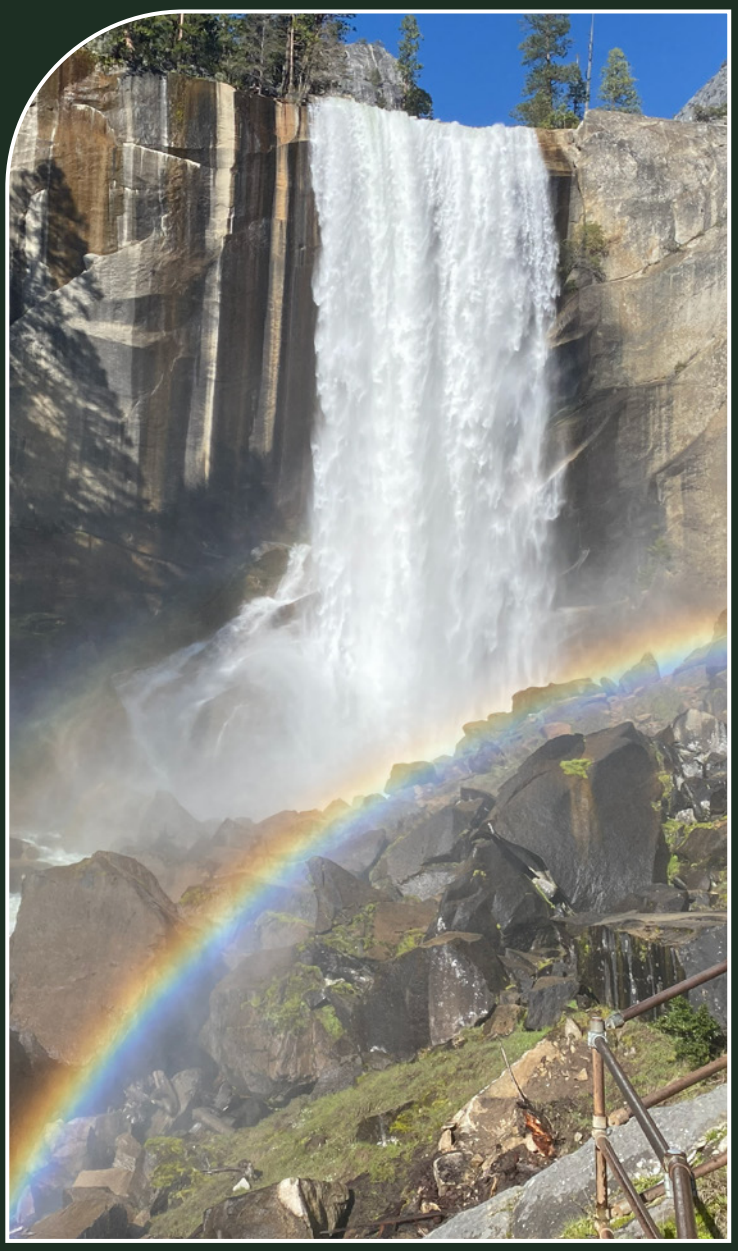
Yosemite National Park
California

National Park Service
U.S. Department of the Interior



Mist Trail Corridor Project Environmental Assessment

May 2026

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ACRONYMS AND ABBREVIATIONS

AICMC	American Indian Council of Mariposa County, Inc.
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CLI	Cultural Landscape Inventory
CNDDB	California Natural Diversity Database
EA	environmental assessment
ESA	Endangered Species Act of 1973
HDTCCL	Half Dome Trail Corridor Cultural Landscape
IPaC	Information for Planning and Consultation
JMT	John Muir Trail
MRP	Merced Wild and Scenic River Comprehensive Management Plan
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NPS	National Park Service
NRHP	National Register of Historic Places
NRIS	National Register Information System
park	Yosemite National Park
PEPC	Planning, Environment and Public Comment
project	Mist Trail Corridor Project
POS	period of significance
SAR	search and rescue
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	waters of the United States
WSR	Wild and Scenic River
WSRA	Wild and Scenic Rivers Act of 1968
YVAD	Yosemite Valley Archeological District
YVHD	Yosemite Valley Historic District

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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The National Park Service (NPS), with support from the Yosemite Conservancy, is proposing improvements to the Mist Trail Corridor in Yosemite National Park (or "park") to improve visitor circulation and orientation, enhance the visitor experience, and support safety and resource stewardship.

The Mist Trail Corridor is one of the most heavily visited trail systems in the park, providing access to destinations including the John Muir Trail (JMT), Mist Trail, Clark Point Cutoff Trail, Half Dome Trail, Vernal Fall, and Nevada Fall (Figure 1-1). At Happy Isles, the JMT–Mist Trail trailhead serves as the primary access point, with an average of approximately 85,000 visitors per summer month from 2010 through 2025.

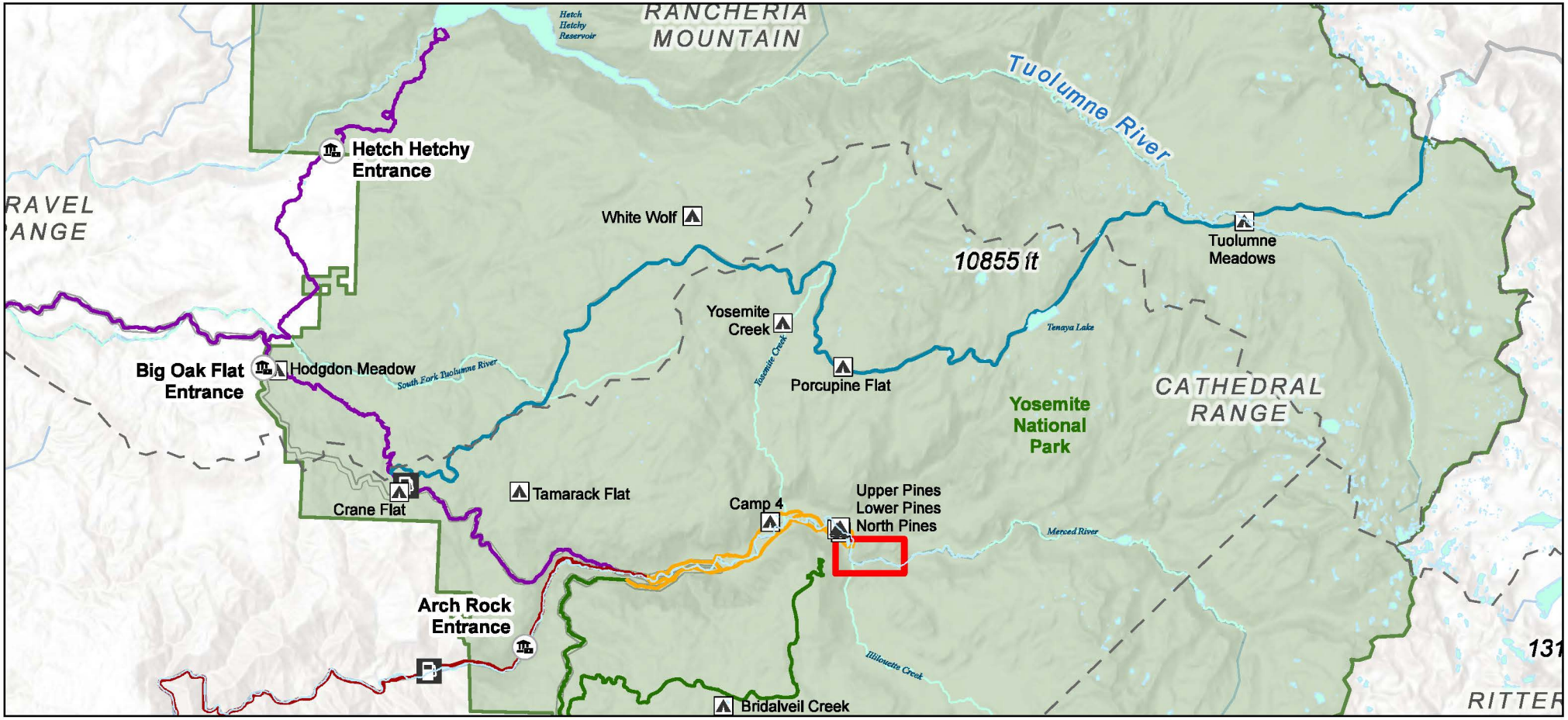
High visitation, combined with a complex trail network and physically demanding terrain, requires visitors to make informed decisions about route selection, timing, and preparedness. Clear access, intuitive circulation, and effective trip planning information at the trail corridor point-of-entry are essential to supporting a safe and high-quality visitor experience.

Project Background

The historic Happy Isles Footbridge, which formerly spanned the Merced River and provided direct access to the Mist Trail Corridor, was removed in 2001 following damage from rockfall and flooding in 1996 and 1997. Since that time, visitors have been routed across the nearby Happy Isles vehicle bridge to reach the JMT–Mist Trail trailhead on the east side of the river. This rerouted access was not designed to function as the primary entry point to one of the most heavily used trail systems in the park. As a result, visitors arrive via an indirect path with limited wayfinding, minimal orientation space, and few opportunities to access trip planning information prior to beginning their Mist Trail Corridor journey. Many visitors start their hikes without a clear understanding of route options, distances, elevation gain, trail conditions, or expected levels of use.

The Mist Trail Corridor traverses steep, rugged terrain, including extended sections of uneven and often wet stone steps that require physical preparedness and informed decision-making. The park has implemented improvements over the past decade, such as railings, stonework, step corrections, and localized widening, to address specific safety concerns along the trail corridor. While these efforts have improved conditions in targeted areas, they do not address how visitors access, orient to, and move through the corridor as a whole.

