of sedimentation entering the lake, a SWPPP prepared by an engineer licensed by the State of Arizona in accordance with ADEQ requirements and approved by Reclamation will be required. In addition, a sediment curtain will be used during construction of the kayak launch.

- A Reclamation biologist permitted by the USFWS for razorback sucker and bonytail chub monitoring will be present during installation and removal of the sediment curtain and installation of the geotextile.

- The Reclamation biologist will perform a clearance survey for the fish species prior to installation and removal of the curtain. No razorback sucker or bonytail chub will be handled as part of the proposed action.

Cultural Resources

In the event of an unanticipated discovery during construction, operations, and maintenance of the Heritage Trail System all activities in the area of the discovery shall cease, except those needed to protect and secure the site. A Reclamation archaeologist shall be immediately contacted. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume. A "Discovery" means the encounter of any previously unidentified or incorrectly identified cultural resource including, but not limited to, archaeological deposits, human remains, or places reported to be associated with Native American religious beliefs and practices.

Additional consultations under Section 106 of the National Historic Preservation Act (NHPA) with the Arizona State Historic Preservation Officer (SHPO) and the Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe would be conducted as needed if modifications are made to the project design.

Reclamation plans to fence historic sites located along the trail and provide historic narrative signs as part of the Heritage Trail System project.

Noise

All Federal, State, county and city noise ordinances will be complied with during construction.

Accessibility

All facilities, unless otherwise noted in the description of the proposed action, shall be designed and constructed to ensure accessibility as required by law for individuals with disabilities in accordance with the Architectural Barriers Act of 1968 (82 Stat. 718), as amended (42 U.S.C. 4151 et seq.) and the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), including but not limited to Sections 504 and 508.

Trailheads and major points of entry would include information for the public about the trail grades, cross slopes, and surface material.

Environmental Impacts and Findings

Implementation of the Proposed Action will not result in significant impacts to any of the resources evaluated in the EA. The reasons for this determination are summarized by resource below.

Land Use

The Proposed Action is consistent with existing plans and goals for the land.

Wetlands

There will be no adverse impacts to wetlands. Removal of a small amount of the invasive plant, tamarisk (*Tamarix ramosissima*), will have a beneficial impact to wetlands.

Indian Trust Assets

The Fort Mojave Indian Reservation is downstream from but not directly adjacent to the project area. There would be no impact to this Indian Trust Asset (ITA) as it is not located in the project area or affected by the Proposed Action. The Proposed Action will have no impact to ITAs.

Air Quality

All air quality impacts will be short term and no air quality standards will be exceeded. No negative cumulative impacts to air quality are anticipated.

Visual Resources

There would be a localized, short-term visual impact from equipment and ground disturbance during construction. When completed, the trails and associated facilities are not expected to have a negative impact on the visual character of the project area. Trail surfaces and other facilities will be designed to blend into the surrounding environment. All facilities will be low profile and not prominent in the landscape. No negative cumulative impacts are anticipated.

Biological Resources

On August 14, 2018 the USFWS concurred with Reclamation's may affect, but is not likely to adversely affect determination for razorback sucker, bonytail chub, and associated designated critical habitat.

Reclamation has determined there will be no effect to southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*).

No impacts to Sonoran desert tortoise (*Gopherus morafkai*) or migratory birds are anticipated. Measures will be implemented to prevent the spread of invasive species. No cumulative impacts are anticipated.

Cultural Resources/Traditional Cultural Properties/Sacred Sites

Reclamation consulted with the SHPO, Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe under Section 106 of the NHPA. The SHPO concurred with Reclamation on a finding that effects to historic properties would not be adverse. Of the consulted tribes, the Fort Mojave Indian Tribe expressed a concern about the proximity of a segment of a trail to a rock art site called Inscription Rock which is considered to be a culturally significant site to the Tribes. Reclamation relocated the trail in respect to their concerns. No adverse impacts to sacred sites are anticipated. No cumulative impacts are anticipated.

Floodplains

The developments within the floodplain will be minimal and there would be no impacts to natural floodplain values. No cumulative impacts are anticipated.

Hydrology and Water Quality

Impacts to surface and groundwater are expected to be minimal to negligible due to construction practices and use of existing water sources. No cumulative impacts are anticipated.

Soil

Impacts to soil are expected to be minimal to negligible since the trail system will be constructed in areas already disturbed, and on soils that are 70 percent gravel. No cumulative impacts are anticipated.

Socioeconomics and Environmental Justice

The Proposed Action will not result in disproportionately high and adverse human health or environmental effects on minority and low-income populations. A minority population in an Environmental Justice context was not identified for the analysis area. No cumulative impacts were identified because no direct or indirect environmental justice impacts were identified.

Recreation

The Proposed Action will have a beneficial impact to recreation resources in the Laughlin-Bullhead City area. Beneficial cumulative impacts to recreation opportunities in the area are anticipated.

Arizona Heritage Trail System

Final Environmental Assessment
Document No. LC-16-14

Boulder City, Nevada

prepared by

Bureau of Reclamation, Lower Colorado Region
National Park Service, Lake Mead National Recreation Area
Boulder City, Nevada

U.S. Department of the Interior
Bureau of Reclamation
National Park Service
Boulder City, NV

October, 2018

1.0 Introduction and Purpose and Need

This Environmental Assessment (EA) has been prepared by the Bureau of Reclamation (Reclamation) as the lead federal agency with the National Park Service (NPS) and Mohave County as cooperating agencies, in partnership with the City of Bullhead City and Clark County, to fulfill the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. §4321-4370).

Reclamation and NPS are proposing to construct, operate, and maintain the approximately 5-mile Arizona Heritage Trail System (Heritage Trail System) on Federal lands managed by Reclamation, the NPS, and Mohave County within Lake Mead National Recreation Area (LMNRA). Mohave County manages some of these lands through agreements with Reclamation and the NPS. The LMNRA is a unit of the National Park Service. The recreational trail would be managed by the City of Bullhead and Mohave County through agreements with Reclamation and NPS.

Reclamation and the NPS will use this this EA to evaluate the potential impacts of the Proposed Action on the physical and human environment and determine if there would be significant impacts requiring the preparation of an Environmental Impact Statement. If significant impacts are not identified, Reclamation and the NPS will each issue their own Finding of No Significant Impact.

1.1 Background for the Purpose and Need

The Heritage Trail System would be located in Mohave County, Arizona, adjacent to the Colorado River (River) and the City of Bullhead City, Arizona at the northern end of the Mohave Valley directly south of Lake Mohave. The rugged and sparsely vegetated Black, Newberry, and Dead Mountains surround the project area of Mohave Valley to the east, north and west, respectively (Figure 1). The River runs south through the valley separating Laughlin from Bullhead City.

In 1999, Bullhead City initiated planning for several pedestrian and bicycle paths to connect to the then proposed Colorado River Heritage Greenway Trail to create an urban greenway to provide residents and visitors with an educational, recreational, and scenic experience on a network of paths and trails. In recent years, Bullhead City has constructed pedestrian and bike paths on several streets, including the Bullhead Parkway that will connect to the now proposed Heritage Trail System (Bullhead City 2016).

The 2003 Colorado River Greenway Heritage Trail Master Plan (Master Plan) (Phillips 2003) outlined a vision for an innovative 30 mile multi-use trail that starts at Davis Dam and travels through Bullhead City and Laughlin to the California border. The Master Plan has been developed over time in sections, for example the 13 mile long Laughlin Colorado River Greenway Heritage Trail on the Nevada side of the River. The Heritage Trail System would complete an additional 5 miles of this Master Plan.

Davis Camp is a recreation area on the Arizona side of the River that is located on Mohave County land and Federal land managed by Mohave County through agreements with Reclamation and the NPS. Mohave County's long range plans for Davis Camp include a recreational trail that would tie into the trail envisioned in the Master Plan through a connection with the Heritage Trail System.

The Heritage Trail System would begin on the Arizona side of Davis Dam and end at the Laughlin/Bullhead City Bridge (Figures 1, 2, and 3). The Heritage Trail System would provide access to Lake Mohave and recreational sites on the Arizona side of the River such as Davis Camp and the Colorado River Museum. The Heritage Trail System would highlight areas of historical, archeological, and ecological significance, and provide increased opportunities for recreational activities such as walking, running, bicycling, picnicking, bird watching, fishing, and kayaking. Through this emphasis, the Arizona Heritage Trail would contribute to one of Mohave County's *2015 General Plan Vision for the Future Goals*: "Preserve and Enhance Historic, Cultural, Open Space, and Recreational Lands and Structures. Mohave County should strive to ensure that the built environment incorporates natural and historic treasures into the everyday lives of residents". As part of the trail development, Reclamation would add gates, close some old roads, and patrol the area to reduce current unauthorized off-road activities (Martin 2016a).

Bullhead City has approximately 40,000 residents and 2 million visitors per year, plus winter residents who increase the area population by as much as 15 percent. In addition to being an economic and retail hub for western Mohave County, Bullhead City also focuses on tourism, due in part to visitors to the resorts in Laughlin (AZCA 2016), which is Bullhead City's sister city on the west bank of the River. With the expanding residential population and swelling numbers of visitors in the area, there is considerable demand for public space and outdoor recreation opportunities.

1.2 Purpose and Need

The purpose of the project is to provide a recreation trail that connects with the Laughlin Colorado River Greenway Heritage trail, creating an approximately 18 mile trail system that connects the communities of Bullhead City and Laughlin. The project is needed to improve public enjoyment of the recreational lands adjacent to the River and Lake Mohave, protect the cultural and natural resource values of these lands, and meet the recreational needs of the growing numbers of visitors and residents in the area.

The proposed project addresses the following Reclamation recreation management objectives (Reclamation 2009):

- Fulfill Reclamation's stewardship responsibilities by providing appropriate recreation opportunities, facilities, and services on Reclamation land and water,
- Engage visitors and residents on the importance and history of the River, natural and cultural resources, and the importance of the Davis Dam area through interpretive opportunities.
- Provide enhanced active management of the area.

The proposed project also addresses the following NPS purpose statement for LMNRA (NPS 1986 and 2002):

- Provide diverse public recreation, benefit, and use on Lakes Mead and Mohave and surrounding lands in a manner that preserves ecological, geological, cultural, historical, scenic, scientific, and wilderness resources of the park.

1.3 Previous NEPA Documents and Actions

Previous studies related to the development of recreational facilities in the project area include a Class III cultural resources survey (SRI 2016), a biological evaluation (DSG 2016), the *Final Environmental Impact Statement (FEIS), Lake Mead National Recreation Area General Management Plan* (NPS 1986), and the *FEIS / Lake Management Plan* (NPS 2002) which tiers from the 1986 *FEIS, and the Laughlin Regional Park and Regional Heritage Greenway Trails-North Reach Final EA* (NewFields 2007) *and Findings of No Significant Impact (FONSI)* (Reclamation 2007, NPS 2007).

1.4 Related Laws, Policies, and Planning Documents

This EA complies with all applicable environmental, natural resource, and cultural resource statutes, regulations, and guidelines. These additional statutes, regulations, and guidelines may require permits, approvals, consultations with outside agencies, or implementation of mitigation measures. The following federal, state, and local statutes and regulations are relevant to the proposed project.

- Archaeological Resources Protection Act of 1979
- Boulder Canyon Project Act of 1928
- Bullhead/Davis Dam per the Reclamation Project Act of 1939
- Clean Air Act of 1970 and amendments of 1977 and 1990
- Clean Water Act of 1970 and National Pollution Discharge Elimination System, as amended
- Executive Order 11514- Protection and Enhancement of Environmental Quality
- Executive Order 11988- Floodplain Management
- Executive Order 12898- Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Executive Order 13007- Indian Sacred Sites
- Executive Order 13186- Protection of Migratory Birds (2001)
- Executive Order 13287- Preserve America
- Executive Order 13423- Strengthening Federal Environmental, Energy, and Transportation Management
- Federal Water Project Recreation Act of 1965 (Pub. L. 89-72), as amended
- Native American Graves Protection and Repatriation Act of 1990
- Noise Control Act of 1972
- National Environmental Policy Act of 1969
- National Historic Preservation Act of 1966, as amended
- Recreational Enhancement Act of 2005
- Safe Drinking Water Act of 1974

2.0 Description of Alternatives

The alternatives presented in this EA were developed by Reclamation, NPS, Bullhead City, and Mohave County with consideration of the purpose and need for the project, desired features of the Heritage Trail System, the terrain of the project area, and public scoping comments.

This chapter provides a description of the No Action Alternative and the two Action Alternatives (Alternative 1 and Alternative 2) associated with the Heritage Trail System project. In addition to the alternatives description, the discussion below includes an Alternative 3 considered but eliminated, and elements common to all action alternatives.

2.1 No Action Alternative

The No Action Alternative is included here as a means to compare the action alternatives to the existing baseline conditions. Under the No Action Alternative, the recreational opportunities provided by the Heritage Trail System as described in the Bullhead City General Plan (2016), the Davis Camp Park Master Plan (WLB 2009) and the Davis Dam Lands Commercial Recreation Facilities and Services Alternatives and Recommendations (Aukerman, 2001) would not be authorized or constructed, and Federal land in the project area would remain difficult for pedestrians and other recreational enthusiasts to access from Bullhead City. Day-use for visitors and residents along the River and Lake Mohave in this area would continue to be informal and dispersed. Previously disturbed sections of the project area would remain, and unauthorized off-road use in the area would continue.

2.2 Alternative 1 (Proposed Action)

The Heritage Trail System Alternative 1 would include the Desert Trail, Spur Trails, and Adventure Trail, and would be approximately 5 miles long occupying approximately 19 acres.

The following Heritage Trail System facilities and actions in Alternative 1 are common to both action alternatives. Both alternatives include a system of pedestrian and bike trails, trailheads, fishing nodes/kayak launch, picnic shelters, bike racks, wayfinding shelters, restrooms, entry monuments, vehicle parking, pedestrian bridges, and native landscape improvements. Interpretive signs, shade shelters, trail lights, trash receptacles, and fencing would be included as appropriate. All proposed day-use facilities and associated amenities would be on Federal (Reclamation and NPS) land (Figures 2 and 3). Reclamation and NPS would enter into agreement(s) / or use authorization(s) with Bullhead City and Mohave County for construction, operation, potential use fees for special events such as organized runs, maintenance, patrol, and removal of the Heritage Trail System. All elements proposed under this alternative are described by facility type below:

2.2.1 Trailheads and Access Nodes

Davis Dam Trailhead

This trailhead would be located near the east end of the Davis Dam between Davis Dam Road and Lake Mohave (Figures 2, 3, and 4) at the site of an existing parking turn-out. Facilities at the Davis Dam Trailhead would include parking, wayfinding shelter/trail map, solar lighting, interpretive panels, bike racks/trash receptacles, and vault restrooms. Portions of the trailhead

would be replanted with native vegetation provided by the NPS or a source approved by Reclamation and the NPS. Access to the Lake Mohave Spur Trail would be from this trailhead.

Davis Camp Trailhead

This trailhead would be located east of the Davis Camp entrance (Figures 2, 3, and 6) at an existing parking lot. Facilities at the Davis Camp Trailhead would include parking, lighting, wayfinding shelter/trail map, interpretive panels, bike racks/trash receptacles, vault or flush restrooms, potable water, picnic shelters, an entry monument, and a maintenance entrance gate. Portions of the trailhead would be replanted with native vegetation provided by the NPS or a source approved by Reclamation and the NPS.

Vehicles would access this trailhead from McCormick Boulevard off State Route 68. Pedestrians and bicycles may also reach the Davis Camp Trailhead from the Davis Dam Trailhead via the proposed trails and pedestrian bridges that span the large drainage wash.

Davis Camp Access Nodes and McCormick Boulevard Connector Trail

Two trail access points, also known as access nodes, the North Davis Camp Access Point and the South Davis Camp Access Point, would be installed within Davis Camp. The access nodes would have a shade shelter; limited parking with at least one accessible space; picnic tables; benches; trash receptacles; potable water; a misting pedestal; interpretive kiosk; bike rack; landscaping; pedestrian lighting; bollards, which are short vertical posts designed to ensure pedestrian safety; and fencing as needed.

The existing sidewalk at the Park Entrance, which ends at the corner of U.S. Highway 68 and McCormick Boulevard, would be extended to the start of a new 6 foot to 8 foot wide hard surface trail connection that will connect with the Desert Trail and the North Davis Access Node. The Park Entrance would include an entrance monument, landscaping including a drip irrigation system, and bollards.

2.2.2 Trails

Trails within the system are planned to be 12 feet wide with 2 foot shoulders to accommodate mixed uses with the exception of the Mohave Spur Trail which would be 8 feet wide with 2 foot shoulders.

Desert Trail

The hardened surface Desert Trail would start at the security barrier on the east end of Davis Dam and terminate at the Laughlin/Bullhead City Bridge (Figures 2 and 3). Approximately 90 percent of the proposed trail would be constructed on existing dirt roads and previously disturbed areas within Davis Camp.

The Desert Trail would start at the north side of Davis Dam and parallel Davis Dam Road 750 feet to the proposed Davis Dam Trailhead adjacent to the west side of the Lake Mohave Spur Trail.

From the Lake Mohave Spur Trail, the Desert Trail would cross Davis Dam Road approximately 1,850 feet east of the Davis Dam Trailhead. The road crossing would be equipped with a crosswalk with yellow flashing lights. The trail would then parallel Davis Dam Road to the

southeast on an existing dam construction-era road until it intersects and follows the centerline of a Davis Dam service road. The service road would be equipped with an entry monument and gate (Figure 4). The entry monument would be large enough to identify the entry to the trail as well as highlight this area as a place of significance and special character. The design would reflect the area's natural history and setting.

The Desert Trail would continue south on an existing transmission line right-of-way (ROW). At the top of hill a small spur trail would lead to a proposed scenic overlook that would provide open views to the River valley, Davis Camp, Davis Dam, and the skylines of Laughlin and Bullhead City (Figure 5). A shade shelter bench and interpretive panels would be placed at the overlook.

From the scenic overlook, the Desert Trail would continue south along the top of the ridgeline within the transmission line ROW and then onto an old construction road until drops down off the ridgeline and crosses a large east-west trending wash. A bridging structure would span the large wash as the trail continues south to the Davis Camp Trailhead (Figure 2).

From the Davis Camp Trailhead, the trail would cross McCormick Boulevard. The crossing of McCormick Boulevard would include a marked pedestrian crossing in the road, landscaping including a drip irrigation system, and bollards. After this crossing the Desert Trail would enter Davis Camp and run south between Davis Camp and State Route 68. Native vegetation would be planted along the trail. The trail would exit Davis Camp just south of the Colorado River Museum. The trail would then parallel State Route 68 south to the Laughlin/Bullhead City Bridge. A small bridge or culvert would be installed on a small drainage just north of the Laughlin/Bullhead City Bridge (Figures 6 and 7).

Lake Mohave Spur Trail

The Lake Mohave Spur Trail would be an approximately 1,150 foot loop that would follow the existing dam construction-era roadway to the shore of Lake Mohave west of the Katherine Landing Access Road (Figures 2, 3, and 4). Solar lights would be installed as needed along the spur trail.

Adventure Trail

The Adventure Trail would be included in Alternative 1 as an optional route. Under Alternative 2, it would not be a separate trail, but would be incorporated into the primary route of the Alternative. The Adventure Trail would veer southeast from the Desert Trail and follow the transmission line down a relatively steep ridge into a wash (Figures 2, 3, and 5). Under Alternative 1 this trail would be maintained as a natural, rocky, and sandy trail to provide a natural desert experience to hikers and bikers. The surface of the trail would be partially improved with road base surface.

The trail would follow washes until it converges with the Desert Trail at the Davis Camp Trailhead (Figure 6).

Davis Camp Spur Trail

The Davis Camp Spur Trail would be a hardened surface trail providing access to Davis Camp from the Davis Camp Trailhead. It would begin at the Desert Trail crossing of McCormick Boulevard and end at the Davis Camp Ranger Station (Figures 2, 3 and 6).

2.2.3 Day-Use Facilities

Fishing Nodes

Up to four fishing facilities or nodes would be constructed along the Lake Mohave shoreline off the Lake Mohave Spur Trail (Figure 4). The style of fishing node being evaluated for use is a cantilevered dock similar to those constructed as part of the Laughlin Heritage Greenway Trail. The cantilevered dock would be constructed on adjacent uplands and extend over the water. All of the foundation work would occur above the Lake Mohave high water level and would not disturb the lake bed. The fishing nodes would be connected to the main access trail by a 6 foot wide trail.

The precise location of the fishing nodes would be determined during the final site design, pending U.S. Army Corps of Engineers (USACE) permitting, and any potential cultural and biological resource concerns in the project area. Biological and cultural surveys have been completed for the project (DSG 2016; SRI 2016).

Kayak Launch

A concrete kayak and canoe launch would be constructed along the Lake Mohave shoreline (Figure 4). It would be designed to handle a 10 foot vertical lake Mohave water level fluctuation. The launch would start at 2 vertical feet above high water with a slope of 8 to 10 percent. It would be 100 to 125 feet long and 6 to 8 feet wide. The launch would be constructed of pre-fabricated concrete slabs that would be colored to blend in with the landscape.

To obtain the needed slope, some “cut and fill” of the shoreline would be needed. The launch would be constructed at a slight angle to the shoreline to minimize excavation of the hillside adjacent to the shoreline. Up to 40 feet of compacted fill would be placed in Lake Mohave to provide a base for the concrete slabs. The fill would be screened road base material, obtained from a commercial source. Geotextile material would be placed on top of the fill to prevent sediment from entering the water. The concrete slabs would be slid onto this base. The side of the launch would be protected with riprap that blends into the surroundings, and a handrail would be installed on one or both sides of the launch.

To minimize the potential for sediments entering the water due to construction; construction activities would be timed to coincide with periods when lake levels are low as a result of normal reservoir operations. Also, construction of the kayak launch would take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

The ramp would be connected to the Lake Mohave spur trail by a short 6 foot wide trail. The precise location and design of the launch would be determined during the final site design, pending USACE permitting, and any potential cultural and biological resource concerns in the project area. Biological and cultural surveys have been completed for the project (DSG 2016; SRI 2016).

2.2.4 Signs

Wayfinding shelters with trail maps would be installed at the intersection of State Route 68 and McCormick Boulevard, and the two trailheads. Entry monuments would be constructed at the two trailheads, the service road entrance on the Desert Trail, the two Davis Camp access nodes, the parking area by the Laughlin/Bullhead City Bridge, and the entrance to Davis Camp.

A series of interpretive signs would be developed and installed at various locations, including but not limited to: the Lake Mohave Trailhead, the historic switchyard storage yard discussed in Section 3.3.4, the scenic overlook, the Davis Camp trailhead and the two Davis Camp access nodes. Potential themes of the interpretive signs include: history of Davis Dam, history of Bullhead City, Davis Camp, Native Americans, history of NPS at LMNRA, plants/wildlife, and geology.