Search and rescue (SAR) incidents remain concentrated in the Mist Trail Corridor, reflecting the combined effects of high visitation, complex terrain, and limited visitor preparation. In 2025, 239 SAR incidents occurred park-wide, with 69 (approximately 29 percent) occurring within the trail corridor. From 2001 to 2025, the park responded to 4,661 incidents, including 58 unintentional deaths.



- Project Area
- Entrance Station
- Campground
- Gas Station
- Crane Flat & Hetch Hetchy
- El Portal
- Glacier Point & Badger Pass Ski Area
- Tioga Road & Tuolumne Meadows
- Yosemite Valley

0 3.25 6.5 Miles

(At original document size of 8.5x11)
1:411,840

N

National Park Service
U.S. Department of Interior

Project Location
Yosemite National Park,
Madera, Mariposa, and Tuolumne County, California

Mist Trail Corridor Project
Environmental Assessment

Figure No.
1-1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: Stantec 2025. NPS 2025.
3. Background: Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Scoping with park staff, partners, and the public identified a consistent need to improve circulation, wayfinding, and visitor orientation at Happy Isles, as well as to expand trip planning and educational resources. These needs form the basis for a more comprehensive approach to managing visitor access and experience within the Mist Trail Corridor. This Environmental Assessment (EA) has been prepared to evaluate the potential environmental effects of the proposed actions and a reasonable range of alternatives in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [USC] 4321 et seq.); Department of the Interior NEPA regulations (43 Code of Federal Regulations [CFR] Part 46); *516 DM 1 - U.S. Department of Interior Handbook of National Environmental Policy Act Implementing Procedures* (issued February 24, 2026); and Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making*.

The NPS is preparing a separate assessment of effects to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 USC 306108) and its implementing regulations (36 CFR Part 800).

The NPS also is consulting with other applicable laws and authorities, including Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 USC 1536), including coordination with the United States (US) Fish and Wildlife Service (USFWS), as appropriate, and Section 7 of the Wild and Scenic Rivers Act (WSRA) of 1968, including review for consistency with designated values of the Merced Wild and Scenic River and coordination with NPS Wild and Scenic Rivers (WSR) specialists.

Project Area

The project area is located in Yosemite Valley and includes three primary subareas: 1) Happy Isles Loop Road, the 0.6-mile segment of Happy Isles Loop Road, extending from the Valley Trailhead Parking Lot, also known locally as the Wilderness Lot, to the JMT–Mist Trail trailhead; 2) the Happy Isles area, the primary entrance for visitors venturing to destinations within the Mist Trail Corridor, including the trailhead and associated visitor facilities; and 3) the Mist Trail Corridor, including segments of the JMT, Mist Trail, Clark Point Cutoff Trail, Stock Trail. Although referred to as the "Mist Trail Corridor Project" (or "project"), the project area begins along the JMT, which provides access to the Mist Trail. Table 1-1 summarizes these subareas. Appendix A—*Project Area Detailed Figures*, Figures A-1 and A-2 illustrate these areas in greater detail.

Table 1-1. Project Area Description

Project Subarea	Description
Happy Isles Loop Road	Includes a 0.6-mile section of the Happy Isles Loop Road and adjacent pedestrian path (Valley Loop Trail) from the Valley Trailhead Parking Lot[1] to Happy Isles. This segment travels across the Happy Isles vehicle bridge spanning the Merced River east of Happy Isles Shuttle Stop at Happy Isles to the existing John Muir Trail (JMT)-Mist Trail trailhead.

Project Subarea	Description
Happy Isles Area	Includes the Happy Isles Shuttle Stop; a small fully-accessible parking area; Happy Isles vehicle bridge; existing Happy Isles visitor facilities and services, including the restroom facility next to the shuttle stop; the Art and Nature Center; North and South Happy Isles nature trails; and the JMT-Mist Trail trailhead east of the Merced River.
Mist Trail Corridor	**John Muir Trail.** The section of the JMT included in the project area begins at the JMT-Mist Trail trailhead, terminating at the Upper JMT-Mist Trail Junction past Nevada Fall. The JMT, between Happy Isles and the Vernal Fall Footbridge, climbs approximately 400 feet in 0.8 miles with an average incline of 9.5%. The section of the JMT from the Vernal Fall Footbridge to the Upper JMT-Mist Trail Junction climbs approximately 1,500 feet in three miles. **Mist Trail.** The Mist Trail exists between the lower and upper JMT-Mist Trail junctions. This trail includes important landmarks and popular viewpoints, such as the Mist Trail steps (steep and slippery steps beginning at the base of Vernal Fall leading up to the brink of Vernal Fall), Illilouette Fall, the brink of Vernal Fall, Emerald Pool, Silver Apron, Clark Point, and Nevada Fall. From the brink of Vernal Fall to the Nevada Fall Footbridge, the Mist Trail gains approximately 2,000 feet in elevation over 1.5 miles. **Clark Point Cutoff Trail.** The Clark Point Cutoff Trail is approximately 0.4 miles long and connects the JMT to the Mist Trail at Clark Point between Vernal Fall and Silver Apron Footbridge. **Stock Trail.** The Stock Trail begins at the Happy Isles Art and Nature Center and runs approximately 1.1 miles to an intersection with the JMT near the Lower JMT-Mist Trail Junction. The Stock Trail is designated for stock (i.e., horses and mules) and other park operations use and is not included on official park maps. **Existing Project Area Trail Loop Network.** There are two existing trail loops[2] above Vernal Fall Footbridge. The first and shorter of the two loops (Vernal Fall Loop) begins at Vernal Fall Footbridge and continues uphill along the JMT to the Mist Trail up to the brink of Vernal Fall. The Vernal Fall Loop then follows the Clark Point Cutoff Trail to connect back with the JMT to return to Vernal Fall Footbridge. This loop is approximately 2.5 miles in length. The second, longer loop (Nevada Fall Loop) begins at the Vernal Fall Footbridge continuing uphill along the JMT to the Mist Trail past the brink of Nevada Fall. At this point, the Nevada Fall Loop then connects back with the JMT to return to the Vernal Fall Footbridge. This loop is approximately 4.4 miles in length.

[1] Also known locally as Wilderness Lot.

[2] The existing trail loop network is described in this table as one-way for illustrative purposes; however, the trail loops can be travelled bidirectionally.

PURPOSE OF AND NEED FOR THE PROJECT

The purpose of the project is to enhance the visitor experience in Happy Isles and the Mist Trail Corridor by addressing safety, wayfinding, stewardship and education, as well as improving facilities and services to accommodate current levels of visitor use. The purpose is not to eliminate risk inherent to wilderness travel, but to improve visitor orientation, circulation, and preparedness at the primary access point to the corridor.

The need for the project stems from the following issues at Happy Isles and along the Mist Trail Corridor:

- **Safety.** The project is needed to increase safety awareness along the Mist Trail Corridor, as some visitors do not recognize the danger of navigating steep trails and the presence of nearby swift water, resulting in injuries, fatalities, and dangerous rescue and recovery operations. From 2001 to 2025, the park responded to 4,661 incidents, with 58 unintentional deaths. The proportion of SAR incidents in the Mist Trail Corridor is higher than anywhere else in the park.
- **Wayfinding/Orientation.** The project is needed to address the current shortcomings with wayfinding and orientation within Happy Isles and the Mist Trail Corridor. As a result of the historic Happy Isles Footbridge removal, there is a substantial disconnect between the Happy Isles Shuttle Stop on the west side of the river and the actual trailhead on the east side of the river. Due to this configuration and lack of informational resources, hikers often miss the opportunity to plan their route and assess the difficulty of the trail system. Many set out on their journeys without the necessary information, unaware of the challenges that lie ahead. Moreover, wayfinding along the Mist Trail Corridor is minimal and existing signage is outdated or unclear.
- **Visitor Facilities and Services.** The project is needed to address the current level of visitor use and aging infrastructure at Happy Isles and along the Mist Trail Corridor. Existing visitor facilities and services, such as signage, seating, restrooms, and water-filling stations, do not effectively support the volume of Happy Isles visitors and Mist Trail Corridor users. During busy summer months, visitors often spend extra time queuing for restrooms and at the Happy Isles Shuttle Stop without a space to rest. Likewise, existing Happy Isles facilities and services are not spatially coordinated, do not support intuitive visitor flow from arrival to trailhead, and are limited in information on site for visitor wayfinding and trip planning. There also is a lack of trail pullouts along the corridor, which limits opportunities for visitors to pause, rest, or safely step aside from the main trail.
- **Stewardship/Education.** The project is needed to increase visitor exposure to and education on the natural and cultural features of the Mist Trail Corridor, which would ultimately contribute to developing a greater appreciation and respect for these unique places. In turn, visitors are more likely to invest their experience in stewardship and protection of resources. The park is home to unique and protected wildlife and their habitats. The park will work in partnership with the seven traditionally associated Tribes to steward and share stories of their history and their ongoing relationships to Yosemite National Park, including their continued roles in living, working, and caring for these lands.

RELATIONSHIPS TO OTHER LAWS, PLANS AND POLICIES

Current laws, plans and policies are in place related to the management of park resources which guide and inform this EA. The NPS has several sources of detailed guidance to help managers make day-to-day decisions. The primary sources of guidance are *516 DM 1 - U.S. Department of Interior Handbook of National Environmental Policy Act Implementing*

Procedures (issued February 24, 2026) and the 2006 NPS Management Policies, which include NPS Director's Orders, handbooks, and reference manuals. These policies were put in place for the preservation, management, and use of park resources and facilities park-wide. The most relevant laws, plans, or policies related to this EA are detailed in Appendix B—*Laws, Plans, and Policies with a Relationship to the Mist Trail Corridor Project*.

The *Merced Wild and Scenic River Comprehensive Management Plan* (MRP; NPS 2014a) provides management direction for protection of the Merced WSR, including guidance on development within the river corridor and management of visitor use in Yosemite Valley. The MRP discourages new development near the river while allowing for the replacement or rehabilitation of facilities in previously developed areas where such actions improve visitor use and resource protection. The Happy Isles area is a developed segment of the river corridor, and the alternatives considered in this EA have been developed to minimize effects to the river corridor and avoid disturbance to the bed and banks, to the extent practicable. The alternatives have been developed to be consistent with the MRP by focusing improvements within previously disturbed areas, minimizing new development within the river corridor, and avoiding impacts to the bed and banks of the river. As a result, the project is consistent with MRP management direction for this segment.

IMPACT TOPICS

An interdisciplinary team of NPS staff, including natural and cultural resource experts, identified the impact topics considered in this document through a series of internal meetings, site visits, and civic engagement, as well as through an analysis of site conditions, federal laws, regulations, Executive Orders, and NPS Director's Orders. Impact topics are the resources or issues of concern that could be impacted by the range of alternatives. Identifying impact topics facilitates the analysis of environmental consequences and allows for a comparison between alternatives based on the most relevant information. The NPS determined implementation of the project could have short- and long-term adverse and beneficial impacts on the resources listed in Table 1-2, which have been retained as impact topics for further analysis in this EA. Table 1-2 provides a high-level summary of potential impacts associated with each of these resource topics. A detailed analysis on each of these impact topics is included in Chapter 3 of this EA. Although park operations are not classified as an environmental, cultural, or historic resource subject to NEPA analysis, they remain integral to the proposal, ensuring its feasibility and implementation. Accordingly, Appendix C—*Project Impacts to Park Operations*, provides a description of park operations within the project area and examines the potential effects of the project alternatives on those operations.

Table 1-2. Summary of Potential Project Impacts by Resource Topic

Resource Topic	Summary of Potential Project Impacts
Visitor use and experience, including visitor safety	Short-term impacts would include temporary trail closures or detours and reduced visitor experience during construction and from changed circulation. Long-term, the project would improve visitor experience and safety with better signage, orientation, and facilities. Enhanced infrastructure and information would offer a safer and more consistent experience in a heavily used and challenging trail environment.

Resource Topic	Summary of Potential Project Impacts
Biological resources, including vegetation, wildlife, and special status species	Short-term impacts would include temporary disruption to vegetation, soil, and wildlife during construction, with limited duration and extent. Although some alternative actions could cause localized habitat displacement, long-term, improved visitor education would reduce disturbance and food habituation and better manage impacts in high-use areas, leading to overall habitat improvements.
Water resources, including floodplains and surface waters	Short-term effects would include temporary sedimentation and localized water quality issues from construction, minimized by best management practices. Long-term, clearer pedestrian routes and reduced off-trail travel would minimize disturbance to riparian zones. Improved infrastructure and management would lessen unmanaged impacts and benefit water resources overall.
Cultural landscapes	Short-term effects would include temporary visual and physical disruptions from construction and equipment staging. Long-term impacts would be mostly positive, as the project would direct visitors to designated paths, reducing resource degradation. Some changes in landscape character may occur where new infrastructure or routes are added, but historical integrity and key features would remain unaffected. Protection measures, staff oversight, and Tribal input during design would minimize adverse effects.
Historic properties, including historic structures and archeological and ethnographic resources	Short-term impacts may include disturbance to unidentified archeological resources during ground work, addressed through Section 106 compliance and mitigation. Long-term, improved visitor management would protect historic properties and reduce resource degradation. Although some alternatives could cause localized adverse effects on historic access or features, these would be minimized with thoughtful design and mitigation. Overall, the project would promote preservation and interpretation of corridor historic resources.
Visual resources	Short-term impacts would include temporarily reduced scenic quality due to equipment and work zones. Long-term visual effects are expected to be neutral or positive. New infrastructure like seating, signage, trail pullouts, and a possible footbridge would change the landscape locally but, if well-designed, would not diminish the overall corridor's character. Select tree clearing would enhance views along the trail, making long-term impacts minor and generally beneficial.

Several impact topics were not carried forward for analysis in this EA because they do not exist in the project area; they would not be affected by the proposal; the likelihood of impacts is low; or, through the application of mitigations measures, there would be no potential for significant impacts. These topics were not a subject of contention among the public and other agencies. Detailed rationale for dismissal of these impact topics is provided in Appendix D—*Impact Topics Considered but Dismissed from Further Analysis*.

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CHAPTER 2: ALTERNATIVES

To support agency decision making, the NPS has developed alternatives that represent different approaches to addressing circulation, orientation, and visitor experience within the Mist Trail Corridor. Alternative B focuses on improving and formalizing the existing circulation route using the current Happy Isles vehicle bridge and avoids introducing new structures within the Merced WSR corridor. In contrast, Alternative C includes construction of a new pedestrian footbridge at the historic Merced River crossing location to provide more direct access to the trailhead. These alternatives reflect a range of approaches from modification of existing infrastructure to introduction of a new crossing structure.

This chapter includes a description of project alternatives, which includes the future without the proposed action (i.e., no-action alternative [Alternative A]) and two action alternatives (alternatives B and C). Table 2-1 presents a comparison between alternatives B and C, as well as actions that are common to both alternatives.

Table 2-1. Mist Trail Corridor Project Action Alternatives Summary

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead	Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)
• Maintain and formalize existing access across the Happy Isles vehicle bridge. Continue to route visitors to the Mist Trail Corridor via the existing vehicle bridge and implement design features, such as physical barriers, to clearly separate pedestrian and vehicle circulation. • Develop a pedestrian promenade along the existing vehicle bridge alignment. Implement a defined pedestrian pathway with seating, signage, and gathering areas between the Happy Isles Shuttle Stop and the existing trailhead to improve visitor flow, comfort, and orientation. • Enhance the existing trailhead to support visitor orientation and preparedness. Provide wayfinding signage, trip-planning and interpretive elements, shaded seating, and potential water-filling station(s) to support informed decision-making prior to entering the trail corridor. • Implement a pilot program to adaptively manage the Stock Trail Loop. Formalize and manage use of the Stock Trail to create a loop route below the Vernal Fall Footbridge, improving circulation options and distributing visitor use within the trail corridor.	• Construct a new pedestrian footbridge at the historic location of the former Happy Isles Footbridge to re-establish the original access alignment to the Mist Trail Corridor. • Create a new trailhead on the west side of the Merced River adjacent to the new footbridge. Provide wayfinding signage, trip-planning and interpretive elements, shaded seating, and potential water-filling infrastructure to support informed decision-making prior to entering the trail corridor. • Create a new pedestrian promenade with seating and signage from the Happy Isles Shuttle Stop to the new trailhead and footbridge. Implement a defined pedestrian pathway with seating, signage, and gathering areas between the Happy Isles Shuttle Stop and the new trailhead to improve visitor flow, comfort, and orientation. • Decommission, restore, and revegetate a portion of the existing trailhead area on the east side of the Merced River that sits within the floodplain, while retaining the existing horse trail that continues downstream to the Happy Isles vehicle bridge.
Actions Common to Alternatives B and C	

- Revise visitor messaging and signage within the project area via a new signage and messaging plan that includes a comprehensive communication strategy incorporating technology for trip planning and preparedness. Advertise the existing trail loops above Vernal Fall Footbridge via signage.
- Provide trip-planning and wayfinding resources throughout the project area, where appropriate.
- Clearly delineate pedestrian access to Happy Isles by changing the two-way Happy Isles Loop Road into a multi-modal roadway with one shared-use lane for pedestrians, cyclists, and authorized electric mobility devices adjacent to a one-way vehicular lane, starting from the Valley Trailhead Parking Lot[1] to the Happy Isles area.
- Improve the Happy Isles Shuttle Stop as an arrival space and embarkation point to adequately orient and prepare visitors for the Mist Trail Corridor.
- Improve the existing Happy Isles restroom facilities by upgrading the interior, increasing stall capacity, and/or modifying the exterior building footprint.
- Increase trail pullouts where existing shoulders can accommodate wider areas to rest, including near Vernal Fall Footbridge.
- Perform selective vegetation clearing outside of Yosemite Wilderness to restore scenic vistas.

[1] Also known locally as Wilderness Lot.

Compared to Alternative B, rerouted access under Alternative C would create a more centralized and cohesive visitor experience within the Happy Isles area. Visitor safety could improve by reducing the need for visitors to share the vehicle bridge with bicycles, shuttles, and authorized vehicles. In addition, river viewing would be focused at the proposed footbridge, reducing potential pedestrian-vehicle conflict on the vehicle bridge[1].

ALTERNATIVE A: NO ACTION

The no-action alternative consists of a continuation of reasonably foreseeable environmental trends and planned actions as they would occur without implementation of the proposed action or other action alternatives.

Under the no-action alternative, the NPS would continue to maintain the Happy Isles Loop Road, Happy Isles area, and the Mist Trail Corridor without substantial changes to existing infrastructure (i.e., no new construction). Management actions would include minimal rehabilitation and repairs necessary to maintain trail infrastructure, signage, facilities, and other existing visitor services. The NPS would continue to make small scale site-specific safety improvements, such as safety railings and added tread on steps, as part of its ongoing maintenance of the Mist Trail Corridor.

The existing vehicle bridge over the Merced River would continue to provide access to the Mist Trail Corridor from Happy Isles. The vehicle bridge has a narrow sidewalk, and visitors frequently walk within the two-lane roadway, which is shared by shuttle buses operating approximately every 15 minutes in the summer, as well as administrative and other authorized vehicles. Limited wayfinding and orientation information would continue to serve as the primary source of Mist Trail Corridor trip planning information for visitors.

[1] While the traffic pattern change would continue over the vehicle bridge under both alternatives B and C, no formal upgrades to separate pedestrians from vehicles would be made to the vehicle bridge under Alternative C, and pedestrians would be discouraged from using the vehicle bridge through signage and messaging.