Additional signs needed for safety, security, identification of the trail system (wayfinding), and prohibition of off-road vehicle travel would be installed as needed and appropriate.

2.2.5 Fencing

A fence, 3-4 feet high and approximately 800 feet long, would be installed on the west side of the trail adjacent to the edge of the hill and drainage ditch in the vicinity of Davis Camp to (Figures 6 and 7). The fence would be designed to assure safety and meet Arizona Department of Transportation (ADOT) requirements. Existing fences adjacent to Davis Camp at the access nodes and adjacent to the Colorado River Museum may be removed and replaced with aesthetically pleasing safety fence. There would be a minor change in the location of the fence near the Colorado River Museum to ensure safety in the vicinity of State Route 68.

A chain-link fence would be installed around the approximately 200 by 200 foot historic switchyard storage yard (Figure 5). The fence would be constructed with galvanized 6 to 9 gauge core mesh size and installed in accordance to all applicable American Standards for Testing and Materials (ASTM) standards.

Additional fencing would be installed along segments of trails to ensure safety and security. This fencing would be 3 to 6 feet high and designed to be appropriate for the setting and aesthetically pleasing.

2.2.6 Utilities

Solar or conventional lights would be placed along portions of the trails as needed for security and safety and at each trailhead.

Potable water would be available at the Davis Camp Trailhead and the two access nodes. The water for the Davis Camp Trailhead would be piped from Davis Camp. The proposed one quarter- mile to one half-mile long line would be constructed of 2 to 4 inch diameter, schedule 80 polyvinyl chloride (PVC) pipe buried in the existing Davis Camp entrance road ROW. Potable water would also be available at the two access nodes. This water would be delivered through 1 to 2 inch buried water lines connected to nearby (approximately 40 feet away) existing water

systems. The water lines would be constructed in accordance with an approved water line construction plan.

The restrooms at the Davis Dam trailhead would have vault toilets. The restrooms at Davis Camp trailhead would have vault or flush toilets. The flush toilets would be connected to Davis Camp by 6 to 8 inch diameter sewer lines.

2.2.7 Road closures and Gates

Since portions of the trail are within the Davis Dam Security zone, measures to ensure security would be installed as needed. At least three security gates would be installed along the trail (Figure 5) at the entry monument near Davis Dam Road, the historic switchyard storage yard, and at the scenic overlook. The gates would most likely be designed as schedule 40 galvanized steel pipe swing gates fabricated in compliance with all applicable ASTM standards. Other secondary maintenance roads may be closed or gated. The Davis Dam Security Zone would remain closed to non-administrative vehicle travel.

Two existing gate systems south of the Colorado River Museum would be replaced and improved and bollards incorporated into the system.

2.2.8 Seeding and Native Vegetation Planting

Permanently closed roads would be seeded or planted with native vegetation.

A few small salt cedar trees along the Lake Mohave Spur Trail would be removed and the area revegetated with native vegetation supplied from the NPS or another source. The trees would be cut down and sprayed with the herbicide Triclopyr. Retreatment of the trees with herbicide may be required.

Native vegetation would be seeded/planted at the trailheads, access nodes, Davis Camp entrances, within Davis Camp, and where needed to revegetate areas disturbed by construction.

2.2.9 Culverts and Crossings

Where the proposed trail crosses small to medium natural washes and arroyos, pipe and box culverts would be installed as part of construction. In the major wash of the floodplain, a prefabricated lightweight bridging structure with concrete abutments or a prefabricated concrete box culvert would be constructed/installed.

2.2.10 Operation and Maintenance

Operations, maintenance, and patrol of the trail would be shared by Bullhead City and Mohave County. The portion of the trail within Davis Camp would be maintained and patrolled by Mohave County. Specific responsibilities would be outlined in the agreement(s) between Reclamation, National Park Service, Bullhead City and Mohave County.

Maintenance would consist of sign maintenance and repair, trash collection, restroom cleaning, clearing gravel and weeds from the trail system, repair of trail surface and shoulders, repair and replacement of facilities at the two trailheads and the two access nodes, repair and maintenance

of trailhead and access node parking lots, and repair and maintenance of the fishing nodes, kayak launch, culverts, bridges, fences, security gates, lights and associated facilities, and water and sewer lines.

A Maintenance and Management Plan would be developed for the trail system and facilities (Phillips 2003). Volunteer and/or student groups may assist with trail cleanups and other maintenance activities as described in the plan.

2.2.11 Construction and Staging Areas

Construction is anticipated to begin in late 2018 or early 2019 and would take approximately 12 to18 months to complete. It would be accomplished with the equipment listed in Table 1. Two staging areas would be established at existing disturbed areas. Public access would be restricted within the staging areas for safety and security.

The width of the construction footprint would be approximately 28 feet wide. Some cut and fill of slopes would be needed on the Lake Mohave Spur Trail and Desert Trail north of Davis Camp trailhead to maintain an accessible grade. Other cut and fill needs may be determined as trail designs are refined.

2.3 Alternative 2 Trail

The Alternative 2 Trail would be approximately 2.7 miles long and occupy approximately 12 acres. This alternative is proposed because the trail's location on an existing road and its shorter overall distance compared to Alternative 1 is anticipated to reduce costs of construction. It would differ from Alternative 1 in that it would not include the portion of the Desert Trail that traverses the uplands between the service road entry monument and the large east-west trending wash. It would include the Mohave and Davis Camp Spur Trails. Also, the entire route would be hardened surface since it would be the primary route and would need to meet accessibility requirements. Since the trail would not include the upland route, it would provide a different recreational experience than Alternative 1.

The Desert Trail would start at the north side of Davis Dam and follow the same route as the Desert Trail before veering southeast to follow the route of the Adventure Trail to the Davis Camp Trailhead. At the Davis Camp Trailhead it would rejoin the Desert Trail route (Figure 3).

2.4 Design Features and Mitigation Measures

The following measures would be incorporated into the Action alternatives to reduce or eliminate impacts to resources:

Air Quality

A Grading Plan and Fugitive Dust Control Plan would be prepared for the project.

Visual Resources

As a treatment to reduce visual effects vertical elements such as light posts, interpretive displays, restrooms has been designed to have a relatively low profile. Colors for the structures and metal

work would be finished in National Park Service approved brown and tan colors that will blend in with the surrounding natural environment. The lighting to be installed at the trailheads will be low intensity light emitting diode (LED) lightning that conforms to Flagstaff, Arizona Lighting Code Outdoor Lighting Standards.

Soils

As feasible, segregation of the soil horizons would be conducted where soils would be disturbed. At a minimum, the initial 3 inches of the surface horizon would be separated and stockpiled from lower horizons and used in site restoration following construction.

Best Management Practices (BMP) would be implemented to control erosion and sedimentation.

Surface and groundwater quality and quantity

Prior to construction, a Clean Water Act Section 404 permit and Section 401 Water Quality Certification will be required from the USACE, and the Arizona Department Environmental Quality (ADEQ), respectively, for all work occurring in Waters of the U.S. The contractor would adhere to all conditions, including the ADEQ - Stormwater Construction General Permit (AZG2013) and Storm Water Pollution Prevention Plan (SWPPP) and any special conditions, of all permits during construction activities, and no construction activities would occur when flow is present in the ephemeral washes that cross the project area.

Potable water would be obtained from a public water system that is in compliance with all applicable Federal, State, and County laws and standards.

Biological Resources

To prevent the spread of noxious and invasive weeds, equipment used for this project shall be thoroughly cleaned prior to entering and leaving the project site. The cleaning process will ensure that all dirt and debris that may harbor noxious or invasive weeds seeds are removed and disposed of at an appropriate facility. Reclamation's Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species: 2012 Edition should be referenced for inspection and cleaning activities. The manual can be found at: **http://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2012.pdf**

Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (AGFD 2014) and Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat (AIDTT 2008) would be utilized and implemented as appropriate.

The following Conservation Measures from the U.S. Fish and Wildlife Service (USFWS) concurrence letter dated August 14, 2018 would be implemented (Appendix C):

- To minimize the potential for sediments entering the water due to construction; construction activities would be timed to coincide with periods when lake levels are low as a result of normal reservoir operations. Also, construction of the kayak launch would take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

- A few small salt cedar trees along the Lake Mohave Spur Trail would be removed and the area revegetated with native vegetation. Native vegetation would be seeded/planted at the trailheads, access nodes, Davis Camp entrances, within Davis Camp, and where needed to revegetate areas disturbed by construction.

- Areas with suitable migratory bird habitat would be surveyed by a qualified biologist prior to construction. If breeding activities are occurring within the area, work would stop until the young have fledged and left the nest. The migratory bird breeding season generally occurs between February 15 and September 1.

- Prior to ground disturbing activities areas of the project not infested with invasive species would be delineated and all equipment and vehicles would be cleaned prior to entering uninfested sites from known infested sites.

- Areas disturbed by construction would be replanted or reseeded as needed. All seed and plant species used for revegetation would be native and approved by Reclamation and the NPS.

- A biological monitor, approved by Reclamation, is required during all construction activities.

- Interpretative panels that include a description of bonytail chub and razorback sucker and how the public can help protect these species would be placed near the fishing nodes.

- Construction of the kayak launch would take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

- Construction would also take advantage of an annual drawdown of the lake in October, thereby minimizing activities occurring below shoreline.

- All concrete used in construction of the kayak launch would be pre-formed and fully cured prior to being placed in the water. Uncured concrete placed in water can raise water pH and be toxic to fish species.

- To reduce the likelihood of sedimentation entering the lake, a SWPPP prepared by an engineer licensed by the State of Arizona in accordance with ADEQ requirements and approved by Reclamation will be required. In addition, a sediment curtain would be used during construction of the kayak launch.

- A Reclamation biologist permitted by the USFWS for razorback sucker and bonytail chub monitoring would be present during installation and removal of the sediment curtain and installation of the geotextile.

- The Reclamation biologist would perform a clearance survey for the fish species prior to installation and removal of the curtain. No razorback sucker or bonytail chub would be handled as part of the proposed action.

Cultural Resources

In the event of an unanticipated discovery during construction, operations, and maintenance of the Heritage Trail System all activities in the area of the discovery shall cease, except those needed to protect and secure the site. A Reclamation archaeologist shall be immediately contacted. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume. A "Discovery" means the encounter of any previously unidentified or incorrectly identified cultural resource including, but not limited to, archaeological deposits, human remains, or places reported to be associated with Native American religious beliefs and practices.

Additional consultations under Section 106 of the National Historic Preservation Act (NHPA) with the State Historic Preservation Officer (SHPO), the Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe would be conducted as needed if modifications are made to the project design.

Noise

All Federal, State, county and city noise ordinances would be complied with during construction.

Accessibility

All facilities, unless otherwise noted in the description of the proposed action, shall be designed and constructed to ensure accessibility as required by law for individuals with disabilities in accordance with the Architectural Barriers Act of 1968 (82 Stat. 718), as amended (42 U.S.C. 4151 et seq.) and the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), including but not limited to Sections 504 and 508.

Trailheads and major points of entry would include information for the public about the trail grades, cross slopes, and surface material.

2.5 Alternatives Considered but Not Evaluated in Detail

A third trail route that paralleled Davis Dam Road and State Highway 68 was initially considered. The alternative was dismissed because the trail was too close to Davis Dam Road, and would be subject to frequent flooding and erosion due to its proposed location within an ephemeral drainage.

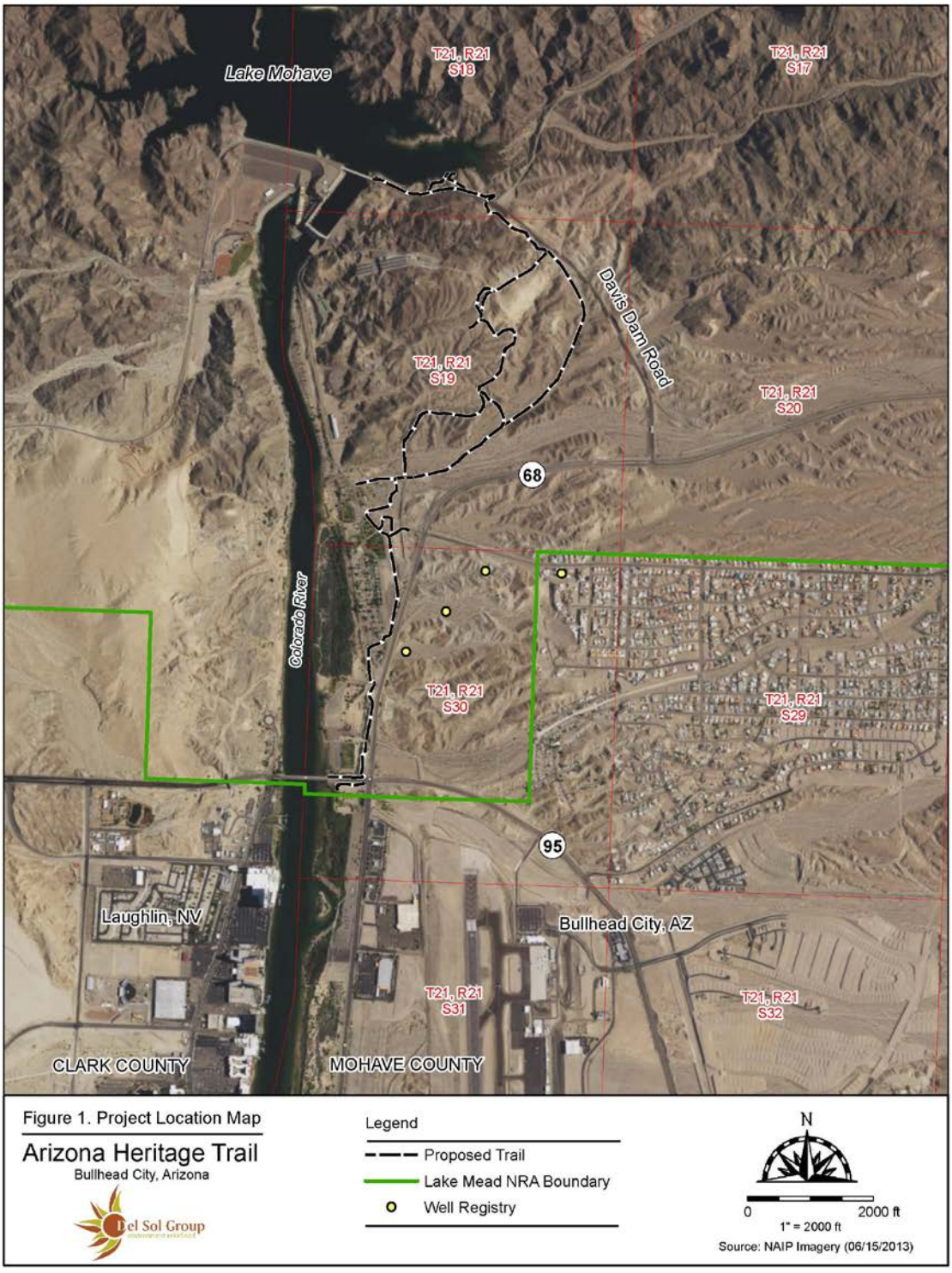

Figure 1- Project Location Map

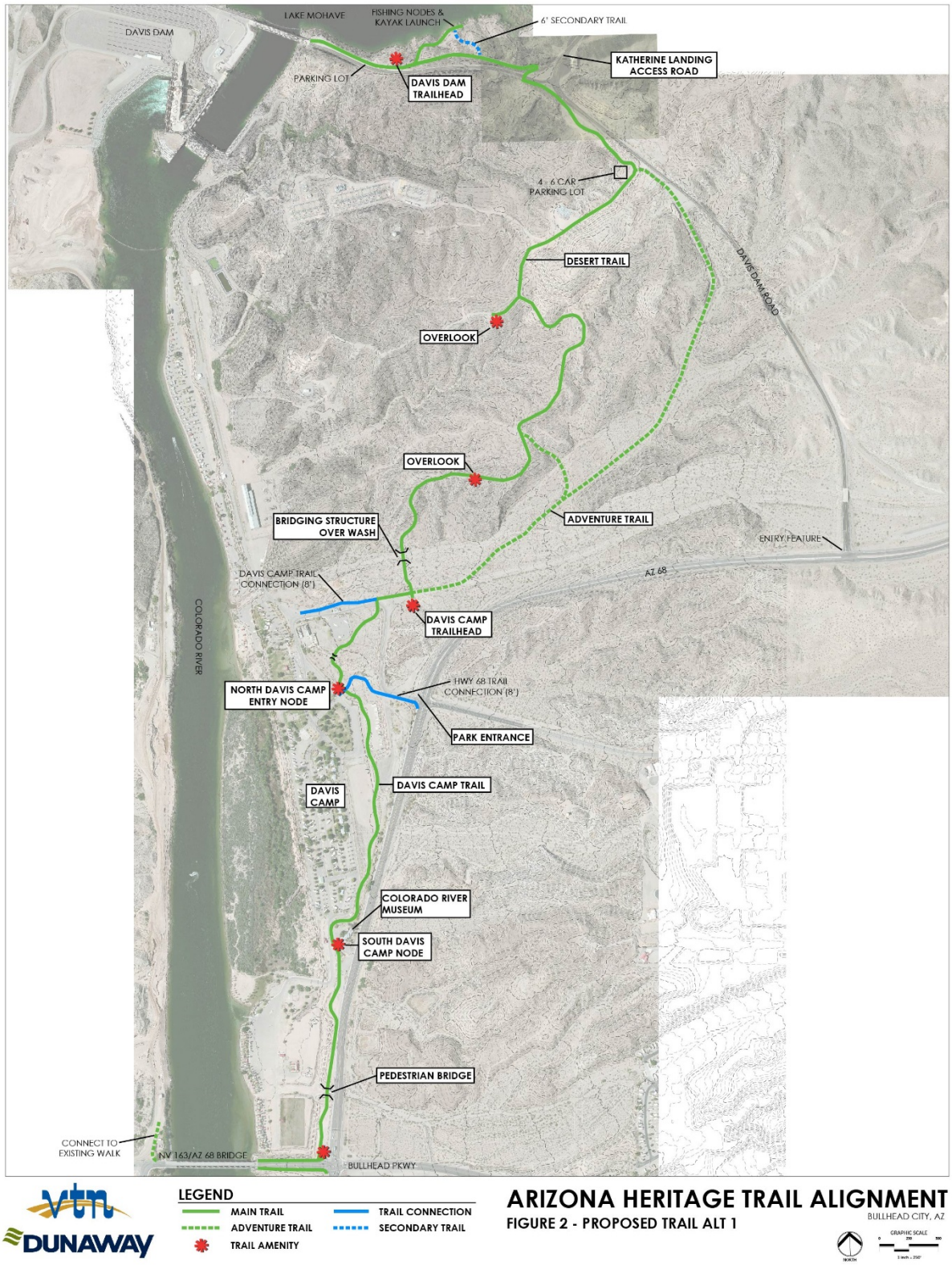

Figure 2- Proposed Trail Alternative 1

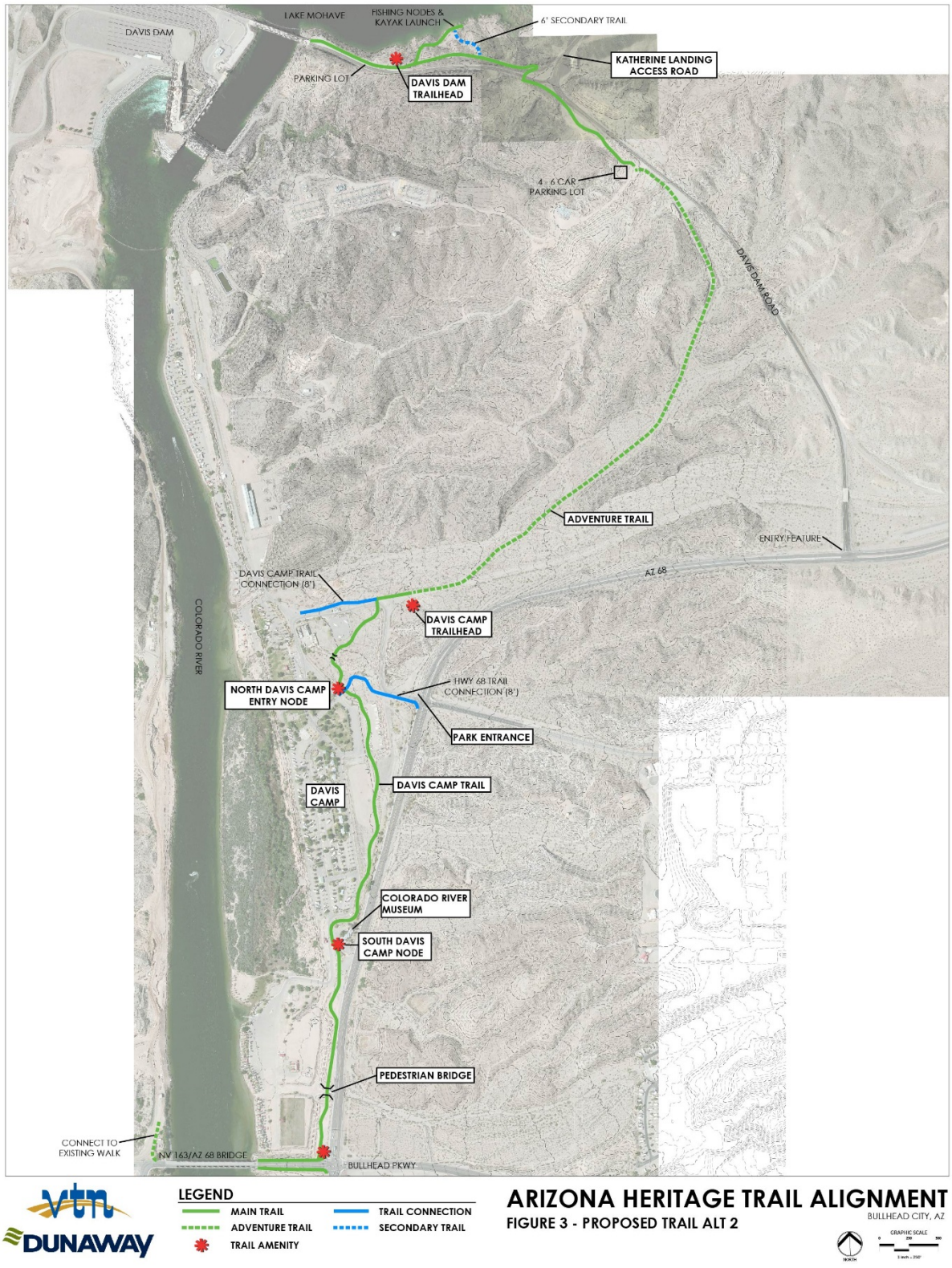

Figure 3- Proposed Trail Alternative 2

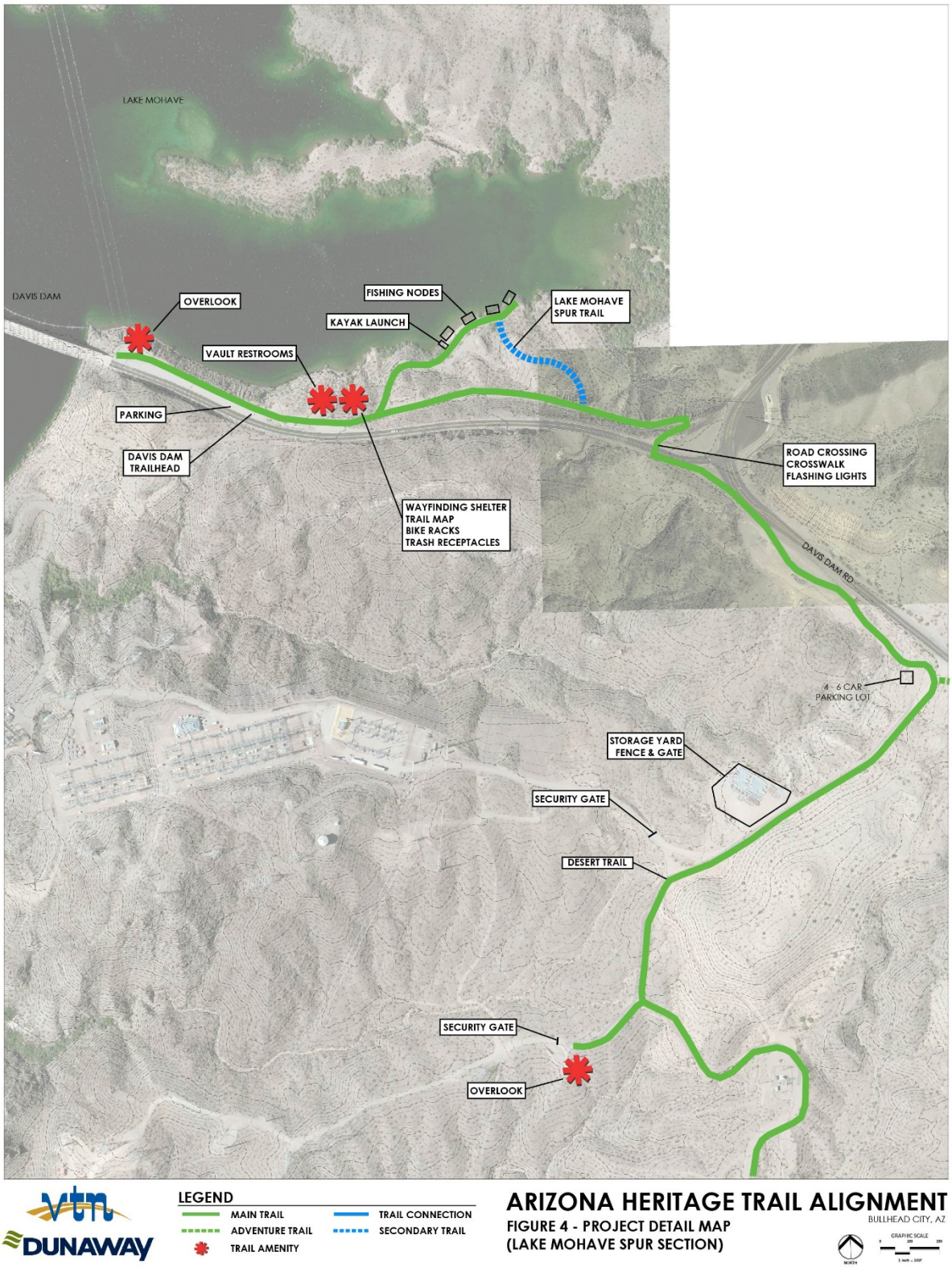

Figure 4- Mohave Spur Section

Figure 5- Davis Dam Road and Desert Trail Sections

Figure 6- Davis Camp Section

Figure 7- Laughlin/Bullhead City Bridge Section

3.0 Affected Environment and Environmental Consequences

This section includes information for each resource potentially affected by the Proposed Action and a discussion of environmental consequences of the No Action, Proposed Action (Alternative 1), and Alternative 2.

The analysis will include direct, indirect, and cumulative effects. The Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508) define direct effects as those which are caused by the action and occur at the same time and place and indirect effects as those which are caused by the action and occur later in time or farther removed in distance. Cumulative impacts are defined as impacts to the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes the action. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7).

The cumulative effects analysis will address the cumulative impacts of the Proposed Action in combination with other projects or management activities. Section 3.1 identifies past, present, and reasonably foreseeable activities that are either located in the vicinity of the proposed project or have been identified as having the potential for cumulative impacts when considered in addition to the impacts of the Proposed Action. These actions will be addressed as appropriate in Section 3.3.

The analysis area for all impacts is the proposed trail system and the immediate vicinity.

3.1 Past, Present, and Reasonably Foreseeable Future Projects

The following list includes past, present, and expected future management actions that may contribute to cumulative effects. This list is not a cumulative effects analysis. This list is used by resource specialists to determine what actions may create effects in addition to the direct or indirect effects from the Heritage Trail System project.

3.1.1 Past Projects

Past actions identified in the area of cumulative impact analysis include:

- A network of Davis Dam construction roads in the immediate project area.
- Construction, operation, and maintenance of the Colorado River Heritage Greenway Park and Trails, and
- Rebuild of a 26.6 mile portion of the existing Davis-Kingman Tap 69 kilovolt (kV) transmission line starting on the west side of Davis Dam Road southeast of the switchyard (DOE 2011).

3.1.2 Present Actions

Present actions include ongoing LMNRA operations and maintenance, and LMNRA visitation. In addition, the NPS recently completed a rehabilitation of the Katherine Landing access road (Boyles 2016).

3.1.3 Reasonably Foreseeable Future Projects

Present and future actions include:

- Davis Camp fee area use and planned trail system
- Davis Dam Road and State Route 68 road maintenance and repair
- Continued Bullhead City visitation and commercial development
- Widening of the Laughlin/Bullhead City Bridge by the Nevada Department of Transportation (NVDOT) and Arizona Department of Transportation (ADOT). The project would add an enhanced pedestrian lane to the bridge, and a roundabout on each side of the bridge. The construction of the project is planned for 2018 or 2019 (Steinberger 2016; Young 2016).
- Construction of the Laughlin Bullhead City Project Bridge (the Parkway Alternative) across the River approximately 12.2 miles downstream of the existing Laughlin/Bullhead City Bridge. The project would require constructing approximately 18,652 feet of roadway in Nevada, an approximately 1,286 foot long bridge, and approximately 3,186 feet of roadway in Arizona (FHWA 2010). Clark County, NV awarded the project design contract in May 2016 (Martin 2016b).
- Designation of Mohave Water Trail.

3.2 Resources Considered but not Discussed Further

The following resources were considered and are not addressed further in this EA either because there would be no impacts from the Proposed Action.

Land Use

The proposed trail would be constructed on Federal land managed by Reclamation, the NPS, and Mohave County. The construction, operation, maintenance, and patrol of the proposed trail would be consistent with existing plans and goals for the land, including the Reclamation and NPS recreation management objectives as summarized in Section 1.2, the 2015 Mohave County General Plan, and the Davis Camp Plan. The land use is consistent with the NPS purpose statement for LMNRA (NPS 1986 and 2002).

Wetlands

EO 11990, “Protection of Wetlands” states that it is federal policy to avoid to the extent possible the long and short-term adverse impacts associated with the destruction or modifications of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. One identified drainage, a large, unnamed ephemeral wash, crosses the project area east and northeast of Davis Camp. The drainage connects to the River just north of Davis Camp. A review of the National Wetland Inventory map (USFWS 2016) for the project area indicates that the drainage has associated Freshwater Forested/Shrub Wetlands associated

with it. However, bridging structures would be used to span the wash, and would be designed to prevent disturbance in the wash. A narrow band of sparse riparian habitat occurs along the shore of Lake Mohave adjacent to the proposed Lake Mohave Spur Trail. The habitat consists primarily of several small tamarisk, a fast-growing, prolific invasive species. The potential removal of the few tamarisk for trail facilities would have a net beneficial impact since any tamarisks removed would be replaced by native vegetation.

Indian Trust Assets (ITA)

ITAs are defined as "legal interests in property held in trust by the United States for Indian tribes or individuals" (Reclamation 1993). ITAs are those properties, interests, or assets of a Federally-recognized Indian tribe or individual Indian over which the Federal government also has an interest, either through administration or direct control. Examples of ITAs include lands, minerals, timber, hunting rights, fishing rights, water rights, in-stream flows, and other treaty rights. All Federal bureaus and agencies are responsible for protecting ITAs from adverse impacts resulting from their programs and activities. The Fort Mojave Indian Reservation is downstream from but not directly adjacent to the project area. There would be no impact to this ITA as it is not located in the project area or affected by the project.

3.3 Resources Discussed Further

The following resources are discussed further in this EA:

- Air Quality
- Visual Resources
- Biological Resources
- Cultural Resources/Traditional Cultural Properties/Sacred Sites
- Floodplains
- Hydrology and Water Quality
- Soil
- Socioeconomics and Environmental Justice
- Recreation

3.3.1 Air Quality

3.3.1.1 Affected Environment

The Environmental Protection Agency (EPA) establishes National Ambient Air Quality Standards (NAAQS) for the following common air pollutants, known as criteria air pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulates less than less than 2.5 microns and less than 10 microns ($PM_{2.5}$, PM_{10}), and lead (Pb). They have developed primary and secondary NAAQS for these air pollutants to protect human health and prevent environmental and property damage. Arizona uses the NAAQS and does not have state-specific ambient air quality standards.

Areas of the country that are currently in violation of NAAQS are classified as non-attainment areas; new sources to be located in or near these areas are typically subject to more stringent air permitting requirements than similar sources in attainment areas.

Mojave County is in attainment for the NAAQS $PM_{2.5}$, SO_2, NO_2, Pb, CO, and O_3. The proposed project is adjacent to but not included in the Bullhead City Particulate Matter (PM_{10}) Maintenance Area, which encompasses the greater Bullhead City area in Arizona (upper Colorado River Planning Area/Lake Mohave Basin airshed) (ADEQ 2012a). A maintenance area is a former nonattainment area that has been redesignated to attainment after several years of monitoring data indicates the area is meeting the NAAQS (ADEQ 2012a). The area has a maintenance plan demonstrating that the area will continue to meet the NAAQS for PM_{10} (ADEQ 2012a). PM_{10} concentrations monitored by ADEQ in Bullhead City are below the NAAQS (ADEQ 2016).

There are no significant permitted sources of air pollution in Bullhead City, and the area generally experiences a healthy air climate; however, fugitive dust from cleared land areas and travel on unpaved roads has contributed to air quality issues in the past (ADEQ, 2012).

3.3.1.2 Environmental Consequences

No Action Alternative

Air quality in the project area is currently affected by fugitive dust generated by off-road traffic traveling on unpaved roads and cross-country though all portions of the project area. These impacts are expected to continue to be localized, long-term, and minor.

Alternative 1 (Proposed Action) and Alternative 2

The use of vehicles for travel and heavy fuel based equipment for transport and construction (Table 1) would generate criteria air pollutants; primarily CO, nitrogen oxides, and particulate matter. During construction, there would be a short-term, minor impact to air quality from construction-related activities, primarily associated with fugitive dust emissions.

To determine whether the criteria air pollutant emissions for the project would exceed NAAQS, recent construction projects with similar duration and equipment and fuel type were reviewed. The criteria air pollutant emissions from these projects were found to be minimal and below any standards which they were compared against (Reclamation, 2015b and 2015c). Based on this review, the project would not have major negative air quality impacts.

A site specific Grading Plan and Fugitive Dust Control Plan would be prepared for the project (Agrawal 2016). The plan would outline the specific steps that would be taken to minimize fugitive dust generation such as watering down construction areas to minimize fugitive dust emissions. Potential short term impacts from project construction are not expected to cause exceedances of the PM_{10} concentrations within the Bullhead City Particulate Matter (PM_{10}) Maintenance Area.

Cumulative Impacts

There may be minor, localized, short-term cumulative impacts to air quality if construction of the project overlaps with widening of the existing Laughlin/Bullhead City Bridge or construction of the new Laughlin to Bullhead City Bridge. Cumulative impacts would be minor because all projects would provide only temporary, minimal air quality impacts. All projects would include measures to control particulate and other emissions. Closure/revegetation of some of the

maintenance roads would have a beneficial cumulative impact, as airborne dust from use of these roads would be reduced.

Table 1: Estimated Equipment List and Fuel Use

Equipment Type*	Number Used	Hours in Operation**	Total Hours	Fuel Type	Gal/Hour	Total Gallons
Caterpillar bulldozer (D-6, D-8)	2	1440	2880	Diesel	7.47	21,513.6
Caterpillar scraper (621, 623)	4	1440	5760	Diesel	5.76	33,177.6
Caterpillar grader	1	1440	1440	Diesel	6.65	9,576.0
Caterpillar excavator (330)	2	1440	2880	Diesel	6.65	19,152.0
Backhoe loader	2	1440	2880	Diesel	2.08	5,990.4
Dump truck (10 wheel)	2	1440	2880	Diesel	5.34	15,379.2
Crane (30 ton)	1	600	600	Diesel	4	2,400.0
Water truck (30k)	1	720	720	Diesel	9.98	7,185.6
Sheepsfoot compactor	1	720	720	Diesel	10	7,200.0
Vibratory roller	2	720	1440	Diesel	3.75	5,400.0
Asphalt paving machine	1	400	400	Diesel	5.34	2,136.0
Concrete delivery trucks	50	3	150	Diesel	9.98	1,497.0
Asphalt / aggregate delivery trucks	75	3	225	Diesel	5.34	1,201.5
4x4 pickup trucks	4	1440	5760	Gas	1.8	10,368.0
Total			28,735			142,176.9

Notes: * Source: Herrick 2016.
** Hours based on a nine month construction phase.

3.3.2 Visual Resources

3.3.2.1 Affected Environment

The proposed project would occur within a typical basin and range landscape (Figure 1), which consists of a broad open valley surrounded by three mountain ranges that extend in a north-south direction: Newberry Mountains (west), Black Mountains (east), and Dead Mountains (northwest). The other defining feature is the River. The River bisects the valley floor forming a natural boundary between Nevada and Arizona and the communities of Laughlin and Bullhead City.

The visual landscape is scenic but also highly modified. The Lake Mohave Spur Section of the trail would be located at the top of Davis Dam and along the rocky shoreline of Lake Mohave. The Davis Dam Road and Desert Trail sections of the trail (Figure 5) would cross a rocky, undulating landscape with views of low mountains; washes; the River; and a network of primitive roads, powerlines, and Davis Dam Switchyard. The Davis Camp Section of the trail would be located within a landscape that has been developed with Davis Camp recreation facilities and parking lot and State Route 68, with views of Laughlin and Bullhead City. The

visual resources study area for the proposed project was defined as the area wherein effects from construction and operation of the proposed Heritage Trail System may be observed by the public. As part of the evaluation, three Key Observation Points (KOPs) were established. The KOPs are points from which visual evaluations are performed and represent meaningful viewing locations (Figure 2 and 3).

3.3.2.2 Environmental Consequences

No Action Alternative

Under the No-Action Alternative, no change to the existing visual resources would occur due to the proposed project.

Alternative 1 (Proposed Action)

The three KOPs selected, as described in the Affected Environment section, represent viewpoints most often observed by the public.

KOP 1: This KOP is located near the intersection of Davis Dam Road and the Katherine Landing access road (Appendix B, Photograph 1). Viewers at this location would have brief views of the proposed trail road crossing and trail as the trail parallels the west side of Davis Dam Road, and the entry monument at the trail/service road intersection. Viewers would also see Lake Mohave and the Newberry Mountains in the background.

KOP 2: This KOP is located at the proposed Davis Camp trailhead (Appendix B, Photograph 2). Viewers at this location would have views of the proposed trail as it enters Davis Camp, native landscape improvements, and the Davis Camp trailhead and facilities. Viewers would also see the Laughlin skyline and Davis Camp overflow parking lot.

KOP 3: This KOP is located on the proposed trail route as the trail parallels State Route 68 approximately 0.2 miles north of the Laughlin/Bullhead City Bridge (Appendix B, Photograph 3). Viewers at this location would have views of the highway, trail and facilities, and native landscape improvements. Viewers would also see the Laughlin skyline, the southern end of Davis Camp, the River, and the Laughlin/Bullhead City Bridge.

There would be a localized, short-term visual impact from equipment and ground disturbance during construction. When completed, the trails and associated facilities are expected to have a positive impact on the visual character of the project area. Design measures have been included in the project to minimize visual impacts (Section 2.4). Trail surfaces and other facilities would be designed to blend into the surrounding environment. All facilities would be low profile and not prominent in the landscape. The low intensity lighting would reduce light spillage and pollution. The incorporation of natural vegetation would have a beneficial impact at the trailheads and other locations.

Alternative 2

Impacts to visual resources for Alternative 2 would be similar to those described for Alternative 1, except that the portion of the trail that traverses the uplands between the service road entry monument and Davis Camp Trailhead would not be visible.

Cumulative Impacts

Localized, short-term visual impacts from construction equipment may be increased if construction of the Heritage Trail System coincides with widening of the Laughlin-Bullhead City Bridge or maintenance projects on Davis Dam Road or State Route 68. In the long term, no negative cumulative visual impacts are expected from the Trail System. The Trail System would be compatible with the visual landscape; using existing primitive roads and existing developed areas in Davis Camp and along State Route 68. It would be designed to blend in with the natural landscape and would not detract from the views of the mountains and the River. Closure/revegetation of some of the maintenance roads would have a beneficial cumulative impact, as the rehabilitated roads would better blend into the landscape.

Beneficial cumulative visual impacts are anticipated to the Davis Camp fee area use and the planned trail system for Davis Camp. The Desert Trail and associated native vegetation and other facilities are expected to add to the visual appeal of Davis Camp.

3.3.3 Biological Resources

3.3.3.1 Affected Environment

Vegetation

The project lies within the in the Mohave Desert Scrub Ecosystem (Brown 1994). Scrublands include Mohave mixed scrub and creosote bush/bursage plant communities; a minor catclaw community is interspersed within the two larger communities (Brown 1994).

Vegetation in the project limits is dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Shrubs include brittle bush (*Encelia farinosa*), snakeweed (*Gutierrezia sarothrae*), cheeseweed (*Hymenoclea salsola*), ratany (*Krameria* sp.), rush milkweed (*Asclepsis subulata*), and sweetbush (*Bebbia juncia*). The only tree species noted in the project area is catclaw acacia (*Acacia greggii*). Annual wildflowers and herbs include the little desert trumpet (*Eriogonum trichopes*), desert globemallow (*Sphaeralcea ambigua*), desert lupine (*Lupinus s*p.), and Indian paint brush (*Castilleja sp.)*. The predominant grasses in the project area include desert threeawn (*Aristida purpurea*), desert fluff grass (*Dasyochlea pulchella*) and the invasive Red Brome grass (*Bromus rubens*). Cacti species include beavertail cactus (*Opuntia basilaris*), pencil cholla (*Cylindropuntia ramosissima*), and buckhorn cholla (*Cylindropuntia acanthocarpa*).

Invasive Species

Three invasive species were observed during the 2016 biological survey. Salt cedar (*Tamarix spp.),* Sahara mustard (*Brassica tournefortii*), and red brome grass (*Bromus rubens*). One to ten small salt cedar trees exist along the proposed Lake Mohave Sur Trail. Sahara mustard was commonly observed in washes and drainages throughout the project area. Red brome was observed in disturbed areas and along roadways in the project area.

Threatened and Endangered Species

Impacts to southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*) were considered and Reclamation has determined there would be no effect to either species. This determination is based on the utilization of a timing restriction

/survey requirement for all vegetation clearing occurring between February15 and September 1 (see migratory birds information). These species will not be analyzed further.

Two federally endangered fishes, razorback sucker (*Xyrauchen texans*) and bonytail chub (*Gila elegans*) are known to occur in the project Area. Designated critical habitat for both species occurs in Stop Sign Cove, the cove where the kayak launch would be located, (Figure 4) and follows the shoreline of Lake Mohave. The proposed fishing nodes and kayak launch would be constructed along the Lake Mohave shoreline off of the proposed Lake Mohave Spur Trail (Figure 4). Only the kayak launch would be located in Lake Mohave.

Surveys conducted by Reclamation utilizing submersible scanners in May and June of 2017 detected four unique (individual) razorback suckers in Stop Sign Cove. No bonytail chub were detected.

The substrate in Stop Sign Cove is mostly dominated by aquatic vegetation and silt, neither of which are primarily selected by razorback sucker or bonytail chub as spawning habitat. Gravel beds and small cobble substrate are often the spawning habitat selected by these species.

There is an existing old road cut originally used during construction of Davis Dam that provides foot access to the proposed location of the fishing nodes and kayak launch. Recreation activities at the proposed location include: fishing, swimming and sightseeing. The old road cut is currently experiencing erosion issues allowing sediment to enter Lake Mohave.

Wildlife- Sonoran Desert Tortoise (*Gopherus morafkai*)

The Sonoran desert tortoise was previously a candidate for federal listing under the Endangered Species Act (ESA), this status was removed October 5, 2015 (USFWS 2015). Sonoran desert tortoises are not afforded formal protection under the ESA; however, they are still protected under State law. The species is identified as a "Species of Greatest Conservation Need" by the Arizona Game and Fish Department (AGFD). Habitat for tortoises consists of primarily rocky (often steep) hillsides and bajadas of Mohave and Sonoran desert scrub, but they may encroach into desert grasslands, juniper woodlands, interior chaparral habitats, and even pine communities at elevations below 7,800 feet. Washes and valley bottoms may be used in dispersal. The Sonoran population is found within Sonoran and Mohave Desert scrub, including a variety of biotic communities within or extending from the Sonoran Desert but most often in paloverde-mixed cacti associations (AGFD 2015).

Suitable Sonoran desert tortoise habitat is present in the project area and tortoises have been detected within two miles of the project area (Ritter 2016). While no tortoises or signs of tortoises were detected during a March 14, 2016 biological survey, tortoises are a cryptic species and might be present anywhere in the desert uplands and along wash corridors.

Migratory Birds

Migratory birds are protected under the federal Migratory Bird Treaty Act of 1916 (MBTA), as amended, which prohibits injury or death to migratory birds and their active nests, eggs, and young.