The existing trail network, which currently includes two trail loops above Vernal Fall Footbridge, would remain available to visitors. The Stock Trail, currently not marked for public use, would continue to be used by packers and for other park administrative purposes, with minimal visitor conflicts.

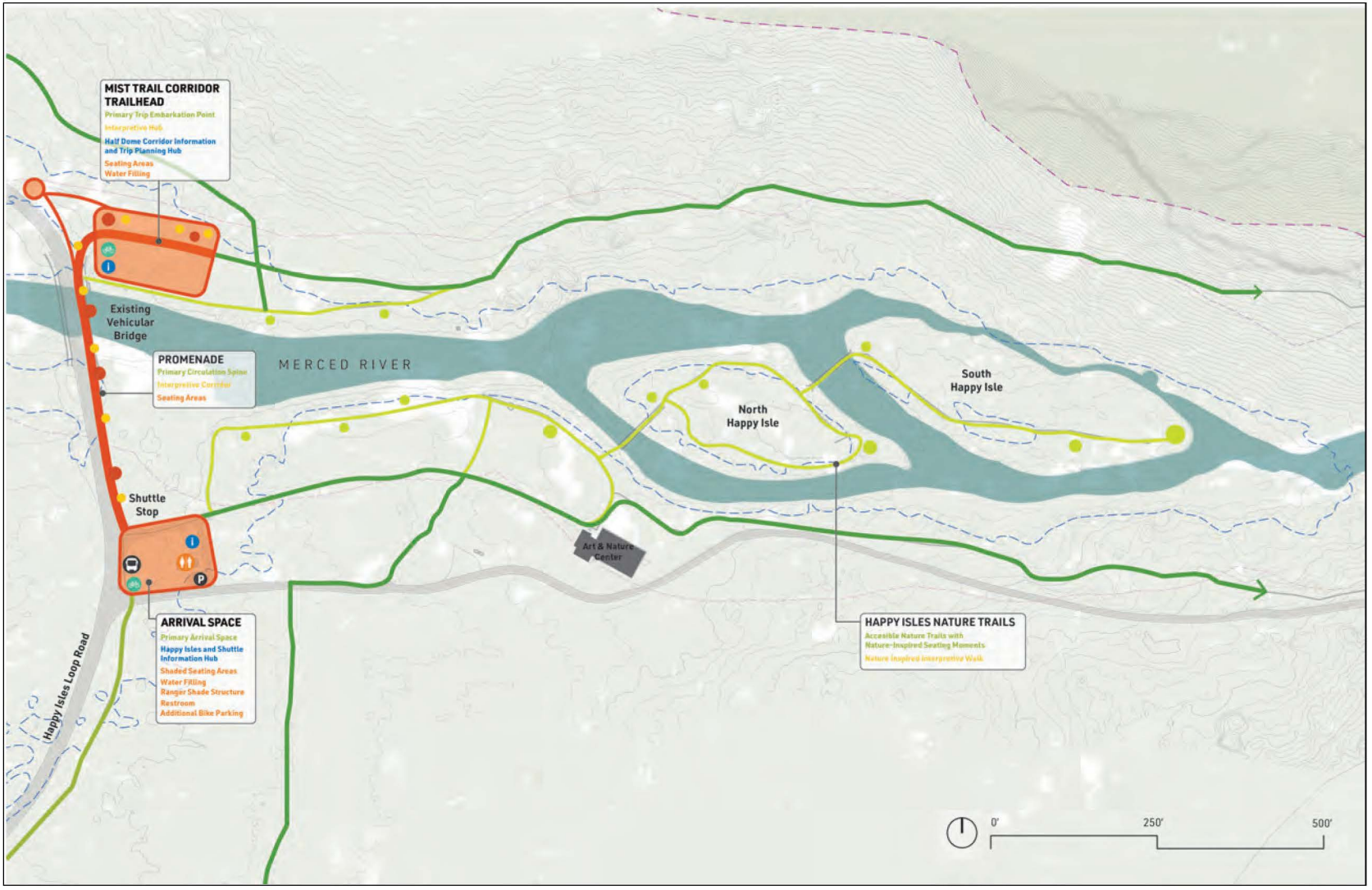
ALTERNATIVE B: USE EXISTING VEHICLE BRIDGE FOR PEDESTRIAN ACCESS WITH ASSOCIATED PROMENADE AND TRAILHEAD

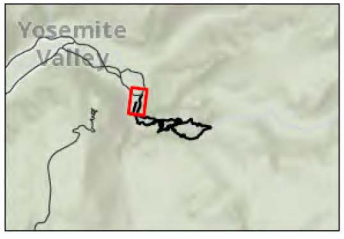
Under Alternative B, existing visitor access to the Mist Trail Corridor via the Happy Isles vehicle bridge would be maintained. Improvements to the vehicle bridge would include a pedestrian promenade with seating and signage and installation of a barrier to separate pedestrians from vehicles. Alternative B also would develop the existing trailhead with new visitor facilities and services, including wayfinding signage, trip-planning and interpretive elements, shaded seating, and potential water-filling infrastructure, on the east side of the river. In addition, the NPS would implement an adaptive management pilot program to formalize use of the Stock Trail, creating a loop route below the Vernal Fall Footbridge. Figure 2-1 illustrates a concept-level depiction of the improvements proposed to the Happy Isles Loop Road and Happy Isles area under this alternative. The following sections describe the proposed actions under Alternative B.

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

Under Alternative B, visitor access to the Mist Trail Corridor would continue to be directed across the Happy Isles vehicle bridge, toward the existing trailhead on the east side of the Merced River. The existing trailhead would continue to function as the gateway and primary pedestrian access point to the Mist Trail Corridor.

To support continued pedestrian access across the vehicle bridge, safety improvements would be made to the vehicle bridge, such as separation of pedestrians and vehicles through installation of barriers, such as elevated curbs or bollards, as shown in Appendix E—*Preliminary Conceptual Designs*, Figure E-1. Additional details regarding the proposed traffic pattern change to the Happy Isles Loop Road leading into Happy Isles are discussed in the *Clearly Delineate Pedestrian Access to Happy Isles* section under *Actions Common to Alternatives B and C*.





National Park Service
U.S. Department of Interior

N

Notes
1. Data Sources: National Park Service 2026.

Project Location
Yosemite National Park,
Madera, Mariposa, and Tuolumne County, California

Client/Project
Mist Trail Corridor Project
Environmental Assessment

Figure No.
2-1

Title
Proposed Alternative B
Happy Isles Area Overview

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

Under Alternative B, a pedestrian promenade would be formed using the proposed shared-use lane along Happy Isles Loop Road starting from the Happy Isles Shuttle Stop to the existing trailhead over the Happy Isles vehicle bridge (Figure 2-1). A detailed description of the proposed shared-use lane is in the *Clearly Delineate Pedestrian Access to Happy Isles* section under *Actions Common to Alternatives B and C*. The promenade segment on the vehicle bridge would include seating, wayfinding, and interpretive signage as visitors cross the vehicle bridge to the existing trailhead. Refer to Appendix E, Figures E-1 and E-2 for a depiction of the proposed promenade over the vehicle bridge.

Enhance the Existing Trailhead

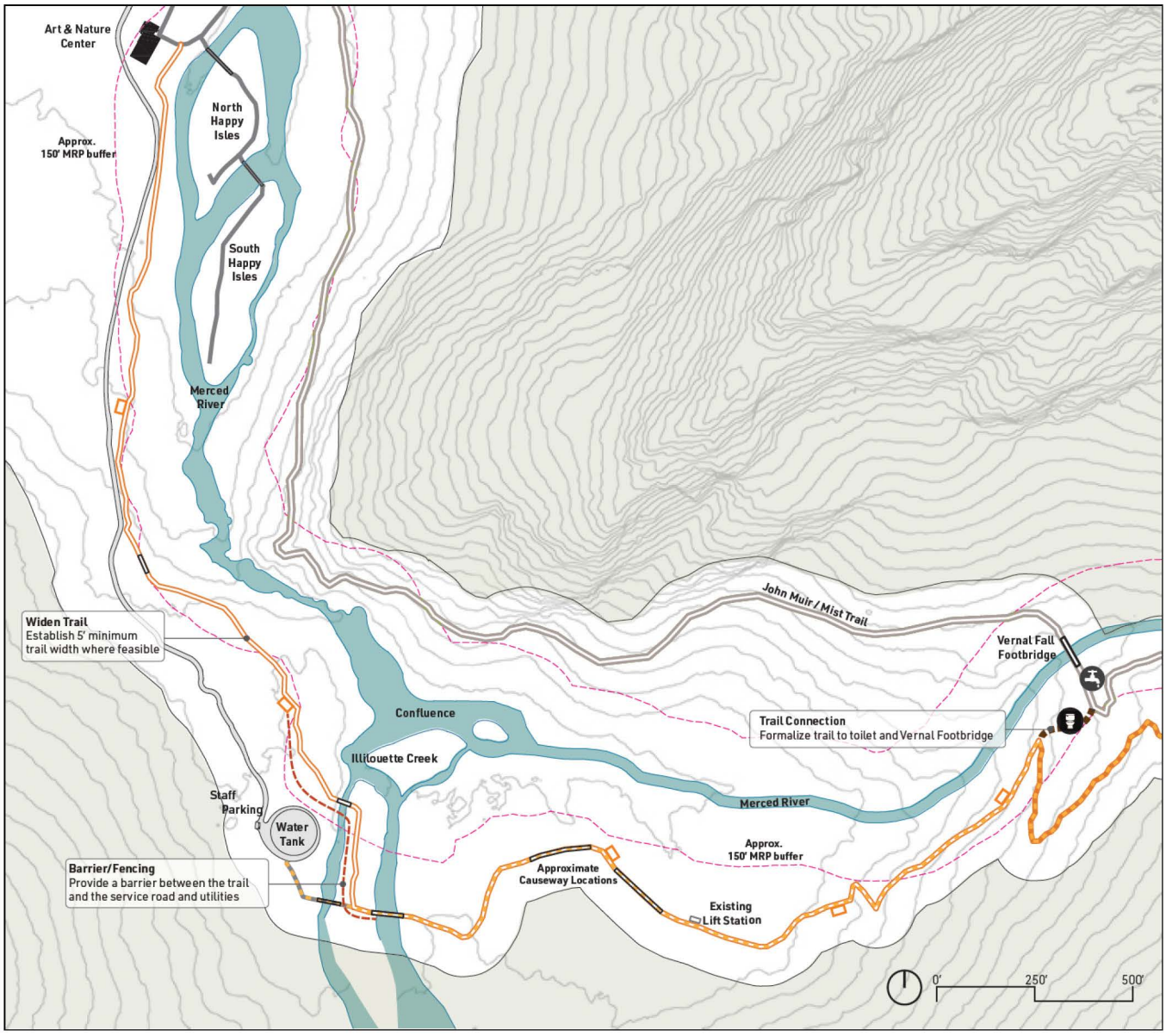
Under Alternative B, the existing trailhead on the east side of the Merced River would be enhanced with new wayfinding signage, trip-planning and interpretive elements, shaded seating, and potential water-filling infrastructure (Figure 2-1). The enhanced trailhead area would function as the primary gathering space for visitors embarking along the Mist Trail Corridor with orientation signage and focused messaging on visitor preparedness, safety, and visitor experience to educate visitors on the trail corridor requirements. Current trail conditions would also be communicated at the trailhead. A water-filling station on the east side of the Merced River would require bringing a waterline across the vehicle bridge, if feasible, given existing infrastructure. A conceptual point-of-view rendering of the proposed enhancements at the existing trailhead is included as Appendix E, Figure E-3.