Several MBTA species were observed during a March 14, 2016 biological survey: black-throated sparrow (*Amphispiza bilineata*); Brewer's blackbirds (*Euphagus cyanocephalus*); mourning dove (*Zenaida macroura*); red-tailed hawk (*Buteo jamaicensis*); song sparrows (*Melospiza melodia*), turkey vulture (*Cathartes aura*) and verdin (*Auriparus flaviceps*).

3.3.3.2 Environmental Consequences

No Action Alternative

Invasive species would remain at current levels and continue to spread at current rates. There would be no impacts to vegetation, threatened and endangered species, Sonoran Desert tortoise or migratory birds. The erosion control that would occur as part of the proposed action would not be realized and sediment would continue to enter Lake Mohave.

Alternative 1 (Proposed Action)

Vegetation

No Federally listed plant species occur in the project area. Since approximately 90 percent of the Proposed Action corridor has been disturbed by historic dirt roads, impacts to the vegetation would be minimal. Most of the species listed above exist along the outside edges of the project ROW. Common vegetation may be impacted by construction activities. The final design of the project would, to the extent practicable, avoid native cacti species or salvage them for use in the project area.

Invasive Species

One to ten small salt cedar trees along the Lake Mohave Spur Trail would be removed and the area revegetated with native vegetation supplied from the NPS or another source. The trees would be cut down and sprayed with the herbicide Triclopyr. Retreatment of the trees with herbicide may be required. The timing of treatment would avoid any impacts to migratory birds. The treatment would be a targeted application of herbicide and therefore would not affect other resources.

To the extent practicable red brome and Sahara mustard would be avoided to prevent dispersal during construction. Sahara mustard infestation levels should remain at current levels in the project area. Red brome was observed along roads and disturbed areas. Red brome infestation levels may increase in newly disturbed areas.

Prior to ground disturbing activities areas of the project not infested with invasive species would be delineated and all equipment and vehicles would be cleaned prior to entering uninfested sites from known infested sites.

To prevent the spread of noxious and invasive weeds, equipment used for this project shall be thoroughly cleaned prior to entering and leaving the project site. The cleaning process will ensure that all dirt and debris that may harbor noxious or invasive weeds seeds are removed and disposed of at an appropriate facility. It is anticipated that no new invasive plant species would be introduced to the project area.

Threatened and Endangered Species

Construction and maintenance of the fishing nodes and kayak launch along the shore of Lake Mojave have the potential to affect both fish species. The kayak launch would start at 2 vertical

feet above high water with a slope of 8 to 10 percent. It would be 100 to 125 feet long and 6 to 8 feet wide.

To obtain the needed slope for the kayak launch, some "cut and fill" of the shoreline would be needed. The launch would be constructed at a slight angle to the shoreline to minimize excavation of the hillside adjacent to the shoreline. Up to 40 feet of compacted fill would be placed in Lake Mohave to provide a base for the concrete slabs. The fill would be screened road base material, obtained from a commercial source. A geotextile material would be placed on top of the fill to prevent sediment from entering the water.

A site visit was conducted on November 28, 2017 with the USFWS to discuss design features that could be implemented for the project that would avoid the likelihood of adverse effects to razorback sucker and bonytail chub and their respective designated critical habitats.

Effects from Sedimentation

Construction of the fishing nodes and kayak launch have the potential to cause sedimentation into Lake Mohave. Sedimentation can have adverse effects to fish species. Sedimentation of spawning and rearing habitat can suffocate eggs and larvae. It can cause mechanical gill damage to juvenile and adult fish. To avoid and minimize these potential effects the following design features would be implemented:

Construction of the kayak launch would occur outside of the spawning season for both species therefore, avoiding the potential for suffocation of eggs and larvae. The spawning season is January to July.

A SWPPP approved by the ADEQ would be required. The plan would include sedimentation controls, therefore, avoiding and minimizing potential sedimentation from the upland construction activities entering Lake Mohave.

A sediment curtain would be utilized during construction of the kayak launch. The sediment curtain will keep any sediment generated localized and confined to the kayak launch construction area. A Reclamation biologist permitted by the USFWS for razorback sucker and bonytail chub monitoring would be present during installation and removal of the sediment curtain. The Reclamation biologist would perform a clearance survey for the fish species prior to installation and removal of the curtain. If endangered fish are observed all work would cease until the fish has left the area by its own volition. No razorback sucker or bonytail chub would be handled as part of the proposed action. The curtain would avoid and minimize any impacts to juvenile and adult fish from sedimentation by excluding them from the construction area. Exclusion of both species from the construction site would also avoid and minimize the possibility of injuring them by crushing during installation of the kayak launch.

A geotextile material would be placed on top of the compacted fill prior to removal of the sediment curtain to prevent sediment from entering the water.

Effects from Uncured Concrete

The kayak launch would be made of concrete. Lime is a major component of concrete. It dissolves in fresh water and can raise the pH of the water to toxic levels to fish. Once concrete is

cured the lime no longer dissolves to toxic levels. To avoid and minimize the potential toxic adverse effect to both species a pre-fabricated fully cured concrete kayak launch would be used.

Effects to Critical Habitat

Water quality

There may be short term minor water quality (sedimentation) impacts from the construction of the project. Design features to avoid and minimize the potential effects from sedimentation and turbidity are analyzed in the "effects from sedimentation" section above. A SWPPP will avoid and minimize the potential for contaminants to enter the lake and affect water quality. The kayak launch would be made of pre-fabricated, fully cured concrete to avoid and minimize changes in water quality ("effects from uncured concrete" section).

Physical habitat

The kayak launch would be placed in designated critical habitat for razorback sucker and bonytail chub. The kayak launch would occupy less than .02 acres when completed. The kayak launch would be sited in an area that is mostly dominated by aquatic vegetation and silt, neither of which are primarily selected by razorback sucker or bonytail chub as spawning habitat. Stop Sign Cove is not a known spawning area for either species.

Due to the small scale, short duration (months), and implementation of design features it is not anticipated that the project would not alter the physical and biological features essential to the conservation of razorback sucker or bonytail chub.

Effects of Long Term Maintenance

Maintenance activities are anticipated to be minimal for the kayak launch and fishing nodes. Activities would include trash collection, sweeping up debris for disposal, painting/graffiti removal and maintenance of informational and interpretive panels. If construction like activities are needed, all appropriate design features for the original construction would be implemented to avoid and minimize potential adverse effects. Routine maintenance activities would have no effect to either fish species.

Beneficial Effects

Beneficial effects to both species are anticipated from the project. The existing road cut originally used during construction of Davis Dam would be rehabilitated by construction of the Lake Mohave Spur Trail, kayak launch, and fishing nodes. Engineering controls, such as a retaining wall, are anticipated to reduce current sedimentation rates into Lake Mohave from the existing road cut.

Development of the Lake Mohave Spur Trail, kayak launch, and fishing nodes is an opportunity to educate the public about endangered species. Interpretative panels that include a description of razorback sucker and bonytail chub and how the public can help protect these species would be placed near the fishing nodes.

Reclamation has determined that the project "may affect, is not likely to adversely affect"

bonytail chub, razorback sucker, and their respective designated critical habitats. This determination was reached by analyzing the incorporation of the following design features / conservation measures to avoid and minimize the likelihood of adverse effects to bonytail chub, razorback sucker, and their respective designated critical habitats:

- Construction of the kayak launch would avoid the spawning season (January to July).
- A sediment curtain would be utilized during construction of the kayak launch; minimizing the potential effects from sedimentation to razorback sucker and bonytail chub
- A geotextile material would be placed on top of any fill to prevent sediment from entering the water.
- A Reclamation biologist would perform a clearance survey for the fish species prior to installation and removal of the sediment curtain. If endangered fish are observed all work would cease until fish have left the area by their own volition.
- To avoid and minimize the potential toxic adverse effect to both species a pre-fabricated fully cured, concrete kayak launch would be used.
- Interpretative panels that include a description of razorback sucker and bonytail chub and how the public can help protect these species would be placed near the fishing nodes.

The kayak launch would occupy less than .02 acres when completed.

The kayak launch would be sited in an area that is mostly dominated by aquatic vegetation and silt, neither of which are primarily selected by razorback sucker or bonytail chub as spawning habitat.

The kayak launch would not alter the physical and biological features essential to the conservation of razorback sucker or bonytail chub.

Wildlife- Sonoran Desert Tortoise

No Sonoran desert tortoise mortalities are anticipated under Alternatives 1 and 2. There is a possibility that some Sonoran desert tortoises may be moved out of harm's way during construction of the project. Reclamation is a signatory to the Candidate Conservation Agreement for the Sonoran Desert Tortoise in Arizona and is committed to the conservation of the species.

Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (AGFD 2014) and *Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat* (AIDTT 2008) would be utilized and implemented as appropriate.

Migratory Birds

No impacts to migratory birds are expected because areas with suitable migratory bird habitat shall be surveyed by a qualified biologist prior to construction. If breeding activities are

occurring within the area, work shall stop until the young have fledged and left the nest. The migratory bird breeding season generally occurs between February15 and September 1.

Alternative 2

The risk of the spread of invasive species under Alternative 2 would be slightly lower than Alternative 1 as the trail system would occupy fewer acres. Aside from this difference impacts to biological resources for Alternative 2 would be the same as those described for Alternative 1.

Cumulative Impacts

Cumulative impacts for all biological resources would be undetectable at the scale of the Proposed Action or Alternative 2.

3.3.4 Cultural Resources/Traditional Cultural Properties/Sacred Sites

The NHPA Section 106 (36 CFR §800) requires that Federal agencies consider and evaluate the effect that Federal projects may have on historic properties under their jurisdiction. A Traditional Cultural Property (TCP) is a property or place that is eligible for the National Register of Historic Places (NRHP) because of its association with the cultural practices or beliefs of a living community that are: 1) rooted in that communities history and 2) important in maintaining the continuing cultural identity of the community.

EO #13007 "Indian Sacred Sites" requires that Federal agencies with legal or administrative responsibility for management of Federal lands, "to the extent practicable permitted by law, and not clearly inconsistent with essential agency functions, to: (1) accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners; and (2) avoid adversely affecting the physical integrity of such sacred sites".

3.3.4.1 Affected Environment

In 2016, a file and records search (Class I survey) was conducted for the project area by Statistical Research Incorporated (SRI). The Class I survey resulted in the identification of 23 previously recorded archaeological sites within a one mile of the project area. Of these, one archaeological site known as Inscription Rock (AZ F:14:12 (ASM)) and Davis Dam, a built environment resource, are located in the project area of potential effect (APE). Inscription Rock is NRHP eligible under Criterion D. Davis Dam is NRHP eligible under Criterion A for its association with its role in the growth and development of the Southwest, and its association with the 1944 *Treaty between the United States of America and Mexico-Utilization of Waters of the Colorado and Rio Grande*.

In March 2016, SRI conducted a Class III pedestrian survey of the APE. During the survey SRI re-documented two previously recorded rock rings associated with Inscription Rock, one new historic site (a wooden platform) (AZ F:14:393 (ASM)), and one new historic isolate consisting of a single piece of lumber similar attached to a metal cable that may have been used as a hoist.

SRI found that the previous description of the location of the two rock rings associated with Inscription Rock was incorrect. They corrected the locational information during this survey.

The historic platform appears to have been used to stage power poles. Reclamation and the SHPO concurred that it is not NRHP eligible. In accordance with the Arizona State Museum guidelines (1993), as a historic isolate, the hoist does not meet the minimum requirement for eligibility to the NRHP.

3.3.4.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no effect to cultural resources.

Alternative 1 (Proposed Action) and Alternative 2

Cultural Resources

Reclamation has consulted with the SHPO, Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe under Section 106 of the NHPA on the eligibility of cultural resources in the APE and the potential effect of the undertaking. This consultation process is discussed in Section 4.2.

The potential effect to historic properties from the Proposed Action and Alternative 2 are identical. Inscription Rock and Davis Dam are NRHP eligible properties. In addition, the Tribes place high cultural value on Inscription Rock. Reclamation determined that the platform is not NRHP eligible. As an isolate the wooden hoist isolate is categorically not NRHP eligible.

Potential effects to cultural resources in and adjacent to the APE are summarized in Table 2 below.

Table 2: Cultural Sites Recorded in the Project Area

Site No.	Cultural Affiliation	Site Type	NRHP Eligibility	Potential Effect
AZ F:14:12 (ASM) (Inscription Rock)	Native American	Petroglyphs/rock rings/bedrock mortar cupules/sherds	Eligible, Criterion D	No Adverse Effect
Davis Dam	Euroamerican (early- to mid-twentieth century	Dam	Eligible, Criterion A	No Adverse Effect
AZ F:14:393 (ASM)	Euroamerican (early- to mid-twentieth century	Historic wooden platform	Not Eligible	No Effect
Isolated Occurrence	Euroamerican (early- to mid-twentieth century	Historic wooden hoist	Not eligible	No Effect

The SHPO concurred with Reclamation's finding of no adverse effect to Inscription Rock and Davis Dam. Federal agencies manage non-NRHP eligible cultural resources to their discretion.

In this case Reclamation is planning to fence the historic platform and hoist for public safety and plans install historic interpretive signs as part of the Heritage Trail System project.

Reclamation has made a good faith and reasonable effort to identify historic properties in the APE. In the event of an unanticipated discovery during construction, operations, and maintenance of the Heritage Trail System all activities in the area of the discovery shall cease, except those needed to protect and secure the site. A Reclamation archaeologist shall be immediately contacted. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume. A "Discovery" means the encounter of any previously unidentified or incorrectly identified cultural resource including, but not limited to, archaeological deposits, human remains, or places reported to be associated with Native American religious beliefs and practices.

Additional consultations under Section 106 of the NHPA with the SHPO, the Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe would be conducted as needed if modifications are made to the project design.

Indirect Visual Effects to Historic Properties

Reclamation has assessed indirect visual effects to historic properties in the APE. As a treatment to reduce indirect visual effects to Inscription Rock and Davis Dam vertical elements such as light posts, interpretive displays, and restrooms would be designed to have a relatively low profile. Colors for the structures and metal work would be finished in NPS approved brown and tan colors that will blend in with the surrounding natural environment. The lighting to be installed at the trailheads would be low intensity LED lightning that conforms to Flagstaff, Arizona Lighting Code Outdoor Lighting Standards. This would reduce light spillage and pollution. Reclamation finds that with these treatments the undertaking would not have an adverse indirect visual effect to Davis Dam, and Inscription Rock.

Cumulative Impacts

The Proposed Action and Alternative 2 would not have an adverse cumulative impact on Inscription Rock and Davis Dam.

3.3.5 Floodplains

Protecting the functions of floodplains is addressed by EO 11988, Floodplain Management. A *Floodplain Statement of Findings* (VTN 2017, Appendix A) was prepared for the proposed Heritage Trail System to present the rationale for the location of development of the proposed trail in the floodplains, and to describe the level of risk associated with the Heritage Trail System and describe associated mitigation actions.

3.3.5.1 Affected Environment

Designated floodplains were identified in the project area through the Federal Emergency Management Agency (FEMA) Floodplain Insurance Rate Map panel numbers 04015C4460G and 04015C4466G (effective 11/18/2009), and 3200C4005E (effective 02/27/2002). The project area contains a Zone AE Floodplain along the River as well as a large, ephemeral wash that

drains into the River north of Davis Camp. Zone AE specifies there is a 1% annual chance of flood hazard (FEMA 2016). Floodplains are shown on Figure 8.

Features of the Heritage Trail System which would occur within the probable maximum floodplain are portions of the trail, culverts, and bridge abutments. Portions of the proposed hardened surface trails within the floodplain would have the outer edges thickened to a minimum of 12 inches to reduce potential effects of erosion. Where the proposed trail crosses small to medium natural washes and arroyos, pipe and box culverts would be installed as part of construction. In the major wash of the floodplain, a prefabricated lightweight steel truss bridge with concrete abutments would be constructed. The steel truss bridge would have a free span of 70 feet. The specific sizes and locations of the proposed culverts and bridge would be determined as part of the final design in accordance with City of Bullhead City and Mohave County design standards and USACE permitting terms and conditions.

3.3.5.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts to floodplains

Alternative 1 (Proposed Action) and Alternative 2

The alternatives would minimize potential hazards to human life and property within the probable maximum floodplains through a combination of structural and nonstructural measures. Steel Truss pedestrian bridges, reinforced concrete box culverts and drainage pipes would be constructed to convey 100 year flows below the proposed trail alignments. Additionally, the developed parking areas and restroom structures at Davis Camp and Davis Dam would be located outside and above the 100 year floodplain and would be designed in accordance with EO 11988.

There would be no impacts to natural floodplain values. The developments within the floodplain would be minimal. The area has been evaluated for potential impacts to natural resources such as cultural and biological resources and no adverse impacts from crossing the floodplain have been identified. Although these recreational trail facilities are within areas subject to flooding, proposed flood mitigation measures would reduce the risk to life or property. Structural flood protection would be designed to convey floods in excess of the 100 year floodplain. Flood warning signs and evacuation plans would also be implemented.

Cumulative Impacts

Based on the conclusions documented in the Floodplain Statement of Findings, the Proposed Action and Alternative 2, when considered with other past, present and reasonably foreseeable future actions affecting the project area would not result in measurable cumulative impacts to floodplains.

3.3.6 Hydrology and Water Quality

Clean Water Act

The Clean Water Act (CWA) (33 USC §1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality on federal lands. The objective of

the CWA is to "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

Important sections of the CWA are as follows:

- Section 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 (Water Quality Certification) requires an applicant for any federal permit that proposes an activity, which may result in a discharge to water of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the Act.
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharge of any pollutant (except for dredged or fill material) into water of the U.S.
- Section 404 establishes a permit program for the discharge of dredged or fill material into water of the U.S. This permit is jointly administered by the USACE and the EPA.

Safe Drinking Water Act

The Safe Drinking Water Act (42 U.S.C. §300f et seq.) was established in 1974 to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards.

Figure 8- Wetlands

3.3.6.1 Affected Environment

Surface Water

The proposed project is located in the 14,459 square-mile Lower Colorado-Lower Gila Watershed (Hydrologic Unit Code [HUC] 15030101), which is defined from Hoover Dam at Lake Mead to Mexico. Perennial water is limited to the Colorado mainstream and its reservoirs (ADEQ 2012b). The flows of the River are regulated by releases from Hoover and Davis Dams. In calendar year 2014, approximately 9,645,000 acre-feet of water was released from Davis Dam to the reach of the River in the project area (Reclamation 2015).

Lake Mohave, which lies behind Davis Dam, has 27,800 acres of surface water and over 257 miles of shoreline (NPS 1999). The lake was formed by Davis Dam which was completed in 1951. The dam is operated by Reclamation to regulate releases from Hoover Dam and to generate hydroelectric power. Lake Mohave is part of the LMNRA managed by the NPS (Amesbury et al 2010). Other than the River, there is no perennial surface water flow in the project area. Several ephemeral washes flow from the Black Mountains westward across the project area and drain into the River.

The reach of the River below Hoover Dam to Lake Mohave is impaired or not attaining due to water quality exceedances for selenium. In 2008, selenium concentrations in this reach were detected at 2.8 micrograms per liter (µg/L), which exceeded the ADEQ water quality standard of 2 µg/L (ADEQ 2012b).

Groundwater

The very northern portion of the proposed trail system located between Davis Dam Road and Lake Mohave is located in the Lake Mohave Groundwater Basin, while the portion of the trail system south of Davis Dam Road is located in the Lake Havasu Groundwater Basin (ADEQ 2009).

The Lake Mohave Basin is a narrow basin adjacent to the River. The principal water-bearing formations are alluvial sand, silt and gravel deposits adjacent to the lake and the river. Groundwater flow direction is from north to south. A granite ridge extends across the River near Davis Dam, restricting recharge from the lake to the south (ADEQ 2009). There are no wells recorded in the Lake Mohave Basin in the project area (ADWR 2016).

The Lake Havasu Basin is a relatively small basin with its western boundary defined by the River. Extensive areas of the basin are covered by bedrock. Basin fill, consisting of sand, silt and gravel overlie the bedrock. Most wells in the basin penetrate the upper 100 to 200 feet of the basin fill. There is a direct hydraulic connection between the basin fill and the River, with groundwater occurrence and movement near the River controlled by the elevation of Lake Havasu. The lake elevation is relatively constant with a maximum fluctuation of approximately five feet during the period 1990 to 2008. Groundwater flow in this basin is north to south. Water withdrawals from wells are primarily pursuant to River entitlements. Median well yields are relatively high at 1,500 gallons per minute (ADEQ 2009).

There are four wells located in the southern portion of the proposed trail system in Section 30 (Figure 1). A summary of the well details is provided in Table 3.

Table 3: Summary of Well Data

Well ID	Owner	Date Installed	Well Use	Total Depth (feet)	Depth to Water (feet)
55-620581	EPCOR Water AZ (Bullhead City PWS)	1973	Irrigation/ Domestic	236	164
55-544186	Mohave County Parks (Davis Camp)	1994	Domestic	400	186
55-512128	Mohave County Parks (Davis Camp)	1986	Irrigation/ Restrooms	150	200
55-592258	Ridgeview Resorts	2002	Domestic	240	152

Source: ADWR 2016

Results of the 2015 Water Quality Report for Bullhead City (EPCOR 2015) indicate that no water quality parameters were detected above drinking water standards in any of the six wells that comprise the Public Water System (PWS) AZ0408032 that serves most of the Bullhead city area.

Potable water available at the proposed Davis Camp Trailhead would be provided by the existing Davis Camp PWS, which has a yield capacity of 1,000 gallons per day coupled with a 20,000 gallon above-ground storage tank (ADWR 2016) that can readily supply the relatively small volumes of potable water to the trailhead.

3.3.6.2 Environmental Consequences

No Action Alternative

Under the No-Action Alternative, no change to hydrology and water quality would occur from the project as it would not be constructed.

Alternative 1 (Proposed Action)

Impacts to surface and groundwater are expected to be minimal to negligible for the Proposed Action. Surface water impacts would be minimal due to the implementation of SWPPP BMPs and adherence to protocols outline in the project's CWA permits during construction of the Proposed Action. Impacts to groundwater would be minimal. There would be no impacts to surface water or groundwater quality from the vault toilets since they would be designed with secure underground containment.

Alternative 2

Impacts to hydrologic resources for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would follow a large wash, but is not expected to cause additional runoff or erosion as the trail would be natural with minimal structures within the wash.

Cumulative Impacts

The Proposed Action and Alternative 2 would not result in cumulative impacts to surface water or groundwater since the alternatives would not change existing hydrologic resources in any measureable way.

3.3.7 Soil

3.3.7.1 Affected Environment

The Huevi, very gravelly loam soils, comprise approximately 41.4 percent of the soils in the project area, while the Carrizo-Riverwash soils comprise approximately 37.5 percent. The Huevi soils consist of 65 percent gravel derived from alluvium on fan terraces with a 10 to 40 percent slope (USDA 2006 and 2016). Carrizo-Riverwash soils consist of 70 percent gravel derived from alluvium on flood plains with a 3 to 8 percent slope (USDA 2006 and 2016).

There are no Unique or Prime Farmland soils in the project area (USDA 2006 and 2016).

3.3.7.2 Environmental Consequences

No Action Alternative

Under the No-Action Alternative, no change to soil would occur as the project would not be constructed. Soil in the project area would continue to be affected by unauthorized off-road traffic in the project area. These impacts are expected to continue to be localized, long-term, minor, and adverse.

Alternative 1 (Proposed Action) and Alternative 2

Impacts to soil are expected to be minimal to negligible since the trail system would be constructed in areas already disturbed, and on soils that are 70 percent gravel. Soils in the proposed trail corridor would be compacted, and in some places, covered with hard surface material. However, the project would have a net benefit to soils by paving sections of the trail that are being eroded by wind and water, and also by decreasing unauthorized off-road travel in the project area due to security gates and other trail facilities (landscaping, etc.).

Impacts to soil for Alternative 2 would be the same as for those described for Alternative 1.

Cumulative Impacts

The Proposed Action and Alternative 2, when considered with other past, present and reasonably foreseeable future actions affecting the project area would have minimal cumulative impacts to soil since the project would be constructed in areas already disturbed and impacts would not be measureable.

3.3.8 Socioeconomics and Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority and low-income populations.

In accordance with CEQ guidance, minority populations should be identified if the minority population in the project area "exceeds 50 percent" or if the percentage of minority population in the project area is meaningfully greater than the "minority population percentage in the general population or other appropriate unit of analysis" (CEQ 1997). Communities should be

identified as "low income" based on the annual statistical poverty thresholds from the U.S. Census Bureau (CEQ 1997).

3.3.8.1 Affected Environment

Bullhead City is located directly across the River from Laughlin, Nevada, approximately 60 miles north of Lake Havasu City, and approximately 40 miles west of Kingman. Bullhead City's central location attracts residents and visitors from Arizona, California, and Nevada.

Much of the new development that has occurred in Bullhead City has occurred since 2000 (HDR 2011). The city has an estimated resident population base of 40,088 and a winter population of 46,414. The city's growth has been built upon retirement housing, commercial development, and tourism relationship with Laughlin. Laughlin's active gaming and hospitality industry has been a catalyst for Bullhead City's economic growth. At the same time, Bullhead City provides services and housing for Laughlin visitors. Physical and economic proximity requires Bullhead City and Laughlin to work closely to take full advantage of the benefits of cooperation. As a result, a mutually beneficial relationship has developed between the two jurisdictions (Bullhead City 2016).

Data on minority populations and poverty in the project area was reviewed to assure compliance with EO 12898. Population characteristics for the various racial and ethnic categories for Mohave County, Bullhead City, and the two Census Tracks in the project area are summarized in Table 4.

Table 4: Summary of Population and Poverty Percentages

Minority	Mohave County	Bullhead City	Census Track 9514.01	Census Track 9514.02
White	90.3	89.0	91.1	90.4
Hispanic or Latino	15.5	21.4	18.6	15.9
Black or African American	1.1	1.6	4.1	1.6
American Indian or Alaskan Native	1.9	1.0	1.1	0.9
Asian	1.9	1.5	0.7	1.7
Native Hawaiian or Other Pacific Islander	0.2	0	0	0
Some other Race	2.9	3.9	0.2	3.1
More than One Race	3.5	3.5	2.7	4.6
Individuals below Poverty Level	19.9	18.6	23.6	22.8

Source: U.S. Census Bureau, 2010

U.S. Department of the Census data on minority populations and poverty for the two Census Tracts was compared to the same data for Mohave County and Bullhead City (USCB 2016). Minority populations in the two Census Tracts did not exceed 50 percent, so did not meet the thresholds identified for Environmental Justice analysis. The percent of individuals below poverty levels in the Census Tracts were compared to those for Mohave County and Bullhead City. The poverty levels in the Census Tracts were higher than those for Mohave County and Bullhead City (USCB 2010).

The economy in Bullhead City is strongly based on tourism due to the City's proximity to the River, the Lakes Mead, Mohave, and Havasu; and legalized gambling in Nevada and on nearby tribal lands. Businesses include hotels/motels, restaurants, supermarkets, real estate sales, gas stations, and other retailers.

The arts, entertainment, recreation, accommodation, and food services industry accounts for 37.4 percent of Bullhead City's employed civilian population, while educational, health and social services account for 18.5 percent, and retail trade accounts for another 12.4 percent. Of Bullhead City's population aged 16 and older, 15,566 (38.8 percent) are currently in the labor force. The unemployment rate in Bullhead City is currently 8.8 percent compared to 5.2 percent for the state of Arizona (AZCA 2016).

3.3.8.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative no change to existing socioeconomic conditions would occur due to the project.

Alternative 1 (Proposed Action) and Alternative 2

The Proposed Action and Alternative 2 would not result in disproportionately high and adverse human health or environmental effects on minority and low-income populations. A minority population meeting the threshold identified for Environmental Justice analysis was not identified in the project area. The poverty levels in the Census Tracts evaluated were higher than those for Mohave County and Bullhead City. Disproportionate impacts to these individuals were not identified since there would be no high and adverse human health or environmental impacts from the project. There would be a beneficial impact to low-income populations as the trail would provide free recreational opportunities and easy access to Lake Mohave, Laughlin, and Bullhead City.

The Proposed Action and Alternative 2 could benefit the project area's socioeconomic conditions. Some beneficial short-term socioeconomic impacts would result from construction workers spending during the proposed 9 month construction period if construction workers come from outside the immediate area. If workers came from outside the immediate area, the demand for short-term temporary housing to accommodate them would contribute to the local economy, but would not result in long-term growth inducement. Because the work force is expected to be small (about a maximum of 15), with no permanent migration to the area, negative effects are not expected for such public services as law enforcement or fire protection.

In sum, no negative impacts to socioeconomic resources would result from construction, operation, and maintenance of the Proposed Action or Alternative 2. Positive impacts as a result of the Proposed Action and Alternative 2 would include increased recreational opportunities shared between Laughlin and Bullhead City, and increased access to Laughlin and Bullhead City businesses and amenities.

Cumulative Impacts

The Proposed Action and Alternative 2, when considered with other past, present and reasonably foreseeable future actions affecting the project area would result in increased recreational

opportunities shared between Laughlin and Bullhead City, and increased access to Laughlin and Bullhead City businesses and amenities thereby increasing the economic benefits for both cities.

The construction of the proposed kayak launches on the proposed trail would tie into the proposed Mohave Water Trail from Lake Mohave. This proposed link to the water trail would provide additional beneficial recreational and economic benefits to both Laughlin and Bullhead City.

The proposed Arizona Heritage Trail System represents a long-term, beneficial impact with regard to socioeconomic conditions throughout the project area.

3.3.9 Recreation

3.3.9.1 Affected Environment

The Bullhead City area provides a range of recreational activities for sports and outdoor enthusiasts. The River and Lake Mohave, the Black and Newberry Mountains, the striking scenery and warm desert climate offer many opportunities for recreation year-round in the project area. There are numerous federal, state, county, and city parks in the project vicinity; boating and fishing access to the River and lake; cultural sites; and several golf courses (TSP 2016).

Davis Camp is located on the River between Davis Dam and the Laughlin/Bullhead City Bridge. It is managed by Mohave County Parks Department and offers vacation homes, recreational vehicle and tent camping, day use, swim beaches, boat launch, jet ski rentals, the Colorado River Museum, and meeting facilities.

The Colorado River Heritage Greenway Park and Trails in Laughlin was dedicated on July 27, 2012, and consists of nine miles of trails in the Laughlin area for bicyclists, pedestrians and equestrian riders. It includes expansion of the Laughlin Riverwalk, fully developed restrooms and trailheads, picnic sites, shade shelters, fishing piers, and a highway pedestrian bridge overpass and underpass providing access to the River. Visitors of all abilities can enjoy the trails and accessible fishing areas. Recreational activities include walking, hiking, cycling, horseback riding, fishing, picnicking, bird watching, children's play area, and splash pad among many other recreational opportunities.

3.3.9.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative no change to existing recreational resources would occur.

Alternative 1 (Proposed Action) and Alternative 2

The proposed Heritage Trail System would have a beneficial impact to recreation resources in the Laughlin-Bullhead City area. The completed trail system would provide residents and visitors with an educational, recreational, and scenic experience. It would provide a connection to the Laughlin Regional Heritage Greenway Trail System, creating an 18 mile loop trail system. It would provide access to Davis Camp and the Colorado River Museum. It would also improve access for kayak launching and fishing.

As discussed in Section 3.3.4.1, Inscription Rock is located within the project Area. As originally designed, a segment of a trail trended along the eastern base of Inscription Rock. During a field review with Fort Mojave Indian Tribe AhaMakav Cultural Society (AhaMakav Cultural Society) members of the AhaMakav Cultural Society expressed concern about the potential for indirect negative impacts to Inscription Rock from trail users. In respect for their concern Reclamation re-located the segment of the trail further to the east. The new route physically avoids Inscription Rock. When the trail is fully developed security patrols would be conducted, and are expected to prevent any recreation induced negative indirect impacts to Inscription Rock. The Proposed Action and Alternative 2 would have a long-term, beneficial impact to the project area.

Figure 9- General view of proposed Desert Trail location within Davis Camp

Alternative 2 would not provide as diverse a recreation experience as Alternative 1 since it would follow a wash for much of the first half of its route. In contrast, Alternative 1 would offer either a ridgeline or wash route.

Cumulative Impacts

The Proposed Action and Alternative 2, when considered with other past, present and reasonably foreseeable future actions affecting the project area would result in a net beneficial cumulative impact to recreational resources. In the project vicinity, the Black Canyon Water Trail, which starts at the base of Hoover Dam and extends to Eldorado Canyon and is designated a National Water Trail. A future project includes the proposed Mohave Water Trail, which would begin at the end of the Black Water Trail would extend approximately 37 miles along both the Arizona

and the Nevada shorelines of Lake Mohave to Davis Dam, and along two miles of the River below Davis Dam for a total length of 76 miles. The Black Water Trail would provide access to 190 miles of shoreline and coves; beautiful sandy beaches; camp grounds; resorts; and areas of high scenic quality and geological interest.

4.0 Coordination and Consultation

4.1 Agencies Consulted

Federal

Bureau of Land Management
National Park Service, Lake Mead National Recreation Area
US Army Corps of Engineers
US Fish and Wildlife Service, Arizona Ecological Services Office
Western Area Power Administration, Desert Southwest Region

State

Arizona Department of Transportation
Arizona Game and Fish Department
Arizona State Parks, State Historic Preservation Office
Nevada Department of Transportation

Tribal

Chemehuevi Indian Tribe
Colorado River Indian Tribes
Fort Mohave Indian Tribe
Hualapai Tribe
Quechan Tribe

County

Clark County
Clark County- Town of Laughlin
Clark County Parks and Recreation
Mohave County

City

Bullhead City

Organizations

Bullhead Area Chamber of Commerce
Laughlin Chamber of Commerce
Laughlin-Colorado River Heritage Greenway Trails Partnership
Laughlin Visitor's Bureau, Las Vegas Convention and Visitor's Authority
Unisource Energy Services
Heritage Trail System Users Group

4.2 National Historic Preservation Act Consultation

Reclamation consulted with the SHPO, the Fort Mojave Indian Tribe, the Hualapai Tribe, the Colorado River Indian Tribe, the Chemehuevi Indian Tribe, and the Quechan Tribe under Section 106 of the NHPA. The SHPO concurred with Reclamation's determination of "no adverse effect" on with this determination on March 24, 2017. The consultation letter, along with the SHPO concurrence is included in Appendix C.

A response letter was received from the Colorado River Indian Tribe's Tribal Historic Preservation Officer (THPO). The Tribe requests that the THPO be notified of the discovery of any human remains or cultural resources within 48 hours of the discovery. The letter is included in Appendix C.

Representatives from the Fort Mojave Indian Tribe Aha Makav Cultural Society requested a site review of the project, which was conducted on May 18, 2017. During the site review, the Aha Makav Cultural Society representatives asked questions about the overall location of the trail within the Davis Dam Security Zone and the location of the trail with respect to the Inscription Rock and associated cultural features discussed in Section 3.3.4.1. The Fort Mojave Indian Tribe Aha Makav Cultural Society followed up with a letter on September 20, 2017, in which they reiterated their concerns about the trail location. Reclamation and the ACS conducted another site visit on January 25, 2018. Following this site visit, Reclamation re-routed the trail to increase its distance from Inscription Rock.

Measures to ensure security are discussed in Sections 2.2.7 and 2.2.10. Reclamation will continue to coordinate with the Fort Mojave Indian Tribe as the trail and any interpretive materials are designed.

4.3 ESA Consultation

On August 14, 2018 the USFWS concurred with Reclamation's may affect, but is not likely to adversely affect determination for razorback sucker, bonytail chub, and associated designated critical habitat.

4.4 Scoping/Public Involvement

Scoping

Reclamation distributed scoping letters to interested agencies, Tribes, organizations, and individuals about the Proposed Action. The primary purpose of the letters was to inform known stakeholders about the project and to solicit their input regarding the project alternatives and other issues to be addressed in the EA. These efforts were carried out pursuant to the "scoping process" as defined by CEQ's regulations implementing NEPA.

Issues and concerns identified during the scoping process are listed below, and have been considered in this EA.

<u>Arizona Department of Transportation</u>

- If trail construction access is from ADOT ROW, an ADOT encroachment permit would be required.

- NVDOT plans to widen the Laughlin/Bullhead City Bridge. NVDOT and ADOT plan to build a roundabout on each side of the bridge in 2 to 3 years.

Bullhead City Chamber of Commerce

- The Chamber Board of Directors would like to convey their strong support for the project.
- The expansion of the trail system in Mohave County between the River and City of Bullhead would be great addition to the attractiveness of the area and would provide a much needed resource for people wishing to explore the River shores and exercise.
- The trail system would provide access to Lake Mohave and recreational sites on the Arizona side of the River, and is highly encouraged by this organization.
- This extended trail system would connect and loop the existing trail on the Nevada side and would connect Bullhead City with our neighboring city of Laughlin. This is a very exciting project and representatives of the hundreds of Bullhead City, Fort Mohave, and Mohave Valley businesses look forward to the final, approved project.

Clark County

- The project will be a benefit to outdoor recreation for the public in the southern Nevada area, and they think it is a great idea to connect to the Laughlin Colorado River Greenway Heritage Trail system to Bullhead City.
- The only impact this may cause is positive since it will connect more people to the trails on the Nevada side.

Mohave County

- The Mohave County Board of Supervisors, at their May 2, 2016 meeting, voted unanimously to accept Reclamation's invitation to act as a cooperating agency in the NEPA process for the proposed Arizona Heritage Trail System.

National Park Service, Lake Mead National Recreation Area

- Accepts invitation from Reclamation to be a cooperating agency on the EA.

Nevada Department of Transportation

- NVDOT is in preliminary stages of developing improvements to the Laughlin/Bullhead City Bridge where the proposed project would connect on the Arizona side. The improvements would be in cooperation with the FHWA Nevada Division, the FHWA Arizona Division, and ADOT.
- They are about 18 months from initiating the EA for the bridge improvements.

UNS Electric, Inc.

- They would like to remove an old transmission line in the area of the proposed trail as part of the trail construction activities.

US Army Corps of Engineers

- Indicates that the project may require a CWA permit.

Draft EA

A postcard announcing a 30 day public review period for the draft EA was sent to the interested agencies, Tribes, and organizations listed in Section 4.1, as well as to individuals who expressed interest in the project. The draft EA was posted on Reclamation's internet site at: http://www.usbr.gov/lc/region/g2000/envdocs.html. A news release regarding the availability of Draft EA was sent to newspapers and other media and posted on Reclamation's website at http://www.usbr.gov/newsroom/newsreleases. Three comment letters/e-mails were received, they are included in Section 7 of this EA.

Final EA

A notice of the availability of the FONSI and final EA will be sent to the interested agencies, Tribes, organizations, and individuals who received notification of the draft EA. The FONSI and final EA will be posted on Reclamation's internet site at: http://www.usbr.gov/lc/region/g2000/envdocs.html. A news release regarding the availability of the FONSI and Final EA will be sent to the newspapers and other media who received the press release on the Draft EA. The news release will also be posted on Reclamation's website at http://www.usbr.gov/newsroom/newsreleases.

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6.0 List of Preparers and Contributors

Bureau of Reclamation (Lower Colorado Region)

Bill Martin	Regional Outdoor Recreation Planner
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Stephanie Sherwood	GIS Specialist

Woods Canyon Archaeological Consultants, Inc.

Kelly Mc Andrews	President

Statistical Research, Inc.

Dr. Eric Klucas	Principle Investigator/Director
Tucker Robinson	Staff Archaeologist

7.0 Draft EA Comments and Responses

Three comment letters or e-mails were received on the Draft EA. The individual comment letters and e-mails are included in this section. Each letter or e-mail is followed by responses to the comments.

The following organizations and individuals commented on the draft EA:

1. City of Bullhead City
2. Don Laughlin
3. Harold Barton, Mohave County

RESOLUTION NO. 2017R-16

A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF BULLHEAD CITY, ARIZONA, REGARDING SUPPORT OF THE DEVELOPMENT OF THE ARIZONA HERITAGE TRAIL SYSTEM.

WHEREAS, the United States Bureau of Reclamation (Reclamation) in coordination with the National Park Service (NPS), the City of Bullhead City, Mohave County, and Clark County, is seeking public comment on a draft Environmental Assessment (EA) for the Arizona Heritage Trail System within Lake Mead National Recreation Area; and

WHEREAS, the EA evaluates the potential environmental impacts of constructing and maintaining approximately 3.5 miles of hardened surface trail which would reach the existing Colorado River Heritage Greenway Park and Trails in Nevada, creating about a seven mile loop connecting the communities of Bullhead City, Arizona and Laughlin, Nevada; and

WHEREAS, the proposed Trail would be located in Mohave County, Arizona, between Lake Mohave and Bullhead City; and

WHEREAS, Reclamation and the NPS would authorize use of Reclamation and NPS land for the trail and would construct the trail. Once completed, the trail would be operated, patrolled, and maintained by the City of Bullhead City and Mohave County; and

WHEREAS, the draft EA was prepared in compliance with the National Environmental Policy Act.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bullhead City that it does not have any comments on the draft EA and supports development of the Arizona Heritage Trail System.

PASSED AND ADOPTED by the City Council of the City of Bullhead City, Arizona, this 2nd day of May, 2017.

Tom Brady

Tom Brady, Mayor

Date: 5/4/17

ATTEST:

Susan Stein

Susan Stein, City Clerk

APPROVED AS TO FORM:

Garnet K. Emery, City Attorney

City of Bullhead City

Response: Thank you for your resolution in support of the Arizona Heritage Trail System. We appreciate your partnership and look forward to working with you on the design and management of the Trail System.

Bureau of Reclamation, Attn: LC 2620
Bureau of Reclamation
P.O. Box 61470
Boulder City, NV 89006.

Subject: Environmental Assessment (EA) for Arizona Heritage Trail

To Whom It May Concern:

This letter is in support of the proposed Arizona Heritage Trail in the City of Bullhead City, Arizona.

For many years Clark County and the Town of Laughlin, Nevada, have worked in partnership with the City of Bullhead City to support a fully developed, looped trail on both the Nevada and Arizona sides of the Colorado River that are connected by and across Davis Dam and the Laughlin Bridge.

Development of a Heritage Trail on the Arizona side of the Colorado River has always been part of the regional plan to provide a connected trail system on both sides of the river. The Arizona Heritage Trail will be an important link that will provide regional access for citizens and visitors to thoroughly utilize and enjoy a looped trail system and other outdoor recreational opportunities. Presently, the trails on the Arizona side of the river are limited, with people finding their own way and making their own trails. Building a looped trail system on the Arizona side of the river will provide significant, quality trail enhancements for the local community and visitors.

The Arizona Heritage Trail will ultimately offer a thoughtfully managed and sustainable desert trail system that ties the communities of Laughlin and Bullhead City together.

Respectfully,

Donald J. Laughlin
Riverside Casino and Hotel

Don Laughlin, Riverside Casino and Hotel

Response: Thank you for your letter, and for your continuing support of the Arizona and Nevada Heritage Trail System.

Streier, Faye <fstreier@usbr.gov>

Heritage Trail EA

Harold Barton <Harold.Barton@mohavecounty.us> Thu, Apr 20, 2017 at 3:36 PM
To: "Martin, Bill" <bmartin@usbr.gov>
Cc: "Streier, Faye" <fstreier@usbr.gov>, Rebecca Rogers <rrogers@usbr.gov>, "Barrow, Brandon" <bbarrow@usbr.gov>, Steven Latoski <Steven.Latoski@mohavecounty.us>, Jeremy Palmer <Jeremy.Palmer@mohavecounty.us>, Joe Donovan <Joe.Donovan@mohavecounty.us>

Good Afternoon Bill:

Thank you for the opportunity to provide comments on the Draft Environmental Assessment for the Arizona Heritage Trail System. Mohave County Parks is very excited to be part of the Heritage Trail process and eager to share its ultimate use connecting Davis Camp with Laughlin and Bullhead City.

As per our meeting on April 12th, Mohave County Parks is proposing the following minor trail location changes:

- Locate the trail away from the driveway where fill is required and traverses slightly into Davis Camp and include interpretive signs. This location will save money from fill and retaining and will allow for an entry statement at the park entrance off HWY 68.
- Due to the close proximity of HWY 68 and the museum. Mohave County Parks is open to locating the trail around the museum. Interpretive signs could also be located here giving information about the church's history.

For your assistance we have attached a PDF showing our trail recommendations.

Mohave County Parks has reviewed the Draft Environmental Assessment for the Arizona Heritage Trail System and offers the following comments and recommendations:

1.1 Paragraph 3 - Add language: Davis Camp's long range plans call for trail systems which will tie into the Heritage Trail.

1.2 Add language that the Arizona Heritage Trail complies with Mohave County's 2015 General Plan Vision For the Future Goals:

- **Preserve and Enhance Historic, Cultural, Open Space, and Recreational Lands and Structures**. Mohave County should strive to ensure that the built environment incorporates natural and historic treasures into the everyday lives of residents.

2.2.1 States that the Davis Camp trailhead will have a vault restroom; however, under 2.2.7 the EA states that the Davis Camp trailhead will have flush toilets. The vault restroom will cost significantly less.

2.2.5 Add language that interpretive signs would be added along the trail within Davis Camp's new trail location next to the entrance and Ranger Station. Refer to graphic.