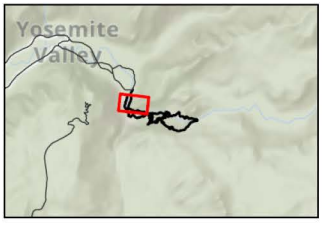
Formalize Stock Trail Loop

Stock Trail Loop Adaptive Management

Under Alternative B, the NPS would implement an adaptive management pilot program to formalize use of the Stock Trail, creating a loop route below the Vernal Fall Footbridge ("Stock Trail Loop;" Figure 2-2). The Stock Trail Loop begins at the existing trailhead, then follows the JMT to the Vernal Fall Footbridge, and returns via the Stock Trail on the south and west side of the Merced River, passing an NPS administrative area (including a water tank) and crossing Illilouette Creek[2].

[2] The Stock Trail Loop is described as one-way for illustrative purposes; however, the loop could be travelled bidirectionally.





Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: Stantec 2025. NPS 2025.
3. Background: National Park Service, 2026.

Proposed

- Improved Stock Trail
- Rest Area *(minimum 5' x 5' adjacent to trail every 1,000' or when space allows)*
- Formalized Trail

Existing

- Stock Trail
- Stock Use
- Restroom
- Water Filling Station
- Wilderness
- Bridge/Water Crossing
- Approximate Merced River Plan (MRP) 150' Buffer

N

National Park Service
U.S. Department of Interior

Project Location
Yosemite National Park,
Madera, Mariposa, and Tuolumne County, California

Mist Trail Corridor Project
Environmental Assessment

Figure No.
2-2

Title
Stock Trail Loop (Alternative B)

The loop would provide an alternative route within the corridor for visitors who may be unable or unwilling to continue farther up the trail, reducing pressure to ascend the steep and slippery Mist Trail steps. It would also offer a loop experience for visitors seeking a distinct route rather than an out-and-back hike, which many find less desirable, as well as potentially reduce the number of people on the busiest section of the JMT between Happy Isles and Vernal Fall Footbridge. Encouraging a loop option may help reduce instances of visitors exceeding their abilities by encouraging turnaround at a logical point in the corridor. The loop would be approximately 1.7 miles in length.

The pilot program would advertise the use of the Stock Trail to visitors during the dry season for a limited duration (two to four months) when spring flooding does not overtop the causeway crossing Illilouette Creek. The pilot program would implement short-term (10- to 15-minute) operational closures occurring while stock trains (groups of mules and/or horses used for park operations to manage supplies and carry waste) are passing through the narrowest section(s) of the trail. Prior to implementation, evaluation criteria would be established to determine success or failure of the pilot program, which would incorporate metrics of 1) visitor safety, 2) visitor use, 3) stock/human conflict, and 4) other operational conflict. The results of the pilot program based on the evaluation criteria would inform the next step in adaptive management to either maintain the Stock Trail as currently used or formalize the Stock Trail Loop and manage visitor and stock use with operational controls. Prior to pilot program implementation, formalization of a social trail near the existing restroom facility at Vernal Fall Footbridge would be required to connect the Stock Trail to the Vernal Fall Footbridge (Figure 2-2). Trail improvements, such as widening, constructing passing locations, upgrades to improve drainage at the causeway, installing appropriate signage, and installing railings would be implemented, as necessary, upon a successful pilot program implementation, once a decision is made. Improvements to the trail also would require an existing utility line being buried or moved, which is a pre-existing project that would be analyzed separately from this EA. The final decision for action would be informed by the conclusions of the pilot program designed to evaluate the safety, experience, and operations of visitors and the NPS.

Post-Pilot Program Stock Trail Loop Improvements

As described in the previous subsection, the following improvements would occur after the implementation of the pilot program. Any staging areas necessary for trail materials and equipment would be selected to protect park resources, to meet the needs of the contractor based on the construction phasing plan, and to minimize disruptions to visitor use and experience.

Trail Widening and Passing Locations. Select locations along the existing Stock Trail would be expanded to a minimum of five feet, where feasible, depending on environmental and physical constraints, to allow space for visitors and stock to pass each other. Passing locations would be installed by widening the existing trail and would be approximately five feet by five feet in size, spaced at intervals of no less than 1,000 feet. Exact locations of trail widening and/or passing locations would be determined upon further design and after a final decision is made on Stock Trail Loop formalization. Appendix E, Figure E-4 includes a graphic representation of a widened trail design and associated area of disturbance. For this EA, and analyzing the potential for

construction-related disturbance, it is assumed up to four feet on either side of the existing trail would be temporarily disturbed for equipment access during construction.

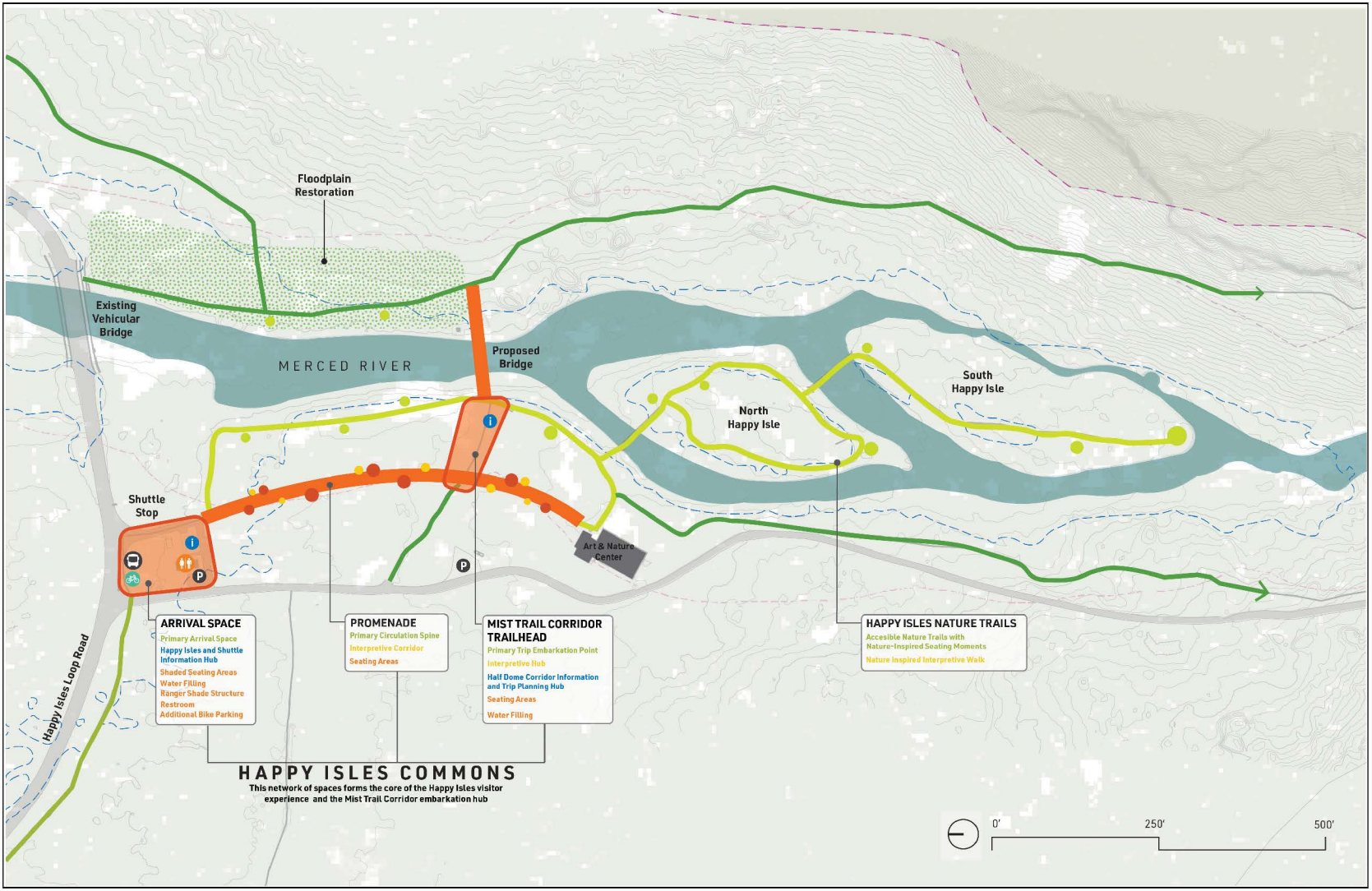
Trail Barriers and Signage. Along sections of the Stock Trail with steep drop-offs or swift water, railings or other barriers, such as rock walls, edging, boulders, would be installed for resource protection and visitor safety (Appendix E, Figure E-5). Interpretive signage could also be installed to enhance visitor experiences. Exact locations of these Stock Trail improvements would be determined upon further design and after a final decision is made on Stock Trail Loop formalization, as well as in accordance with the signage and messaging plan being developed, as described in the *Revise Visitor Messaging and Signage* section under *Actions Common to Alternatives B and C*.