2.2.6 Any chance for a more esthetically pleasing fencing material? I.e. Block pilaster or split rail with chain link.

2.2.7 Utilities - Davis Camp water is from well water. EPCOR Water is not a water provider for Davis Camp. However, on page 34, it states under paragraph 2 that potable water available at the proposed Davis Camp Trailhead, will be provided by existing Davis Camp PWS.

2.2.8 States that Bullhead City would operate, maintain and patrol the proposed trail system. With the trailhead at Davis Camp, which is on NPS property, will the City be authorized to maintain? Were there any discussions regarding having Mohave County Parks assist with maintenance? If not, this discussion should be entertained. Especially since a portion of the trail will be located within the Davis Camp active park areas.

3.1.3 Present and future actions include: Please revise to include:

- Davis Camp fee use area and future internal loop trail system.

3.3.1.2 Environmental Consequences - The EA needs to add language where the estimated equipment will be stored and where the staging and mobilization area will be. Separation of park guests and equipment is required and shall be stated in the EA.

This concludes our comments. If you require any additional information or have any questions, please let me know.

Thanks again for all your work with this excellent trail proposal.

Sincerely,

Hal

Harold Barton, Parks Administrator

Mohave County Parks

P.O. Box 7000

Kingman, AZ 86402

928-757-0915

Arizona Heritage Trail

Proposed Trail Alignment Revision

Legend

- EA Trail Alignment
- Proposed Trail Alignment
- EA Trailhead
- Proposed Interpretive Kiosk
- Landscape Improvements

Mohave County Parks
Davis Camp

not to scale

North

Harold Barton

General Response: Thank you for your comments on the draft EA. Your suggestions have been incorporated into the EA. We agree that your comments will result in an improved project. We appreciate your partnership and look forward to working with you on the final design of the project.

Comment: Mohave County Parks is proposing a relocation of the proposed trail location in the vicinity of Davis Camp and the Colorado River Museum to avoid the use of fill and retaining structures and allow for better interpretation of the trail to the public.

Response: Based on your proposal and our subsequent meeting with you, we have revised the proposed route in Alternatives 1 and 2. The project description and figures been revised. Section 3 has also been revised as appropriate to address any potential impacts resulting from the revised route.

Comment: Add the following language to Section 1.1, paragraph 3: "Davis Camp's long range plans call for trail systems which will tie into the Heritage Trail.

Response: The language has been added to the EA in Section 1.1, paragraph 3.

Comment: Add language that the Arizona Heritage Trail complies with the following Mohave County's 2015 General Plan Vision for the Future Goal: "Preserve and Enhance Historic, Cultural, Open Space, and Recreational Lands and Structures. Mohave County should strive to ensure that the built environment incorporates natural and historic treasures into the everyday lives of residents" to Section 1.2.

Response: The language has been added to the EA in Section 1.1 to provide supporting background information for the more general purpose given in Section 1.2.

Comment: Section 2.2.1 states that the Davis Camp trailhead will have a vault restroom, however, under 2.2.7 the EA states that the Davis Camp trailhead will have flush toilets. The vault restroom will cost significantly less.

Response: A design review team has been formed which includes Reclamation, the National Park Service, the City of Bullhead City and Mohave County. Reclamation and the team will evaluate this cost difference during the design phase of the Project.

Comment: Add language to Section 2.2.5 saying that interpretive signs would be added along the trail within Davis Camp's new trail location next to the entrance and Ranger Station. Refer to graphic.

Response: Based on our subsequent discussions with you, information will be placed at the two trail access nodes (entry point). This language has been added to the project description and figures.

Comment: Based on the description in Section 2.2.6- is there any chance for a more esthetically pleasing fencing material, i.e. block pilaster or split rail with chain link?

Response: During the design phase, Reclamation will work with Mohave County and the rest of the Design Review Team to develop appropriate safety fence.

Comment: Section 2.2.7, Utilities- Davis Camp water is from well water. EPCOR water is not a water provider for Davis Camp. However on page 34, it states under paragraph 2 that potable water available at the proposed Davis Camp Trailhead, will be provided by existing Davis Camp PWS.

Response: We have removed the reference to EPCOR water from Section 2.2.7.

Comment: Section 2.2.8 states that Bullhead City would operate, maintain, and patrol the proposed trail system. With the trailhead at Davis Camp, which is on NPS property, will the City be authorized to maintain? Will there be any discussions regarding having Mohave County Parks assist with maintenance? If not, this discussion should be entertained. Especially since a portion of the trail will be located within the Davis Camp active park areas.

Response: Operations, maintenance, and patrol of the trail will be shared by Bullhead City and Mohave County. Per our discussions with you, the portion of the trail within Davis Camp will be maintained and patrolled by Mohave County. These responsibilities will be outlined in the agreement(s) with Reclamation, National Park Service, Bullhead City and Mohave County.

Comment: Include the following in present and future actions in Section 3.1.3: Davis Camp fee area and future internal loop trail system.

Response: This information has been added.

Comment: The environmental consequences in Section 3.3.1.2 needs language saying where the construction equipment will be stored and where the staging and mobilization area will be. Separation of park guests and equipment is required and shall be stated in the EA.

Response: Information on Staging areas has been added to the project description.

APPENDIX A: FLOODPLAIN STATEMENT OF FINDINGS

November, 2018

ARIZONA HERITAGE TRAIL
ENVIRONMENTAL ASSESSMENT
LAKE MEAD NATIONAL RECREATION AREA

Recommended:	_____ Superintendent Lake Mead National Recreation Area	Date

Certified for Technical Adequacy and Servicewide Consistency

	_____ Chief Water Resources Division	Date

Concurred:	_____ Safety Officer Pacific West Region	Date

Approved:	_____ Regional Director Pacific West Region	Date

INTRODUCTION

Executive Order (EO) 11988, *Floodplain Management* requires the National Park Service (NPS) and other Federal agencies to evaluate the likely impacts of actions in floodplains. Federal agencies are directed 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." The order requires Federal agencies to provide leadership and take action to:

- Reduce the risk of flood loss;
- Minimize the impact of floods on human safety, health and welfare; and
- Restore and preserve the natural and beneficial values served by floodplains.

NPS Director's Order 77-2: *Floodplain Management* and the Procedural Manual 77-2: *Floodplain Management* provide NPS policies and procedures for complying with EO 11988. The purpose of this Floodplain Statement of Findings (FSOF) is to present the rationale for the location of development of the proposed Arizona Heritage Trail in the floodplains, describe the level of risk associated with the sites and describe associated flood mitigation actions.

PROPOSED ACTION

The NPS and the Bureau of Reclamation are proposing the construction and operation and maintenance of the Arizona Heritage Trail system (Trail system) which would begin on the Arizona side of Davis Dam and end at the Laughlin/Bullhead City Bridge. The Trail system would include the Desert Trail, Spur Trails, and Adventure Trail and would be approximately 5 miles long, occupying approximately 19 acres.

Features of the Trail system which would occur within the probable maximum floodplain are portions of the trail, culverts, and bridge abutments. Portions of the proposed hardened surface trails within the floodplain will have the outer edges thickened to a minimum of 12 inches to reduce potential effects of erosion. Where the proposed trail crosses small to medium natural washes and arroyos, pipe and box culverts will be installed as part of construction. In the major wash of the floodplain, a prefabricated lightweight steel truss bridge with concrete abutments will be constructed. The steel truss bridge will have a free span of 70 feet. The specific sizes and locations of the proposed culverts and bridge will be determined as part of the final design in accordance with City of Bullhead City and Mohave County design standards and United States Army Corps of Engineers permitting terms and conditions.

SITE AND FLOOD HAZARD DESCRIPTION

The proposed recreational trail sites in the drainage arroyos are surrounded by the intervening ridges between the drainage arroyos. Accordingly, there is limited, non-flood prone,

developable land that provides access from Bullhead City to Lake Mohave or to the Laughlin Bridge. As a result, portions of the proposed recreational trails are within the 100 year floodplain as well as the probable maximum floodplain.

All hydrologic data from the Mohave County Flood Control District is available at the NPS emergency dispatch center in Boulder City, Nevada.

TABLE A-1. SUMMARY OF PEAK RUNOFF
ARIZONA HERITAGE TRAIL

Wash/Channel	**100-year Peak** (cfs)	**PMF Peak** (cfs)
Davis Camp Access Wash	**6,105**	**25,613**

Hydrologic Data derived from City of Bullhead City
Tract 4042-1 Drainage Study Approved January 5, 2005.

JUSTIFICATION FOR THE USE OF FLOODPLAIN

There are no adequate developable trail routes flood- free areas near the Colorado River and Lake Mohave shoreline because of the nature of the terrain that is comprised of drainage arroyos and intervening ridges. Additionally, there are cultural resource and high voltage transmission lines in the vicinity that are to be avoided. The preferred alternative for the Arizona Heritage Trail concept plans includes actions necessary for the preservation of public non-motorized recreational access to Lake Mohave, improvements to visitor use and experience, and to protect historic resources. Therefore, although the facilities must be located within the floodplains, the protection of people and property is a major objective for the plans. Improvements will be designed and constructed to the latest flood control adopted by the City of Bullhead City and Mohave County, Arizona and with consideration of the hydrologic data in Table A-1.

FLOOD MITIGATION MEASURES

The preferred alternative for each developed area would minimize potential hazards to human life and property within the probable maximum floodplains through a combination of structural and nonstructural measures. Steel Truss pedestrian bridges, reinforced concrete box culverts and drainage pipes would be constructed to convey 100-year flows below the proposed trail

alignments. Additionally, the developed parking areas and restroom structures at Davis Camp and Davis Dam will be located outside and above the 100 year floodplain. Flood warning signs would be posted at all parking areas, trailheads and at regular intervals along the proposed trail alignments.

SUMMARY

The National Park Service has determined that there is no practicable alternative to routing the Arizona Heritage Trail proposed alignments without crossing the floodplain. This determination was based on the decision to continue to provide primary visitors non-motorized trails routes near Lake Mohave that provide lake access from Davis Camp day-use facilities.

There would be no impacts to natural floodplain values. The developments within the floodplain would be minimal. The area has been evaluated for potential impacts to natural resources such as cultural and biological resources and no adverse impacts from crossing the floodplain have been identified.

Although these recreational trail facilities are within areas subject to flooding, the proposed flood mitigation measures would reduce the risk to life or property. Structural flood protection would be designed to convey floods in excess of the 100-year floodplain. Flood warning signs and evacuation plans would also be implemented.

Arizona Heritage Trail Final Environmental Assessment

Appendix B

Photographs

Photograph 1- KOP 1 looking north at intersection of Davis Dam Road and the Katherine Landing access road.

Photograph 2- KOP 2 at proposed Davis Camp Trailhead.

Photograph 3- KOP 3 looking south to Laughlin.

Appendix C- Agency Coordination

SHPO-2016-0426 (135995)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

RECEIVED
MAR 20 2017
ARIZONA STATE HISTORIC PRESERVATION OFFICE

IN REPLY REFER TO:
LC-2631
ENV-3.00

MAR 16 2017

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks
1300 West Washington
Phoenix, AZ 85007

Subject: Consultation Under Section 106 of the National Historic Preservation Act for the Arizona Heritage Trail Project in Mohave County, Arizona

Dear Ms. Leonard:

The Bureau of Reclamation (Reclamation) and the National Park Service, Lake Mead National Recreation Area (NPS) are planning to construct a system of recreation trails and associated amenities called the Arizona Heritage Trail Project (Project). The Project is located on federal land north of the city of Bullhead City (City) in Mojave County (County), Arizona in Township 21 North, Range 21 West, Sections 18, 19 and 30 (USGS 7.5 minute Davis Dam Quadrangle) (see Figures 1 and 2). After construction the Project will be managed by the City and the County through agreements with Reclamation and the NPS. This consultation has been prepared by Reclamation as the lead federal agency for this undertaking and in compliance with the National Historic Preservation Act (Title 54 USC 306108 & the Code of Federal Regulations Part 800 [36 CFR 800]). Reclamation is consulting on our finding of no adverse effect for the undertaking.

Description and Location of the Undertaking – The Project involves the construction of trails, trailheads, day use facilities, shade shelters, the installation of utilities for sewer, potable water, lighting, and fences. All facilities will be developed in areas that have been highly disturbed (see Figure 3). Reclamation has enclosed a document that describes the undertaking in detail and our determination of eligibility and effect for the undertaking. The area of potential effect (APE) for the undertaking is approximately 15 acres.

The City contracted with Woods Canyon Archaeological Consultants, Inc. and Statistical Research, Inc. (SRI) who jointly conducted a Class I and Class III cultural resources survey for the Project. The Class I survey indicates that the Davis Dam and Power Plant (Davis Dam), and Inscription Rock (AZ F:14:12 (ASM)) are two previously recorded historic properties in the APE. Davis Dam is eligible under National Register Criterion A. Inscription Rock is National Register eligible under Criterion D.

Class III survey examined a total of 43.27 acres. It resulted in the identification two rock rings belonging to Locus 6 of Inscription Rock, one new historic period site (a power pole staging and storing area) (AZ F:14:393 (ASM)), and a new historic isolate. SRI's survey report and the ASM site cards are enclosed.

Determination of Eligibility and Finding of Effect – Site AZ F:14:393 (ASM) is a new and unevaluated site that was identified during the Class III survey. Reclamation has applied the National Register Criteria as established by the Secretary of the Interior for use in evaluating the eligibility of AZ F:14:393 (ASM). Reclamation has determined that AZ F:14:393 (ASM) is not National Register eligible.

Reclamation has considered the direct, indirect and cumulative effects to Davis Dam, and Inscription Rock, the two historic properties in the APE. Our finding of effect is discussed below.

Direct Effect
The undertaking does not require any changes or modifications to the physical structure or operation of Davis Dam. Reclamation finds that the undertaking will have no direct effect to Davis Dam.

Reclamation has re-routed a segment of a trail (Desert Trail) to avoid the two rock rings that comprise Locus 6 of Inscription Rock. The undertaking will have no direct effect to Locus 6 and Inscription Rock in its entirety.

Indirect Effect
The assessment for indirect effect considers how the construction of the trailheads and associated facilities could diminish the integrity of Davis Dam, and Inscription Rock through the alteration of the setting, feeling, and/or association. To access visual impingement Reclamation used Google Earth Pro to examine the elevational profile and air distance between Davis Dam, and Inscription Rock, and the trailhead and overlook APEs. The potential indirect effect of trails was not accessed because their routes will be on existing roads and in areas of high disturbance, which is considered part of the existing condition.

As a treatment to reduce indirect effects of the undertaking to Davis Dam, and Inscription Rock Reclamation has limited the height of light posts, interpretive displays, restrooms to have a relatively low profile. Colors for the vault toilets and kiosks, and metal work will be finished in NPS approved brown and tan colors that blend in with the natural environment. The lighting to be installed at the trailheads will be low intensity LED lightning that conforms to Flagstaff, Arizona Lighting Code Outdoor Lighting Standards. This will reduce light spillage and pollution. Reclamation finds that with these treatments the undertaking will not have an adverse indirect effect to Davis Dam and Inscription Rock.

Reclamation also considered how the undertaking could indirectly interfere with ceremonial use of Inscription Rock by Indian religious practitioners. In compliance with Executive Order No. 13007 Reclamation will accommodate access to and ceremonial use of Inscription Rock by Indian religious practitioners, as well as avoid adversely affecting its physical integrity.

Cumulative Effect
Cumulative effects are the impacts which may result from connected future and reasonably foreseeable undertakings. There are no foreseeable plans for connected future undertakings. Therefore, no cumulative effects will occur.

Discovery Clause - If during the course of any activities associated with this undertaking, any districts, sites, buildings, structures, or objects not included in this consultation are discovered, activities will cease in the vicinity of the resource. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume.

Should construction result in the exposure of human remains, all activities in the area of the discovery will immediately be stopped. The discovery will be protected and secured. Construction activity within 50 feet of the discovery will not be allowed to resume until Reclamation has complied with the applicable procedures.

Amendment Clause - This consultation is only for the undertaking described above. If the impact/effects area of the undertaking change during the course of the project, Reclamation will reinitiate consultation under 36 CFR Part 800 and will not allow any land-disturbing activities to proceed before Section 106 of the National Historic Preservation Act is satisfied.

Reclamation is concurrently consulting with the Arizona State Historic Preservation Office, and the Chemehuevi Indian Tribe, Colorado River Indian Tribes, Fort Mohave Indian Tribe, Hualapai Tribe, and the Quechan Tribe on our finding of no adverse effect for the undertaking. If you have questions or concerns please contact James Kangas, Archaeologist at 702-293-8392 or jkangas@usbr.gov within 30 days of receiving this letter.

CONCUR

3/24/17

Arizona State Historic Preservation Office

Excellent report & consultation!

Sincerely,

Marc Maynard
Chief of Resources Management Office

Enclosures – 3
(Section 106 Review, Survey Report, ASM Site Cards)

COLORADO RIVER INDIAN TRIBES

Tribal Historic Preservation Office

26600 Mohave Road
Parker, Arizona 85344
Telephone: (928)-669-5822 Fax: (928) 669-5843

March 28, 2017

U.S. Department of the Interior
Bureau of Reclamation
Lower Colorado Regional Office
PO Box 61470
Boulder City, NV 89006-1470

RE: Arizona Heritage Trail Project

Dear Mr. James Kangas:

The Colorado River Indian Tribes' Tribal Historic Preservation Office ("CRIT THPO") has received your letter dated March 28, 2017, regarding the *construction of a system of recreation trails and associated amenities called the Arizona Heritage Trail Project located north of the city of Bullhead City, Mojave County, Arizona.*

As a preliminary matter, the Colorado River Indian Tribes are a federally recognized Indian tribe comprised of over 4,200 members belonging to the Mohave, Chemehuevi, Hopi and Navajo Tribes. The almost 300,000 acre Colorado River Indian Reservation sits astride the Colorado River between Blythe, California and Parker, Arizona. The ancestral homelands of the Tribe's members, however, extend far beyond the Reservation boundaries. Significant portions of public and private lands in California, Arizona and Nevada were occupied by the ancestors of the Colorado River Indian Tribes' Mohave and Chemehuevi members since time immemorial. These landscapes remain imbued with substantial cultural, spiritual and religious significance for the Tribes' current members and future generations. For this reason, we have a strong interest in ensuring that potential cultural resource impacts are adequately considered and mitigated.

In particular, the Colorado River Indian Tribes are concerned about the removal of artifacts from this area and corresponding destruction of the Tribes' footprint on this landscape. As such, the Tribes request that all prehistoric cultural resources, including both known and yet-to-be-discovered sites, be avoided if feasible. If avoidance of the site is infeasible, then the Tribes request that the resources be left in-situ or reburied in a nearby area, after consultation. This language should be incorporated into enforceable mitigation measures.

In addition, we respond as follows:

_____Given the potential impact of the project on important cultural resources, the Colorado River Indian Tribes request in-person government-to-government consultation. Please contact the CRIT THPO to discuss our concerns and schedule a meeting with Tribal Council.

___√___ In the event any human remains or objects subject to provision of the Native American Graves Protection and Repatriation Act, or cultural resources such as sites, trails, artifacts are identified during ground disturbance, please contact the CRIT THPO within 48 hours.

_____ The Colorado River Indian Tribes request tribal monitoring of any ground disturbing activity as a condition of project approval. The Tribes request notification of any opportunities to provide tribal monitoring for the project.

___√___ The Colorado River Indian Tribes do not have any specific comment on the proposed project and instead defer to the comments of other affiliated tribes.

Thank you for your consideration. Please contact the undersigned if you have any questions or concerns.

Sincerely,

COLORADO RIVER INDIAN TRIBES
TRIBAL HISTORIC PRESERVATION OFFICE

David Harper, Director
26600 Mohave Road
Parker, AZ 85344
Phone: (928) 669-5822
E-mail: david.harper@crit-nsn.gov

critthpo@crit-nsn.gov

Sent 7/24/17- Received a verbal response from the SHPO that no historic properties will be affected by the changes assessed in this amended consultation and that the finding of no adverse effect for the undertaking is adequate.

ENV-3.00

DIGITAL SUBMISSION

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks
1300 West Washington
Phoenix, AZ 85007

Subject: Amended Consultation Under Section 106 of the National Historic Preservation Act for the Arizona Heritage Trail Project, Mohave County, Arizona (SHPO No. 2016-0426 [135995])

Dear Ms. Leonard:

On March 16, 2017 the Bureau of Reclamation (Reclamation) consulted with the Arizona State Historic Preservation Office (SHPO) for the construction of the Arizona Heritage Trail Project in Mojave County, Arizona. Reclamation and the SHPO concurred on a finding of no adverse effect for the undertaking. Reclamation is amending the consultation to address several changes in the project. Reclamation is the lead federal agency for the undertaking and this consultation is being submitted in compliance with the National Historic Preservation Act (Title 54 USC 306108 & the Code of Federal Regulations Part 800 [36 CFR 800]).

Location and Description of the Undertaking - The Arizona Heritage Trail Project is located on federal land north of Bullhead City in Mojave County, Arizona in Township 21 North, Range 21 West, Sections 18, 19 and 30 (USGS 7.5 minute Davis Dam Quadrangle) (see Figures 1, 2, and 3). On June 6, 2017 Reclamation employees Bill Martin, Recreation Planner, and James Kangas, Archaeologist met with Recreation Planners from Mohave County (County) at Davis Camp to conduct a field review of three changes proposed by the County: placing landscaping and a new sign at the Davis Camp entrance road, re-routing a segment of the Davis Camp Trail, and adding to the Adventure Trail. These are described below.

<u>Davis Camp Entrance Road</u>
The entrance of the Davis Camp is at the northwest and southwest corners of McCormick Boulevard and Highway 68 east of the Camp. The County is planning to clean litter and debris, place landscape, and a new park entrance sign to improve the appearance of the Camp entrance.

The project will involve leveling and grading of the ground surface, the installation of an irrigation system, the planting of native trees and shrubs, the placement of rock and boulders, and the installation of a sign. The project area of potential effect (APE) is within a 150 foot long by

100 foot wide area that encompasses both corners of the intersection. The maximum depth of ground disturbance will be six feet below the existing ground surface (see Figures 3, 4, and 5).

Davis Camp Trail

The County is concerned about the safety of trail users on a 3,900 foot long segment of the Davis Camp Trail that is along US Highway 68 between the Davis Camp Trailhead and the Heritage Park Trailhead (see Figure 4). The County wants to construct the segment of trail away from the dangerous route along the highway. The new segment will be 4,100 feet long. In addition to addressing pedestrian safety concerns, the new route will be closer to the Davis Camp and more accessible to picnickers and campers.

In the previous consultation the Desert Trail APE was described as being 25 feet wide by 2.8 miles long. With the route change the total APE for the Desert Trail will be a corridor 25 feet wide by 14, 984 feet long (8.6 acres). The trail prism will be 12 feet wide. The trail will be paved, which involves grading to a depth of 6 inches for the placement of base gravel and the placement of concrete. Trees, landscaping, and an irrigation system will be installed along the trail between the Davis Camp Trailhead and the Heritage Park Trailhead. The vertical APE for the installation of landscaping and irrigation is 3 feet below the ground surface.

In conjunction with the Davis Camp Trail route change the County is planning to construct a trailhead along the northeast boundary of Davis Camp, to be called the Davis Access Node (Node), an interpretive area along the trail at the south end of Davis Camp, to be called the Interpretive Node, and a spur trail between the Node and McCormick Boulevard.

Node

The Node will be a trailhead to accommodate recreationalists at Davis Camp. The Node will be located on the trail along the northeast boundary of Davis Camp (see Figures see Figures 4, 5, and 7). Amenities will include a parking lot, a ramada, interpretive kiosk, bike racks, trash receptacles, potable water, picnic tables and benches, signage, fencing, and landscaping with native plants. An irrigation system, potable water line, sewer line, and buried electrical line will be installed. It will connect to existing utility lines in Davis Camp. The horizontal APE for the construction of the Node is area of 450 feet long by 100 feet wide (1 acre). The maximum vertical APE is for trenching and excavation is approximately 6 feet below the ground surface.

Interpretive Node

The Interpretive Node will be developed on the trail at the south end of Davis Camp. Amenities at the Interpretive Node will include a kiosk, trash receptacles, potable water, benches, signage, fencing, and landscaping with native plants. An irrigation system, potable water line, sewer line, and buried electrical line will be installed. The utilities for the Interpretive Node will be connected to adjacent existing utility lines in Davis Camp. The horizontal APE for the construction of the Node is area of 223 feet long by 65 feet wide (1 acre). The vertical APE is for trenching and excavation is approximately 6 feet below the ground surface. The maximum vertical APE is for trenching and excavation is approximately 6 feet below the ground surface.

Spur Trail

The Spur Trail will follow a sinuous route across a disturbed area between the Node and McCormick Boulevard. The trail will be 700 feet long and 12 feet wide. The trail will be paved, which involves grading to a depth of 6 inches for the placement of base gravel and the placement

of concrete. The APE is a corridor 25 feet wide by 700 feet long (.4 acre) (see Figures 4, 5, and 8).

Adventure Trail

Reclamation previously consulted on a 2,453 feet long segment of the trail. The County wants to add a 3,455 foot long segment of trail to join the 2,453 foot long segment (see Figures 1 and 4). The trail will have a native surface (rock and sand) to provide hikers and mountain bikers with natural desert trail experience. The route of the Adventure Trail does not require any modification to the surface of the ground. The APE for the Adventure Trail is a linear corridor approximately 5,908 feet long by 25 feet wide (3.4 acres).

Identification of Cultural Resources and Evaluation of Historical Significance in the APE-

Davis Camp Entrance Road APE

The Davis Camp Entrance Road APE is located in an area that was been examined during two previous cultural resource surveys[1]. The APE was also examined by James Kangas, Archaeologist employed by Reclamation's Lower Colorado Regional Office during the field review on June 6, 2017. No archaeological sites or historic structures or buildings are located in the APE.

Davis Camp Trail, and Spur Trail

The new route of the Davis Camp Trail and the Spur Trail will cross vacant land to the east of Davis Camp. This area was surveyed by in 2010 by Arizona Preservation Consultants (APC) (Stein 2010)[2]. The area was also examined by James Kangas during the field review conducted on June 6, 2017. No archaeological sites or historic structures or buildings are located in the APEs. Based on the high degree of disturbance in this area the expectation for the discovery of unidentified archaeological cultural resources in the APEs is very low.

Node, and Interpretive Node

The area where the Node, and Interpretive Node APEs are located are within the APC survey area. The APEs was also examined by James Kangas, Archaeologist during the field review with the County on June 6, 2017.

The Node (see Figures 4, 5, and 7) and Interpretive Node (see Figures 4, 9, and 10) are located in Davis Camp. Davis Camp was constructed in 1948 to house government workers and their families when Davis Dam was under construction. It consisted of 100 single-family homes, a dormitory, a church, grocery store, recreation hall, field offices, a project office, an electrical shop, as well as a playground, two tennis courts, a baseball diamond, a swimming pool, and a small nine-hole golf course.

Reclamation began to modernize the camp in 1959, selling the modular homes, most of the prefabricated homes, and some of the permanent homes. The houses were moved to other parts of Bullhead City. New homes were constructed at the camp site in 1960 and 1961. However, in the 1970s, employees of Davis Dam were choosing to live in Bullhead City, which created a housing surplus at Davis Camp. In 1982 Reclamation determined that Davis Camp was surplus

[1] Archaeological Survey of Proposed 9.5 mile 69 kV Powerline near Bullhead City, Arizona (1980-215.ASM) and Southwest Fibernet Project Fiber Optic ROW, Electric Lightwave (2003-246.ASM).

[2] Historic Building Assessment of Davis Camp, A Former U.S, Bureau of Reclamation Community in Mohave County, Arizona.

property and transferred ownership of the all the buildings and utilities at Davis Camp to the County. Currently there are 10 houses and garages that remain. The County remolded them to serve as rental properties. Despite the modifications that have been made to the houses and garages APC recommends that the 10 residences are National Register eligible.

No historic structures or buildings are located in the Node and Interpretive Node APEs.

Adventure Trail

Reclamation previously defined the APE for the Adventure Trail as a linear corridor approximately 2,453 feet long by 25 feet wide (1.4 acres). With the additional of the new 3,438 foot long segment of the trail, the new APE is a corridor 5890 feet long by 25 feet wide (3.3 acres). The Adventure Trail follows an existing native surface 2-track road from its junction between the Desert Trailhead (southwest of Davis Dam Road) to the Davis Camp Trailhead. There will be no modification to the road for the trail. The trail will be maintained with a native surface comprised of rock and sand to provide hikers and mountain bikers with desert experience (see Figures 3 and 11). The Adventure Trail was surveyed by SRI and no cultural resources are located within the APE.

Determination of Eligibility and Finding of Effect – Reclamation has conducted a review of the changes the County is planning and their potential to affect historic properties. Reclamation considers the changes to be relative minor in scope and scale. No historic properties have been identified in the APEs. Reclamation previously considered the direct, indirect and cumulative effects of the undertaking. Because the changes are minor in scope and scale, and no historic properties are in the APEs, Reclamation finds that the previous effects assessment is adequate. Reclamation's previous finding of no adverse effect for the project as a whole, is appropriate for the undertaking. Reclamation has met with the Fort Mojave Tribe, Aha Makav Cultural Society and conducted a field review of the project. Reclamation will continue to work with the Tribe with respect to access and the protection of Inscription Rock.

Discovery Clause - If during the course of any activities associated with this undertaking, any districts, sites, buildings, structures, or objects not included in this consultation are discovered, activities will cease in the vicinity of the resource. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume.

Should construction result in the exposure of human remains, all activities in the area of the discovery will immediately be stopped. The discovery will be protected and secured. Construction activity within 50 feet of the discovery will not be allowed to resume until Reclamation has complied with the applicable procedures.

Amendment Clause - This consultation is only for the undertaking described above. If the impact/effects area of the undertaking change during the course of the project, Reclamation will reinitiate consultation under 36 CFR Part 800 and will not allow any land-disturbing activities to proceed before Section 106 of the National Historic Preservation Act is satisfied.

If you have questions or concerns please contact James Kangas, Archaeologist at 702-293-8392 or jkangas@usbr.gov within 30 days of receiving this letter.

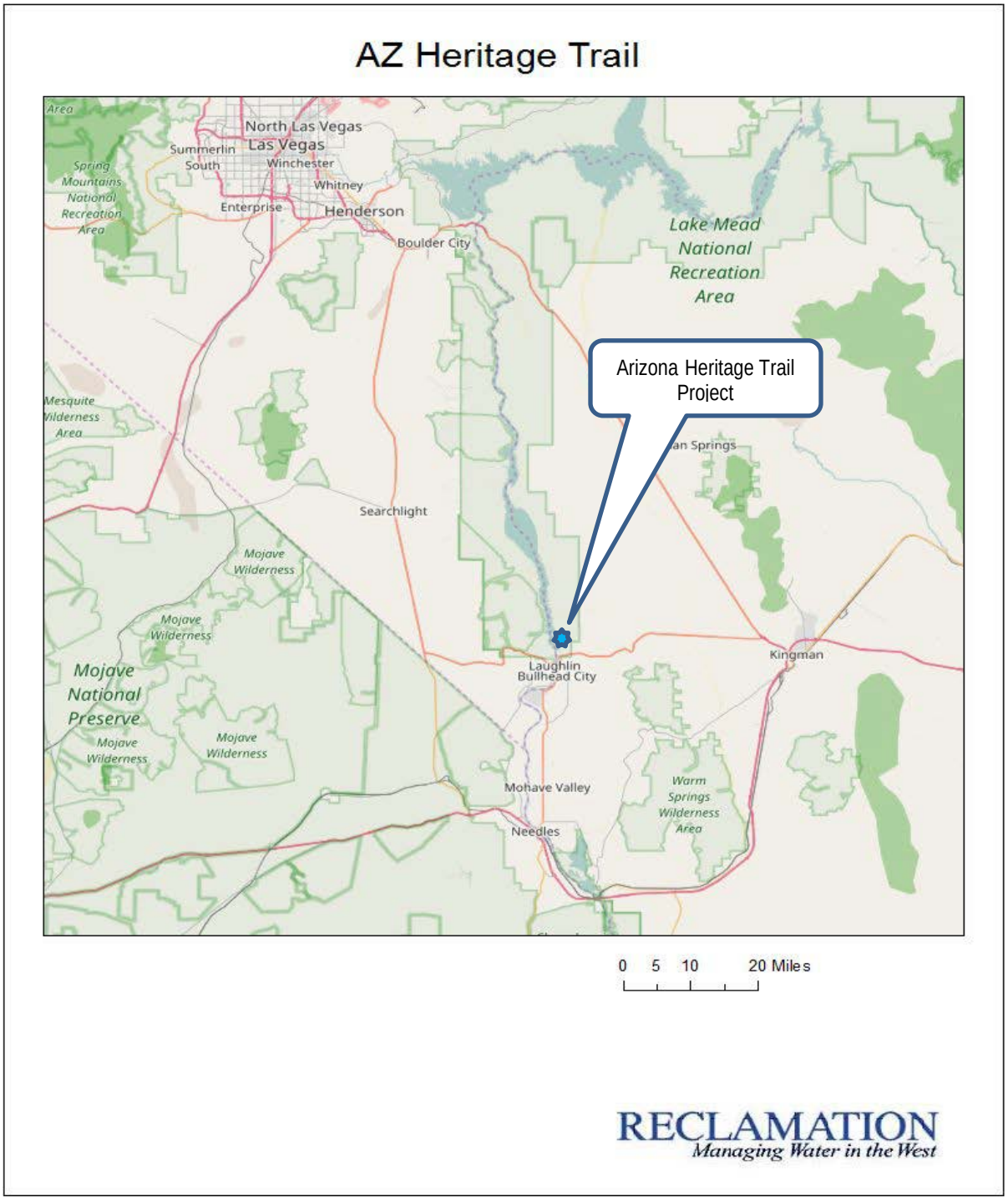

Figure 1. Vicinity map showing the location of the Arizona Heritage Trail Project in Mojave County, Arizona.

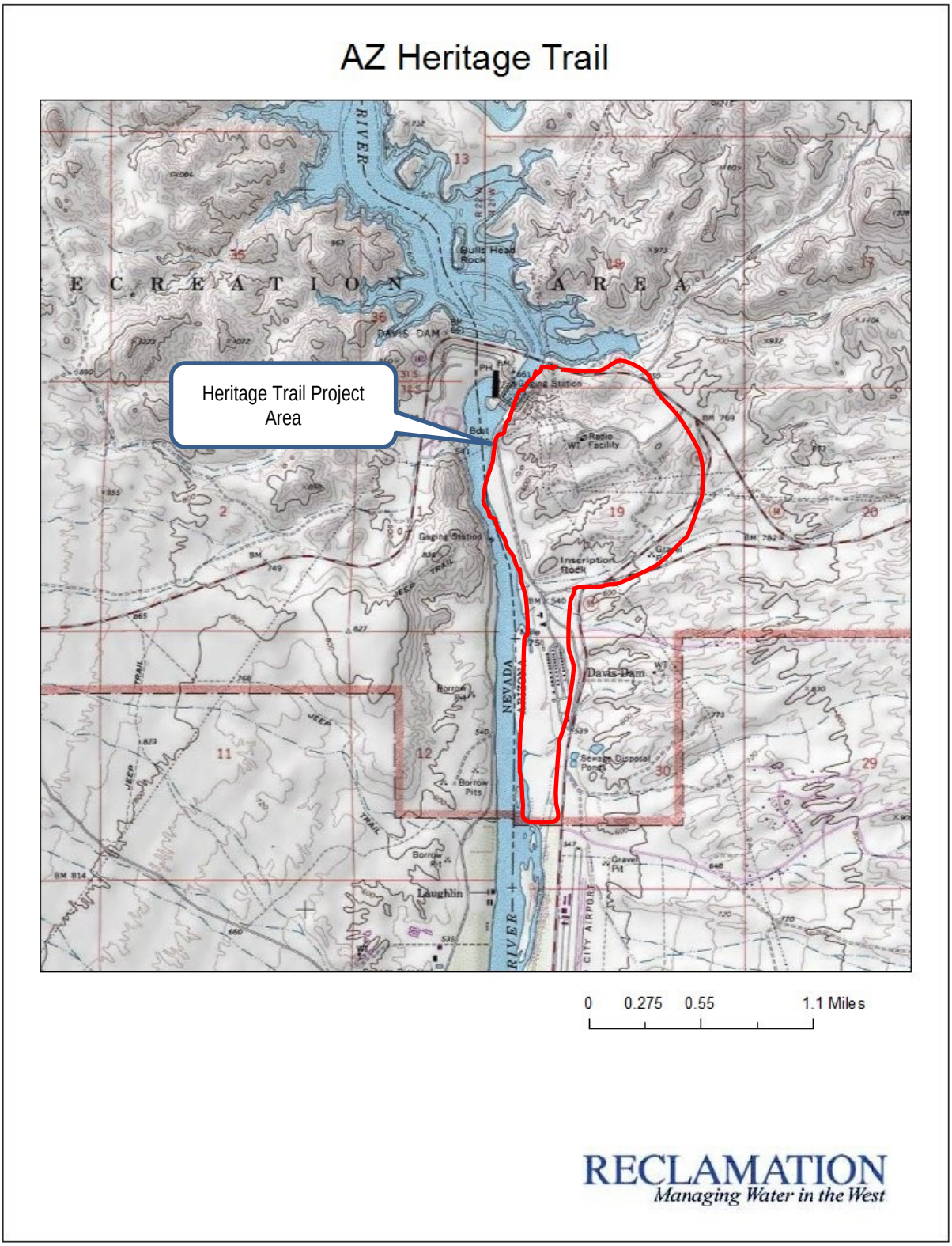

Figure 2. USGS Davis Dam Quadrangle showing the location of the Arizona Heritage Trail Project area in Mojave County, Arizona in Township 21 North, Range 21 West, Sections 18, 19 and 30.

Figure 3. Aerial photo showing the trail system of the Arizona Heritage Trail Project in Mohave County, AZ.

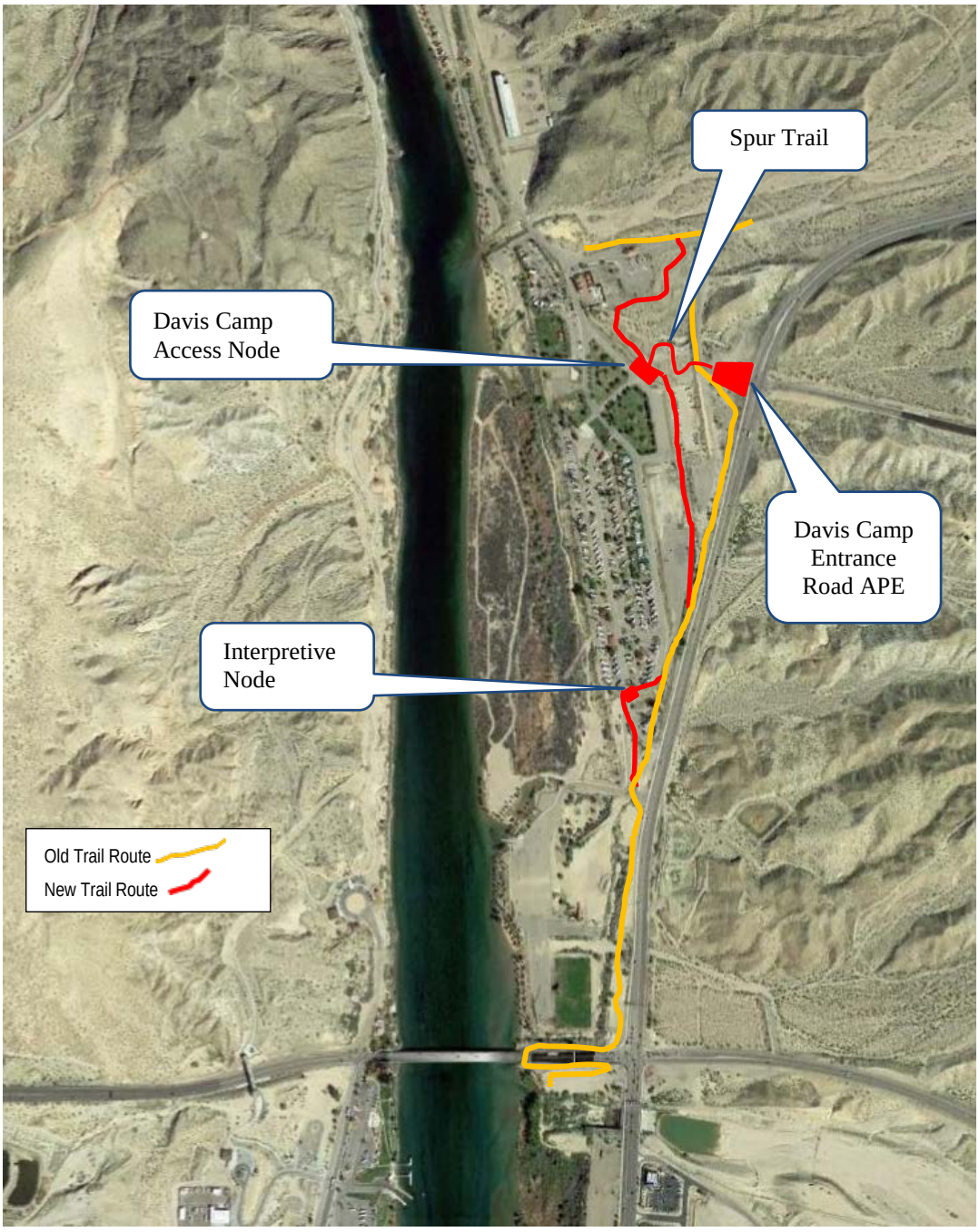

Figure 4. Aerial photo showing changes to the trail system of the Arizona Heritage Trail Project in Mohave County, AZ.

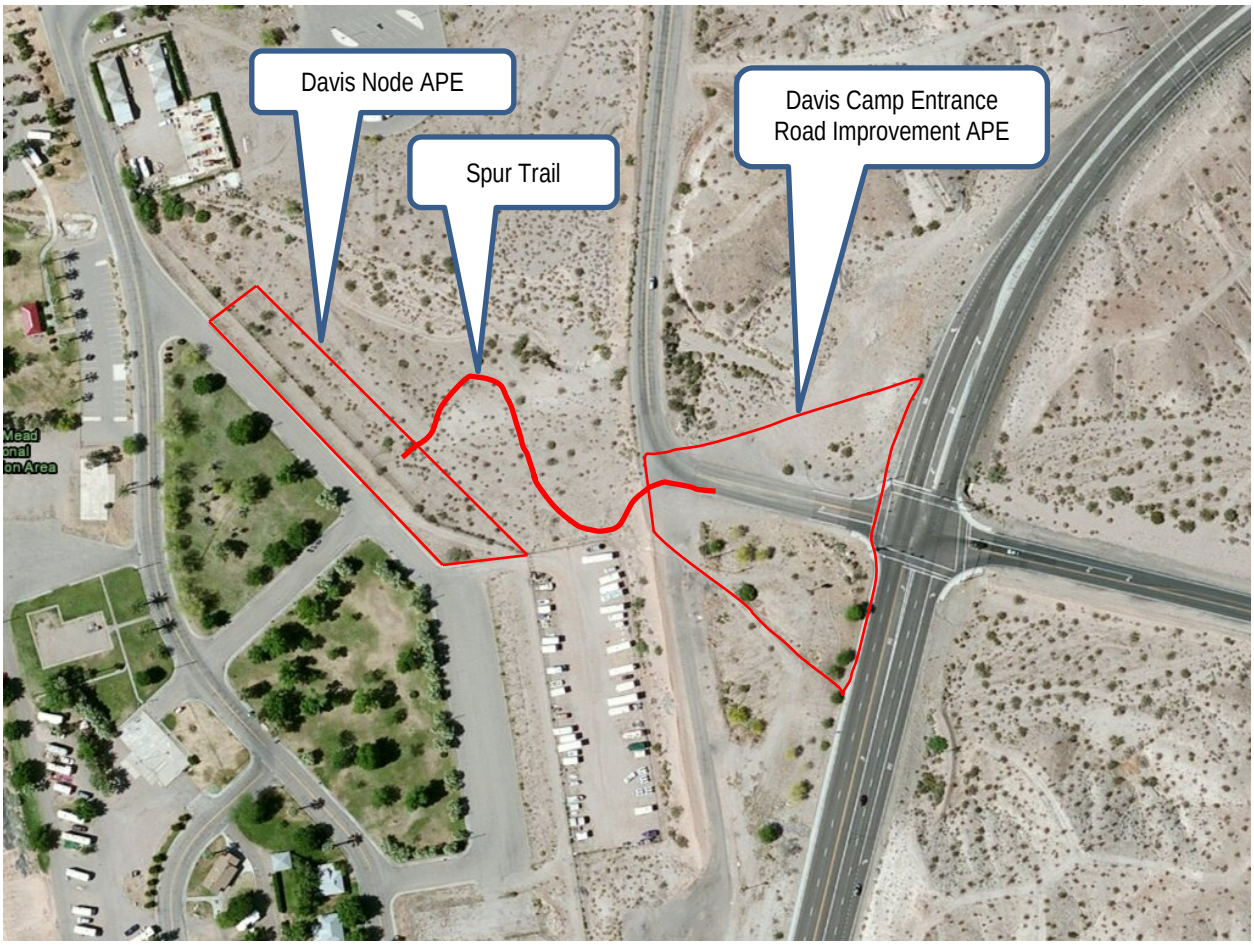

Figure 5. Aerial photo showing the location of the Davis Camp Entrance Road Improvement APE and the Davis Node and Spur Trail APE.