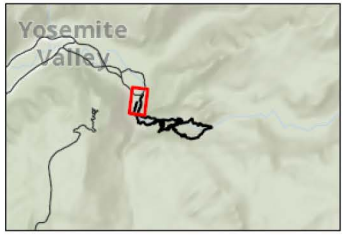
Causeway Upgrades. The existing causeway over Illilouette Creek along the Stock Trail, approximately five to six feet-wide, regularly overtops (i.e., floods) annually during the spring snow melt. To address this issue and to provide for more flow conveyance, two sections along the causeway, totaling approximately 290 linear feet, would be upgraded. Specific upgrades would be determined upon further design, and after a final decision is made on Stock Trail Loop formalization, but could include installation of railings, utility containment, and potential culvert upgrades and/or repairs. It is assumed that any upgrades would remain within the existing width of the causeway structure.

Figure 2-2 depicts the approximate locations of the causeway segments. A conceptual rendering of the upgraded causeway is provided in Appendix E, Figure E-6. Box culverts or other types of water conveyance could be considered to upgrade the existing metal culverts.

ALTERNATIVE C: CONSTRUCT NEW PEDESTRIAN FOOTBRIDGE WITH ASSOCIATED PROMENADE AND TRAILHEAD (PROPOSED ACTION)

Under Alternative C, the project would involve constructing a new footbridge over the Merced River to serve as the primary pedestrian access point to the Mist Trail Corridor; developing a new trailhead on the west side of the Merced River adjacent to the new footbridge; removing and restoring the existing trailhead area; and implementing a visitor promenade with seating and signage from the Happy Isles Shuttle Stop to the new trailhead. Figure 2-3 illustrates a concept-level depiction of the improvements proposed to the Happy Isles area. The following sections describe the proposed actions under Alternative C, the NPS proposed action.





National Park Service
U.S. Department of Interior

N

Notes
1. Data Sources: National Park Service 2026.

Project Location
Yosemite National Park,
Madera, Mariposa, and Tuolumne County, California

Client/Project
Mist Trail Corridor Project
Environmental Assessment

Figure No.
2-3

Title
Proposed Alternative C
Happy Isles Area Overview

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

Under Alternative C, visitor access to the Mist Trail Corridor would be directed into Happy Isles to cross a new pedestrian footbridge proposed for construction at the historic location of the former Happy Isles Footbridge over the Merced River, thereby re-establishing the original access alignment to the Mist Trail Corridor (Figure 2-3). This footbridge would serve as the primary pedestrian access point to the Mist Trail Corridor. Appendix E, Figure E-7 presents a conceptual illustration of the rustic character and architectural style of the proposed footbridge.

The design of the new footbridge would retain the historic east abutment that remained in place after the 2001 footbridge demolition to protect the historic gage station immediately downstream on the east side of the Merced River, which still exists today. The design would also be fully accessible and in compliance with federal accessibility standards (Architectural Barriers Act of 1968).

Appendix E, Figures E-8 and E-9 depict a preliminary design concept and associated limits of construction and grading disturbance, respectively, for the proposed footbridge based on existing topographical and hydrological conditions. Final design and construction details would be determined during the detailed design phase of the project.

Based on conceptual designs, the NPS has determined that construction of the pedestrian footbridge would require no work within the bed or banks of the Merced River. Footbridge foundations would be located in upland areas, and the structure would be erected using a crane or other means to span the river. Construction would involve near-water activities, including ground disturbance and vegetation clearing, as well as the pruning or removal of select trees. Based on the preliminary footbridge design concept, it is anticipated that up to five trees (two multi-stemmed live oaks, two incense cedars, and one ponderosa pine) could be impacted through removal or pruning. Final tree impact estimates would be confirmed during the detailed design phase.

Footbridge construction is anticipated to occur over 10 to 14 months, starting in the dry season to avoid any weather concerns. Construction of the footbridge could require area closures, which would likely extend beyond the immediate vicinity of work sites to include vehicular access routes between the sites and the Happy Isles Loop Road. Detours would be used, as necessary, during footbridge construction to maintain visitor access to Happy Isles and the Mist Trail Corridor.

Demolition and construction would require the use of vehicles, tools, and heavy equipment, the types and numbers of which would be determined during the detailed design phase. Activities would include demolition, off-hauling, foundation drilling, delivery and placement of footbridge materials and components, footbridge field assembly and erection, and earthwork.

Construction staging areas and specifics on construction would be identified in the later design phases. The staging areas would be selected to protect park resources, to meet the needs of the contractor based on the construction phasing plan, and to minimize disruptions to visitor

use and experience. Upon final design, any additional site-specific compliance would be completed, as needed.

Create a New Pedestrian Promenade

Under Alternative C, a pedestrian promenade would be formed using the existing paved utility road from the Happy Isles Shuttle Stop to its junction with the new trailhead and footbridge. Unlike Alternative B, the centrally located promenade would facilitate access to other Happy Isles destinations, including the Art and Nature Center and the North and South Happy Isles nature trails (Figure 2-3). Under Alternative C, the promenade would function as both the primary circulation route to the Mist Trail Corridor and a distinct visitor experience, incorporating seating, safety messaging, and interpretive opportunities.

Create a New Trailhead

Under Alternative C, a new trailhead with wayfinding signage, trip-planning and interpretive elements, shaded seating, and water-filling infrastructure would be constructed at or near the newly constructed footbridge at its former location to provide visitor access to the Mist Trail Corridor (Figure 2-3). The new trailhead area would function as the primary gathering space for visitors embarking along the Mist Trail Corridor with orientation signage with focused messaging on visitor preparedness, safety, and visitor experience to educate visitors on the trail corridor requirements. Current trail conditions would also be communicated at the new trailhead. A conceptual point-of-view rendering of the new trailhead area is included in Appendix E, Figure E-10.

With the construction of a new trailhead under Alternative C, the existing trailhead area on the east side of the Happy Isles vehicle bridge would be decommissioned and land restored and revegetated, while retaining the existing horse trail that continues downstream to the Happy Isles vehicle bridge (Figure 2-3). Restoration activities would include decompaction, revegetation, and stabilization.

ACTIONS COMMON TO ALTERNATIVES B AND C

Under both alternatives B and C, the project would involve revising visitor messaging and signage throughout the project area; providing additional trip-planning and wayfinding resources; clearly delineating pedestrian access into Happy Isles; improving the Happy Isles Shuttle Stop as an arrival space and embarkation point to adequately orient and prepare visitors for the Mist Trail Corridor; rehabilitating the existing Happy Isles restroom facilities; installing trail pullouts where existing shoulders accommodate; and performing selective vegetation clearing outside of Yosemite Wilderness to restore scenic vistas. The following sections provide additional detail on each of these proposed actions.

In general, improvements proposed as part of the project would be implemented in a manner consistent with a gradient concept, which involves increasing hiker independence by incrementally reducing infrastructure and signage as visitors move away from front country areas and into the backcountry of the Mist Trail Corridor. Happy Isles would offer accessible walking paths, water, restrooms, exhibits, and ample resting spaces. Visitor facilities and

services would be more limited as hikers travel along the Mist Trail Corridor and eventually approach Yosemite Wilderness after reaching the brink of Nevada Fall.

Revise Visitor Messaging and Signage

Under alternatives B and C, the NPS would develop a signage and messaging plan with a comprehensive communication strategy to implement within the project area. This plan would address all wayfinding, trip planning, rules and regulations, NPS services, and interpretive messaging within the project area. The placement of new signage along the Mist Trail Corridor would be minimized, with the majority of improvements entailing the revision or replacement of older signs and installing signage in more strategic locations to capture a higher level of visitor use.

The signage and messaging plan would be developed and designed in more detail, and would be guided by the following principles:

- Create signage that is designed to be minimal in presence, maximally effective and consistent throughout the project area. Signage shall adhere to the Yosemite Design Guidelines (NPS 2012) and NPS Visual Resources Program Visual Quality Best Practices.
- Collaborate with the seven traditionally associated Tribes to incorporate messages about Tribes and Tribal perspectives related to locations, placenames, wildlife, plants, and the experience of being in the project area.

As part of the effort to reduce visitor density along the Mist Trail Corridor, the existing trail loop network above Vernal Fall Footbridge would be identified via signage, maps, and technology as the Vernal Fall Loop and Nevada Fall Loop to inform visitors of the availability of the two alternative loop networks. The trail loops are detailed in Table 1-1 and depicted in Appendix A, Figure A-2. Loop trails have been shown to generally decrease visitor density and increase safety as fewer hikers are required to pass on narrower sections (Creany et al. 2021; NPS 1983a; NPS 2004). No new disturbance or construction, outside of minimal disturbance associated with signage installation, would be required for this action.