Figure 6. View to the east of the setting of the Davis Camp Entrance Road Improvement APE.

Figure 7. View to the west of the setting of Node APE. Davis Camp is shown in the background.

Figure 8. View to the south of the setting of the Davis Camp Trail and Spur Trail APE. The city of Bullhead City, AZ is shown in the background.

Figure 9. Aerial photo showing the location of the Interpretive Node APE at the south end of Davis Camp.

Figure 10. View the east showing the setting of the location of the Interpretive Node APE.

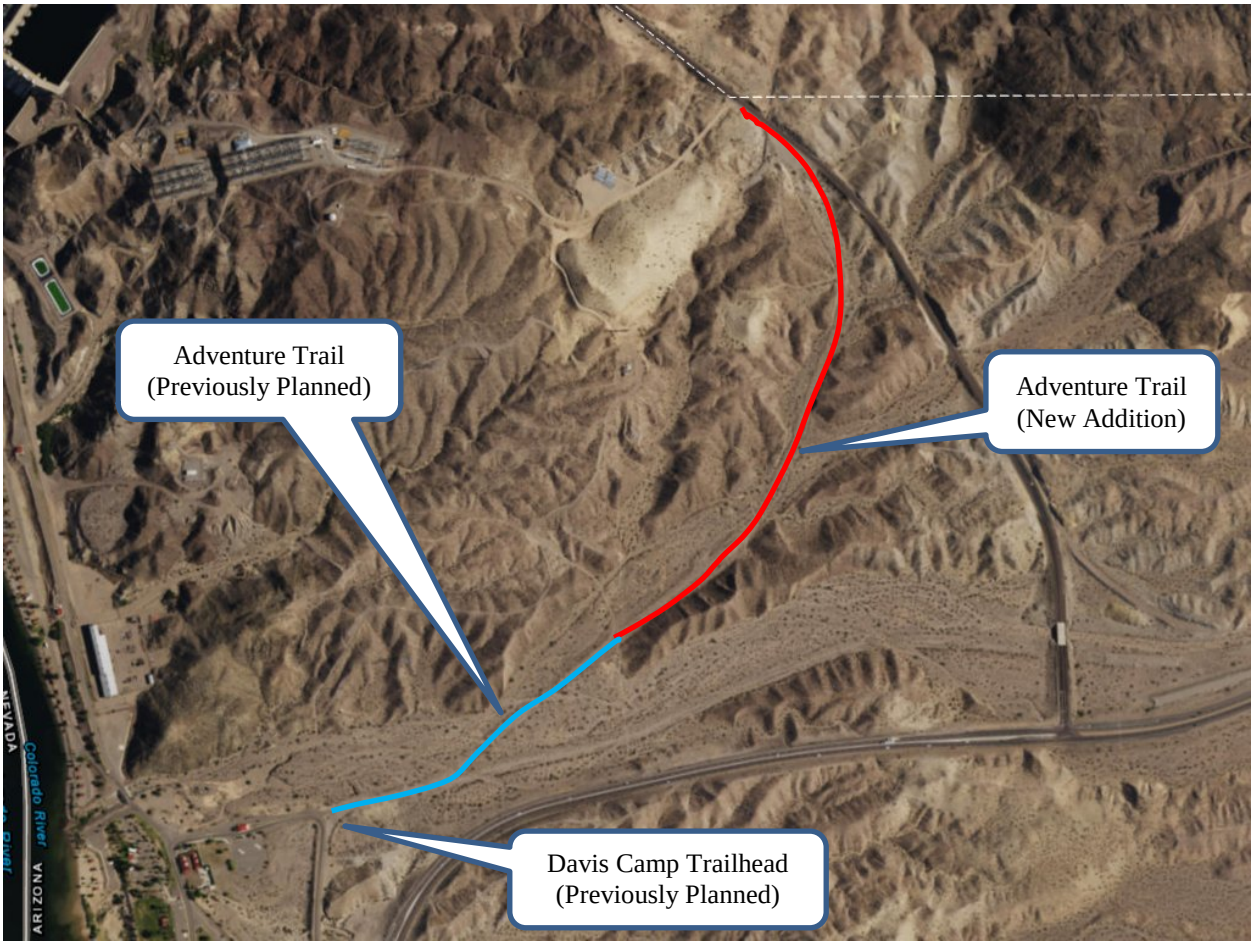

Figure 11. Aerial photo showing the location of the new addition to the Adventure Trail.

SHPO - 2016-0426 (141458)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

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ENV-3.00

DIGITAL SUBMISSION

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks
1300 West Washington
Phoenix, AZ 85007

Subject: Amended Consultation for the Arizona Heritage Trail Project Geologic Coring and Desert Trail Route Changes in Mohave County, Arizona (SHPO No. 2016-0426 [135995])

Dear Ms. Leonard:

On March 16, 2017 the Bureau of Reclamation (Reclamation) consulted with the Arizona State Historic Preservation Office (SHPO) for the construction of the Arizona Heritage Trail Project in Mohave County, Arizona. The SHPO concurred on a finding of no adverse effect for the undertaking. In addition, on June 27, 2017 Reclamation consulted on changes of the trail route along US Highway 68 between the Davis Camp Trailhead and the Heritage Park Trailhead. Now Reclamation wishes to consult on geologic core sampling and two relatively small changes in the route of a trail called the Desert Trail. Reclamation is the lead federal agency for the undertaking and this consultation is being submitted in compliance with the National Historic Preservation Act (Title 54 USC 306108 & the Code of Federal Regulations Part 800 [36 CFR 800]).

Location and Description of the Undertaking - The Arizona Heritage Trail Project is located on federal land north of Bullhead City in Mojave County, Arizona in Township 21 North, Range 21 West, Sections 18, 19 and 30 (USGS 7.5 minute Davis Dam Quadrangle) (Figures 1 and 2). A description of the geologic core sampling and two changes in the route of the Desert Trail are described below.

Geologic Core Sampling

As part of an engineering study, Reclamation is planning to conduct geologic coring to determine the physical characteristics of the soil and bedrock along the proposed trail route. Approximately 24 cores will be bored. They will be 4 inches in diameter. Holes will be drilled to contact with bedrock, which is estimated to be a depth of 20 feet below the ground surface in some locations. A drill rig mounted on a truck will be used for the work. The majority of the trail core samples will be collected along established 2 track roads that have been surveyed for this undertaking. The exception is where a new segment of the Desert Trail north of the Davis Camp Trailhead is being proposed to provide further avoidance of the east side of the Inscription Rock rock art site (Inscription Rock) (AZ: F:14:12 (ASM)). This new route is being planned in response to a concern expressed by the Fort Mojave Tribe's AhaMakav Cultural Society.

Desert Trail Re-route along Davis Dam Road

Of the two relatively small changes in the alignment of the Desert Trail, one change is located approximately 2000 feet east of Davis Dam along the Davis Dam Road. The new alignment is approximately 1300 feet long. This new route will increase pedestrian safety. A 500 foot long segment of the trail will traverse a steep side slope (Figures 3, 4, and 5). Construction of the trail along this segment will require the development of a bench for the trail along the hill side and the installation of a retention wall or rip-rap to stabilize the bench. The surface of the completed trail will be 12 feet wide and will be paved. The area of potential effect is a corridor 1300 feet long by 100 feet wide (2.9 acres).

Desert Trail - Davis Camp Trailhead Re-route

The second route change is being considered to address the Fort Mojave Tribe's concern about the increasing the distance between the trail and Inscription Rock (Figures 6, 7 and 8). Because of the surrounding topography along the new route, Inscription Rock is less visible and inaccessible to recreationists on the trail. The new trail route will cross a wash immediately north of the Davis Camp Trailhead (Figure 9). A bridge, box culvert, or similar structure will be installed along a 350 foot crossing of the wash. The crossing structure is needed to ensure that trail users can the safely cross the wash during storm events. The maximum velocity of storm flow in the wash has been measured at 4,350 cubic feet per second. The installation of the crossing structure requires an excavation to a depth of 20 feet by 15 feet wide within a 50 foot wide corridor. The APE is a corridor 350 feet long by 50 feet wide (.4 acre).

To the north of the crossing structure the trail will ascend a steep draw. The trail will then connect to the previously planned route of the Desert Trail. Preparation for the trail along this segment involves geologic core sampling, and side slope benching to create a trail surface that is relatively flat in cross section. The trail will be 12 feet wide and paved. The APE for the trail is a linear corridor approximately 1000 feet long by 25 feet wide (.6 acre).

Identification of Cultural Resources and Evaluation of Historical Significance in the APE-

On February 13, 2018 Reclamation employees Bill Martin, Recreation Planner, Toyya Mahoney, Lands, Lisa Anderson, Resources Intern, and James Kangas, Archaeologist conducted a cultural resources survey of the new trail alignments. A reconnaissance survey was conducted for the trail re-route along Davis Dam Road, and a grid survey was conducted for the re-route north of the Davis Camp Trailhead as described below.

Desert Trail Re-route along Davis Dam Road Reconnaissance

The alignment along Davis Dam Road is in an area that was previously surveyed for this undertaking (Keur 2016), and by the National Park Service for the Katherine Landing Access Road Rehabilitation (Heilman et al. 2011). Kangas conducted a pedestrian reconnaissance of the APE. The area where the re-route is proposed is highly disturbed from road construction and maintenance. No cultural resources were previously identified in this area. Due to the high level of disturbance in the area, discovery expectations for cultural resources were very low. Due to the highly disturbed condition of the APE a reconnaissance survey was determined to be an adequate method for the identification of cultural resources. No cultural resources were identified in the APE.

Desert Trail - Davis Camp Trailhead Re-route

A cultural resources survey of the trail re-route north of the Davis Camp Trailhead was conducted by Kangas with the assistance of Reclamation employees Martin, Mahoney, and Anderson. The survey employed meandering pedestrian transects oriented to pattern of the ridges and arroyos. The route that crosses the wash north of the Davis Camp Trailhead was surveyed in a grid pattern with transects spacing 10 to 15 meters apart. The survey area in the uplands has been highly disturbed by electrical transmission line construction, operations and maintenance; one of the reasons that this alignment is being considered. There is evidence of large equipment use in this area (bulldozer scrapes and track impressions). The wash channel itself is highly disturbed by the deposition, and subsequent erosion of sediment and debris. The expectation for the discovery of new cultural resources was low due to previous disturbance associated with transmission line construction and maintenance. No cultural resource sites were previously identified in the APE and none were discovered during the survey.

Finding of Effect – Reclamation conducted a review of the changes and their potential to affect historic properties. Reclamation considers the changes to be relative minor in scope and scale. No historic properties have been identified in the APEs. Reclamation previously considered the direct, indirect and cumulative effects of the undertaking. Because the changes are minor in scope and scale, and no historic properties are in the APEs, Reclamation finds that the previous effects assessment is adequate. Reclamation's previous finding of no adverse effect for the project as a whole, is appropriate for the undertaking. Reclamation has on-going discussions with the Fort Mojave Tribe, AhaMakav Cultural Society, and will continue to work with the Tribe with respect to their access to and the protection of Inscription Rock.

Discovery Clause - If during the course of any activities associated with this undertaking, any districts, sites, buildings, structures, or objects not included in this consultation are discovered, activities will cease in the vicinity of the resource. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume.

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If you have questions or concerns please contact James Kangas, Archaeologist at 702-293-8392 or jkangas@usbr.gov within 30 days of receiving this letter.

Thank you for your continued consultation efforts.

CONCUR

James Cogswell 3/2/18

Arizona State Historic Preservation Office

United States Department of the Interior
Fish and Wildlife Service
Arizona Ecological Services Office
9828 North 31st Avenue, Suite C3
Phoenix, Arizona 85051
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:
AESO/02EAAZ00-2018-I-1113

August 14, 2018

Memorandum

To: Chief, Resource Management Office (Acting), Bureau of Reclamation, (Mary Reese)

From: Acting Field Supervisor

Subject: Arizona Heritage Trail Project: Concurrence for Razorback Sucker and Bonytail Chub and Critical Habitat

Thank you for your correspondence of July 17, received on July 20, 2018. This letter documents our review of the Arizona Heritage Trail Project, in Mohave County, Arizona and Clark Country, Nevada, in compliance with section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.). Your request concluded the proposed project may affect, but is not likely to adversely affect the endangered razorback sucker (*Xyrauchen texanus*) and bonytail chub (*Gila elegans*) and associated designated critical habitat. We concur with your determinations and provide our rationales below. You also concluded there would be "no effect" to the yellow-billed cuckoo (*Coccyzus americanus*) and Southwestern willow flycatcher (*Empidonax traillii extrimus).* Species with "no effect" determinations do not require review from the U.S. Fish and Wildlife Service (Service), and are therefore not addressed further in this document.

DESCRIPTION OF THE PROPOSED ACTION

A complete description of the proposed action is found in your July 20, 2018, Environmental Assessment required under the National Environmental Policy Act; the Service will consider this document as the Biological Assessment need to complete this project.

The Heritage Trail System is located in Mohave County, Arizona, adjacent to the Colorado River (River) and the City of Bullhead City, Arizona at the northern end of the Mohave Valley directly south of Lake Mohave. The rugged and sparsely vegetated Black, Newberry, and Dead Mountains surround the project area of Mohave Valley to the east, north and west, respectively. The River runs south through the valley separating Laughlin from Bullhead City. The Heritage Trail System begins on the Arizona side of Davis Dam and end at the Laughlin/Bullhead City

Bridge. The Heritage Trail System will continue to provide access to Lake Mohave and recreational sites on the Arizona side of the River such as Davis Camp and the Colorado River Museum. The Heritage Trail System will highlight areas of historical, archeological, and ecological significance, and provide increased opportunities for recreational activities such as walking, running, bicycling, picnicking, bird watching, fishing, and kayaking. As part of the trail development, Reclamation will add gates, close some old roads, and patrol the area to reduce current unauthorized off-road activities.

The Heritage Trail System will include the repair and creation of the Desert Trail, Spur Trails, and Adventure Trail, and would be approximately 5 miles long occupying approximately 19 acres. This includes a system of pedestrian and bike trails, trailheads, fishing nodes/kayak launch, picnic shelters, bike racks, wayfinding shelters, restrooms, entry monuments, vehicle parking, pedestrian bridges, and native landscape improvements. Interpretive signs, shade shelters, trail lights, trash receptacles, and fencing would be included as appropriate. Trails within the system are planned to be 12-feet wide with 2-foot shoulders to accommodate mixed uses with the exception of the Mohave Spur Trail which would be 8-feet wide with 2-foot shoulders. Up to four fishing facilities or nodes would be constructed along the Lake Mohave shoreline off the Lake Mohave Spur Trail. The style of fishing node being evaluated for use is a cantilevered dock similar to those constructed as part of the Laughlin Heritage Greenway Trail. The cantilevered dock will be constructed on adjacent uplands and extend over the water. All of the foundation work will occur above the Lake Mohave high water level and will not disturb the lake bed. The fishing nodes will be connected to the main access trail by a 6 foot wide trail. A concrete kayak and canoe launch will be constructed along the Lake Mohave shoreline. It will be designed to handle a 10 foot vertical lake Mohave water level fluctuation. The launch will start at 2 vertical feet above high water with a slope of 8 to 10 percent and will be 100 to 125 feet long and 6 to 8 feet wide. The launch will be constructed of pre-fabricated concrete slabs that will be colored to blend in with the landscape. To obtain the needed slope, some "cut and fill" of the shoreline will be needed. The launch will be constructed at a slight angle to the shoreline to minimize excavation of the hillside adjacent to the shoreline. Up to 40 feet of compacted fill will be placed in Lake Mohave to provide a base for the concrete slabs. The fill will be screened road base material, obtained from a commercial source. A geotextile material will be placed on top of the fill to prevent sediment from entering the water. The concrete slabs will be slid onto this base. The side of the launch would be protected with riprap that blends into the surroundings, and a handrail will be installed on one or both sides of the launch. Fences, 3-4 feet high and approximately 800 feet long, will be installed on the west side of the trail adjacent to the edge of the hill and drainage ditch in the vicinity of Davis Camp and other areas requiring safety considerations.

Construction is anticipated to begin in late 2018 or early 2019 and would take approximately 12 to18 months. Two staging areas will be established at existing disturbed areas. Public access will be restricted within the staging areas for safety and security.

The width of the construction footprint will be approximately 28 feet wide. Some cut and fill of slopes will be needed on the Desert Trail north of Davis Camp trailhead to maintain an accessible grade. Other cut and fill needs may be determined as trail designs are refined.

Conservation measures:

1) To minimize the potential for sediments entering the water due to construction; construction activities will be timed to coincide with periods when lake levels are low as a result of normal reservoir operations. Also, construction of the kayak launch will take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

2) A few small salt cedar trees along the Lake Mohave Spur Trail will be removed and the area revegetated with native vegetation. Native vegetation will be seeded/planted at the trailheads, access nodes, Davis Camp entrances, within Davis Camp, and where needed to revegetate areas disturbed by construction.

3) Areas with suitable migratory bird habitat will be surveyed by a qualified biologist prior to construction. If breeding activities are occurring within the area, work will stop until the young have fledged and left the nest. The migratory bird breeding season generally occurs between February 15 and September 1.

4) Prior to ground disturbing activities areas of the project not infested with invasive species will be delineated and all equipment and vehicles will be cleaned prior to entering uninfested sites from known infested sites.

5) Areas disturbed by construction will be replanted or reseeded as needed. All seed and plant species used for revegetation will be native and approved by Reclamation and the National Park Service.

6) A biological monitor, approved by Reclamation, is required during all construction activities.

7) Interpretative panels that include a description of bonytail chub and razorback sucker and how the public can help protect these species will be placed near the fishing nodes.

8) Construction of the kayak launch will take place outside of the spawning season for bonytail chub and razorback sucker (January to June).

9) Construction will also take advantage of an annual drawdown of the lake in October, thereby minimizing activities occurring below shoreline.

10) All concrete used in construction of the kayak launch will be pre-formed and fully cured prior to being placed in the water. Uncured concrete placed in water can raise water pH and be toxic to fish species.

11) To reduce the likelihood of sedimentation entering the lake, a Stormwater Pollution Prevention Plan approved by ADEQ will be required. In addition, a sediment curtain will be used during construction of the kayak launch.

12) A Reclamation biologist permitted by the Service for razorback sucker and bonytail chub monitoring will be present during installation and removal of the sediment curtain and installation of the geotextile.

13) The Reclamation biologist will perform a clearance survey for the fish species prior to installation and removal of the curtain. No razorback sucker or bonytail chub will be handled as part of the proposed action.

DETERMINATION OF EFFECTS

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the razorback suckers and bonytail chub and associated critical habitat for the following reasons:

- Reclamation will employ avoidance and conservation measures to such a point that impacts of this project are insignificant to fish.
- The in-water effects of this project will be timed when water is low, and as such, the majority of activity will occur on dry land. Therefore, any potential direct or indirect effects on these fish species are discountable
- Biological monitors and permitted personnel will be on site during any in-water activities, which will insure that should fish be in the area they can be moved out of harm's way.
- Project effects from construction are temporary and therefore these impacts are insignificant.
- Increased sediment that may occur in the water column as part of this action will be contained by the use of a sediment curtain and therefore these impacts will be insignificant.
- Concrete features will be prefabricated, and cured, outside of the water. This will prevent toxicity from the concrete curing process from entering the water and there will be no impacts to fish.
- The likelihood of any direct or indirect interaction between the proposed action and primary constituent elements is extremely low; therefore, any effects to critical habitat are assumed to be discountable.
- Areas where terrestrial vegetation is removed or disturbed will be replanted or seeded with native plants. This will eliminate long-term impacts from erosion and sedimentation.
- Educational signs will be placed near fishing nodes regarding razorback suckers and bonytail chub. This signs will be developed in cooperation with the Service. Such educational signs are wholly beneficial to species conservation and recovery.

If Migratory Birds involved add the following:

Certain project activities may also affect species protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. sec. 703-712) and/or bald and golden eagles protected under the Bald and Golden Eagle Protection Act (Eagle Act). The MBTA prohibits the intentional taking, killing, possession, transportation, and importation of migratory birds, their

eggs, parts, and nests, except when authorized by the FWS. The Eagle Act prohibits anyone, without a FWS permit, from taking (including disturbing) eagles, and including their parts, nests, or eggs. If you think migratory birds and/or eagles will be affected by this project, we recommend seeking our Technical Assistance to identify available conservation measures that you may be able to incorporate into your project.

For more information regarding the MBTA and Eagle Act, please visit the following websites. More information on the MBTA and available permits can be retrieved from FWS Migratory Bird Program web page and FWS Permits Application Forms. For information on protections for bald eagles, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) published in the Federal Register on June 5, as well at the Conservation Assessment and Strategy for the Bald Eagle in Arizona (Southwestern Bald Eagle Management Committee website).

In keeping with our trust responsibilities to American Indian Tribes, by copy of this letter we are notifying Tribes that may be affected by this proposed action and encourage you to invite the Bureau of Indian Affairs to participate in the review of your proposed action. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

Thank you for your continued coordination. No further section 7 consultation is required for this project at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, this determination may need to be reconsidered. In all future correspondence on this project, please refer to consultation number 02EAZZ00-2018-I-1113.

If you require further assistance or you have any questions, please contact Jessica Gwinn or the Arizona Ecological Services Field Supervisor (602/242-0210).

cc (electronic):

Director, Chemehuevi Cultural Resources Center, Havasu Lake, CA (Matthew Leivas), (cultural@cit-nsn.gov)

Tribal Historic Preservation Office, Colorado River Indian Tribes, Parker, AZ (Bryan Etcitty), (bsetcitty@gmail.com)

Director, Aha Makav Cultural Society Fort Mojave Indian Tribe, Mohave Valley, AZ (Linda Otero), (lindaotero@fortmojave.com)
Director, Cultural Preservation Office, Hopi Tribe, Kykotsmovi, AZ (Stewart Koyiyumptewa), (SKoyiyumptewa@hopi.nsn.us)

Director, Cultural Resources Department, Hualapai Tribe, Peach Springs, AZ (Peter Bungart), (pbungart@circaculture.com)

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ (John Avey), (pep@azgfd.gov)

Director, Environmental Programs, Bureau of Indian Affairs, Phoenix, AZ (Chip Lewis), (chip.lewis@bia.gov)

Bureau of Reclamation, Boulder City (atrouette@usbr.gov) (Andrew Trouette)