Provide Trip-planning and Wayfinding Resources

Under alternatives B and C, the NPS would improve visitor preparation and wayfinding by providing enhanced trip planning tools, including updated website content and real-time trail condition information, helping visitors to better plan and navigate their experience. The trailhead would serve as the primary location for on-site visitor preparedness resources to educate visitors on trail corridor requirements and provide current trail conditions prior to embarking on the Mist Trail Corridor. Other strategic locations at which physical trip preparedness resources (such as kiosks) would be installed would be determined in conjunction with the signage and messaging plan action, as described in the *Revise Visitor Messaging and Signage* section.

Clearly Delineate Pedestrian Access to Happy Isles

Under alternatives B and C, the existing two-way Happy Isles Loop Road would be changed into a multi-modal roadway starting at the Valley Trailhead Parking Lot (also known locally as the Wilderness Lot), where visitors park and walk to Happy Isles, to clearly delineate pedestrian and vehicle flow into the Happy Isles area. This concept would be accomplished by establishing a designated two-way shared-use lane for pedestrians, cyclists, and authorized electric mobility devices adjacent to a one-way vehicular lane, both within the existing roadway footprint (Appendix E, Figure E-11). A single pullout would be installed at the Happy Isles Shuttle Stop for safe pedestrian embarking or disembarking from shuttle buses to reduce conflict with passing bicyclists. There would be no physical changes to the existing Happy Isles Loop Road footprint, other than re-striping the surface of the road to delineate the vehicular lane from the shared-use lane, outside of the proposed vehicle bridge improvements under Alternative B as previously described under the *Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge* section. Pedestrians also would be directed via signage to use the existing adjacent Valley Loop Trail, which is separated from the road. Appendix E, Figure E-11 depicts the existing pedestrian Valley Loop Trail and proposed Happy Isles Loop Road multi-modal concept.

Under both alternatives B and C, the one-way vehicular lane would begin at the Valley Trailhead Parking Lot and continue across the Happy Isles vehicle bridge all the way to the intersection of Happy Isles Loop Road and North Pines Campground Road near Clarks Bridge[3]. However, the terminus of the designated two-way shared-use lane would differ between alternatives:

- Under Alternative B, the shared-use lane would extend from the Valley Trailhead Parking Lot to the Happy Isles Shuttle Stop and continue across the Happy Isles vehicle bridge to the existing trailhead.
- Under Alternative C, the shared-use lane would terminate at the Happy Isles Shuttle Stop. From that point, visitors would be directed to the new trailhead and new pedestrian footbridge crossing the Merced River to access the Mist Trail Corridor. No modifications to the existing vehicle bridge would be required under Alternative C.

Additional signage would be installed along Happy Isles Loop Road, from the Valley Trailhead Parking Lot and Upper Pines Campgrounds to the Happy Isles Shuttle Stop, to improve visitor navigation. Specific messaging and sign locations would be defined in the signage and messaging plan described under the *Revise Visitor Messaging and Signage* section.

Happy Isles Shuttle Stop

Under alternatives B and C, the Happy Isles Shuttle Stop would be enhanced to better support arrival, waiting, and departure. To accommodate current use levels, trip planning and

[3] In order to maintain two-way visitor access to the Yosemite Valley Stable located near Clarks Bridge off of North Pines Campground Road, the existing two-way traffic pattern would remain along the segment of Happy Isles Loop Road from its intersection with North Pines Campground Road back around the loop road to the Valley Trailhead Parking Lot.

preparation information, water-filling stations, shaded seating, a shade structure for park staff and Yosemite Conservancy volunteers, and bicycle racks would be added or upgraded. A conceptual rendering of the improved Happy Isles Shuttle Stop is provided in Appendix E, Figure E-12.

Wayfinding signage would also be added to direct visitors from the Happy Isles Shuttle Stop to nearby destinations within the Happy Isles area, including the Art and Nature Center and existing nature trails on North and South Happy Isles (Appendix A, Figure A-1).

Rehabilitate Happy Isles Restroom Facilities

Under alternatives B and C, the current restroom facility adjacent to the Happy Isles Shuttle Stop would be rehabilitated to accommodate a greater number of restroom stalls to reduce wait times during busy months. No new facility would be built but the interior configuration and exterior building footprint could be modified or expanded. The number of restrooms stalls to be added and modifications to the exterior footprint would be finalized during the detailed design phase of the project.

Increase Trail Pullouts

Under alternatives B and C, proposed improvements along the Mist Trail Corridor would include trail pullouts where existing shoulders are wide enough to accommodate seating and provide additional opportunities for an area to rest. If a trail pullout is installed adjacent to potential river access, barriers would be installed to deter visitors from accessing the river or hiking off-trail. For seating elements, use of on-site granite would be preferred over wood benches, whenever possible, to increase durability, longevity, reduced future maintenance, and to maintain historic building materials and character of the trail corridor. No rock blasting would be performed to create trail pullouts. In locations where bench construction is not an option, standing-room-only trail pullouts could be implemented.

The Vernal Fall Footbridge has been identified as a potential location for additional seating, as the footbridge is an already existing major gathering point and area to rest within the corridor. Appendix E, Figure E-13 includes a depiction of a potential concept for formalizing places to rest and sit on both sides of the Vernal Fall Footbridge. Stepped seating using natural materials would be installed near the existing Vernal Fall restroom facility. Additional specific trail pullout locations would be identified during the detailed project design phase and as supported by visitor use data.

Restore Scenic Vistas

Under alternatives B and C, selective vegetation trimming and/or clearing would be performed outside of Yosemite Wilderness to improve scenic vistas. To date, there is only one view of Yosemite Falls along the JMT, and visitor experience would, therefore, benefit from additional views (#29 Vernal Fall Footbridge, #30 Illilouette Falls view, and #14 Happy Isles Bridge; NPS 2011a). Selective removal of conifer trees at existing potential vistas would create established viewpoints, promoting a more enjoyable hiking experience. Specific locations and number of trees to be cut or removed would be determined during the future, detailed design phase.

NPS PROPOSED ACTION

Alternative C is the NPS proposed action. The proposed action was identified through early planning, interdisciplinary team scoping, and civic engagement, and best meets project objectives for providing a high-quality visitor experience while protecting park resources and values.

Alternative B also was developed through planning and civic engagement and is carried forward for analysis to support informed decision-making.

ALTERNATIVES CONSIDERED BUT DISMISSED

The planning team considered other potential alternatives (e.g., alternative footbridge designs, trail and alternate viewing area construction, etc.), including those identified through civic engagement that were determined unfeasible and/or not responsive to the purpose and need for action. These alternatives and the rationale for not carrying them forward for further analysis are summarized in Appendix F—*Alternative Actions Considered but Dismissed from Further Analysis*.

MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

To minimize resource impacts related to the proposed action, the NPS would implement mitigation measures and best management practices (BMPs), where feasible. These measures are presented in Appendix G—*Mitigation Measures and Best Management Practices*, are considered part of the NPS proposed action, and would be implemented to avoid or reduce impacts on park resources and values. Protective measures included in Appendix G are subject to the final design and approval of plans by relevant agencies.

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CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing condition of the resources (or impact topics) retained for analysis, as described in Chapter 1, as well as the potential impacts on those resources from implementing the action alternatives. Reasonably foreseeable future impacts are detailed in Appendix H—*Reasonably Foreseeable Future Impacts Analysis*. The no-action alternative (Alternative A) would result in a continuation of existing conditions and trends, which are described in the *Affected Environment* section for each resource. Therefore, no impact analysis is carried forward in this EA beyond a description of baseline conditions.

Mitigation measures are part of the proposed actions and are discussed in more detail in Appendix G. Where appropriate, mitigation measures, protection measures, and BMPs have been incorporated into the evaluation to prevent or lessen adverse impacts.

METHODOLOGY

The analysis of impacts follows *516 DM 1 - U.S. Department of Interior Handbook of National Environmental Policy Act Implementing Procedures* (issued February 24, 2026) and NPS Director's Order 12 procedures (NPS 2011b). The intensity of impacts is assessed in the context of the park's purpose and significance and any resource-specific context that could be applicable. The methods used to assess impacts vary depending on the resource being considered but generally are based on a review of pertinent literature and studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight. All reference materials used to develop the following analyses are cited in Appendix I—*References*.

Area of Analysis for Impacts

Area of analysis refers to the geographic setting within which an impact could occur within the project area. For the purposes of this project, most impacts are local to the immediate project area unless otherwise noted. The area of analysis is based on conceptual design information and reasonable assumptions. Therefore, the approximate disturbance calculations are subject to change during subsequent design phases. Changes that are not addressed by the range of impacts covered in this document could require additional NEPA compliance.

Type of Impact

The potential impacts of the alternatives are described using the following terminology:

- **Short term**: Impacts that would occur as a result of the construction activities. Depending on impact topic, impacts could be intermittent (days or weeks) or continuous during construction.
- **Long term**: Impacts that would continue to occur after construction is complete and could continue for years or decades.

- **Beneficial**: A favorable change in the condition or appearance of the resource, or a change that moves the resource toward a desired condition.
- **Adverse**: A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

VISITOR USE AND EXPERIENCE – INCLUDING VISITOR SAFETY

Affected Environment

Happy Isles

Happy Isles is a unique Yosemite Valley visitor destination and includes the Art and Nature Center, the Happy Isles nature trails, the Fen, and the JMT-Mist Trail trailhead (Appendix A, Figure A-1). Over 3,000 hikers embark from the existing trailhead daily, increasing to 4,000 hikers on Saturdays (NPS 2014b). While SAR incidents occur at a lower rate at the trailhead as compared to the steeper terrain in the trail corridor, the trailhead remains the single most critical area to provide safety and trip planning information.

The Happy Isles Loop Road serves as the main arrival route for visitors into Happy Isles and is open to shuttles, bicycles, NPS staff and other authorized vehicles. The Valley Loop Trail, a pedestrian path paralleling Happy Isles Loop Road, serves as the main pedestrian access route from the Valley Trailhead Parking Lot into Happy Isles. The space between the Valley Loop Trail and Happy Isles Loop Road is heavily impacted by visitors that frequently move between the path and the roadway. Visitors frequently walk on the road, causing conflicts with vehicles, bicycles, and shuttles.

The Happy Isles Shuttle Stop contains the majority of visitor facilities and services available within Happy Isles, including a water-filling station, bike parking, seating, and a shade structure. The restroom facility, located adjacent to the shuttle stop, is heavily used during the summer season and, on the busiest days, is insufficient to handle the high volume of Happy Isles visitors. The shade structure does not provide enough coverage for the number of visitors queuing for the shuttle, with groups often standing in the shade of the nearby tree canopy while waiting. Signage at the Happy Isles Shuttle Stop is limited and does not provide adequate information for visitor wayfinding to or trip-planning for the Mist Trail Corridor.

As described in Chapter 1, a previous flooding and rockfall event resulted in removal of the historic Happy Isles Footbridge, at which time, visitor access to the Mist Trail Corridor was rerouted over the Happy Isles vehicle bridge. As such, there is currently a disconnect between the Happy Isles Shuttle Stop on the west side of the Merced River and the trailhead on the east side. The result of this configuration is that visitors disembark from the shuttle bus and proceed directly east, across the vehicle bridge to the trailhead, missing facilities and trip planning opportunities, as well as other experiences that Happy Isles has to offer. Likewise, visitors heading into Happy Isles looking for the trailhead find that they are on the wrong side of the river and are forced to backtrack to the east side of the river.

Happy Isles offers interpretive exhibits, accessible paths, and resting spaces. The Art and Nature Center serves as an interpretive hub and workshop space. The center receives a high volume of

visitors and is accessed by an asphalt trail but can be difficult to find. The Happy Isles nature trails provide visitor access to the Merced River along the North and South Happy Isles and are generally the most accessible of all outdoor experiences within the project area. Visitors with a variety of needs and capabilities can use these trails to access the natural landscape of Happy Isles. A boardwalk and platform provide visitor access to view the Fen, an ecologically rich and fragile landscape west of the main Happy Isles area.

Overall, visitor experience within Happy Isles lacks clarity, definition, and hierarchy. Visitors frequently walk on the Happy Isles Loop Road, creating conflicts with NPS staff vehicles, bicycles, and shuttles. These circulation issues lead to confusion for visitors.

Mist Trail Corridor

The trails within the project area include: 1) JMT from Happy Isles to the Upper JMT-Mist Trail Junction; 2) the Mist Trail; 3) Clark Point Cutoff Trail; and 4) the Stock Trail. There are two existing trail loops above Vernal Fall Footbridge, using various sections of the JMT, Mist Trail, and the Clark Point Cutoff Trail:

- Vernal Fall Loop: Travels up the Mist Trail to the top of Vernal Fall, then returns on the Clark Point Cutoff Trail along the JMT back to Happy Isles.
- Nevada Fall Loop: Travels up the Mist Trail to the top of Nevada Fall, then returns on the JMT back to Happy Isles.

Additional trail details, including approximate length, elevation gain, and loop descriptions, are provided in Table 1-1.

The JMT, between Happy Isles and the Vernal Fall Footbridge, is one of the busiest sections of the corridor and has very few formalized trail pullouts. This section is paved and approximately six feet wide. The Vernal Fall Footbridge, which spans the Merced River, is the first major area to rest in the trail corridor since embarking from the trailhead; it has a bathroom, a water-filling station, several large boulders for seating, and a distant view of Vernal Fall from the center of the footbridge. Visitor congestion is common in this area with large groups of people waiting for their party to catch up, resting in the shade with minimal formalized seating. The Vernal Fall Footbridge also is the first river access point since the trailhead; as such, many hikers venture to the water's edge not knowing the dangers of swift water.

The Stock Trail consists of a mix of paved surfaces and crushed gravel or compacted road base and is as narrow as three feet wide in some sections, compared to the six-foot-wide paved JMT below the Vernal Fall Footbridge. The trail includes two switchbacks and a narrow straightaway with a steep drop-off, which presents ongoing challenges for packers and mules. The Stock Trail is signed for stock use only and is not shown on official park maps. However, the first 0.4 miles of the trail is frequently used by visitors who inadvertently meander onto it from the Art and Nature Center.

Above Vernal Fall Footbridge, infrastructure and signage begin to decrease as the trail becomes substantially steeper and more challenging than below the footbridge. The Mist Trail is generally five to six feet wide, with a crushed gravel surface and exposed granite in places.

Approaching Vernal Fall, visitors encounter a steep granite stairway of more than 600 steps (Mist Trail steps), which frequently become slippery due to waterfall spray.

The brink of Vernal Fall is a popular visitor destination with areas available to sit and a vault toilet. From the brink of Vernal Fall to the Nevada Fall Footbridge, there are numerous exposed, rocky switchbacks. There also are a few river sections easily accessible from the trail, including Emerald Pool, Silver Apron, and approaching the brink of Nevada Fall, where—although prohibited—visitors frequently wade and swim there due to the limited barriers and signage that exist.

The Clark Point Cutoff Trail is a 0.4-mile connector trail that links the Mist Trail and JMT near Vernal Fall and Nevada Fall. This trail is short but moderately steep in sections due to the granite terrain.

The Upper JMT-Mist Trail Junction is a critical point for visitors and stock team alike. Visitor infrastructure at the Upper JMT-Mist Trail Junction area include a bathroom and small seating area, which are frequently used during high visitation periods. Large crowds can obscure existing signage and contribute to wayfinding confusion.

High numbers of SAR incidents have historically occurred along the Mist Trail with multiple fatalities due to falling from steep terrain as well as cardiac emergencies. This area of the corridor is also difficult for SAR personnel as they must maneuver in the steep narrow sections while also carrying patients.

Environmental Consequences

Impact Analysis Methodology

To analyze the impacts of each alternative on park visitors, the NPS considered short-term construction-related disruptions that are likely to occur and the long-term adverse impacts and benefits of implementing the project. The analysis considered the existing visitor use patterns and visitor use data, including SAR operations, collected to support project planning efforts. The analysis of potential impacts was performed using data provided by technical experts, professional judgement, information provided by park staff, public comments, and experience with similar past projects.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

Vehicle bridge improvements would provide a more clearly defined passage for visitors traveling over the vehicle bridge from the Happy Isles Shuttle Stop to the existing trailhead, resulting in long-term beneficial impacts to visitor experience and safety. Construction activities associated with vehicle bridge improvements could result in temporary access restrictions to the existing trailhead via the vehicle bridge and cause temporary disruption of the visitors' enjoyment of this area, resulting in short-term adverse impacts to visitor use and experience. However, these disruptions would only occur during construction and would not be permanent.

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

The new pedestrian promenade would provide a more formalized and educational route linking the Happy Isles Shuttle Stop with the existing trailhead as compared to current conditions. The promenade also would serve as its own experience providing seating and interpretive opportunities throughout its length. Signage and wayfinding along the promenade would be installed to minimize visitor confusion or backtracking over the Merced River. Overall, the pedestrian promenade would result in long-term beneficial impacts to visitor experience as compared to current conditions.

Enhance the Existing Trailhead

Enhancements to the existing trailhead would better aid and inform visitors on their Mist Trail Corridor journey, as well as eliminate the need for visitors backtracking to Happy Isles for any preparedness information and/or other services not currently provided at the trailhead. Increased visitor preparedness along the Mist Trail Corridor also could contribute to a more informed and self-aware visitor population, thereby increasing visitor safety along the trail corridor. Overall, enhancements to the existing trailhead would provide a long-term benefit to visitor experience and safety.

Improved visitor facilities and services at the existing trailhead would support increased access to information and resting opportunities as compared to the current conditions, which would provide a long-term benefit to visitor experience. Proposed enhancements would prompt temporary access restrictions to the existing trailhead, which would result in short-term adverse impacts to visitor use and experience. However, during construction, an alternative, temporary access point to the Mist Trail Corridor would be provided, minimizing impacts to visitors.

Formalize Stock Trail Loop

A piloted (and potentially long-term) formalization of the Stock Trail Loop would offer a new and rewarding experience for visitors, as the Stock Trail has views of the Illilouette Creek delta and unique riparian habitat. In addition, formalizing the Stock Trail Loop could reduce traffic along the JMT below Vernal Fall by providing an alternative route. One-way directional flow would improve the visitor experience, as loop trails decrease visitor density and the sense of crowding, and promote a safer condition as fewer hikers would need to pass on narrow JMT stretches (Creany et al. 2021; NPS 1983a; NPS 2004). Forming the Stock Trail Loop also could indirectly decrease visitor density along trails above Vernal Fall Footbridge, as visitors could choose to return to Happy Isles along the Stock Trail rather than continuing up the trail corridor to experience other destinations and more difficult terrain. Therefore, forming a lower trail loop including the Stock Trail would result in long-term beneficial impacts to visitor use and experience as compared to the existing trail network.

Under the piloted (and potential long-term) formalization, there could be potential for new conflicts between visitors and stock (mules or horses), resulting in an adverse impact to visitor use and experience, as well as visitor and stock safety. Stock Trail use would be managed by implementing short-term (10 to 15 minutes) operational closures twice per day while stock

trains are passing through this section of the trail. Visitors could feel inconvenienced by needing to wait for stock to pass or could be dissatisfied with droppings along the trail associated with stock use.

Construction activities related to potential post-pilot program Stock Trail improvements would have a short-term minor impact on visitor use and experience through the presence of construction equipment and noise, which could distract from the park aesthetics and natural soundscape on the JMT, particularly near Vernal Fall Footbridge. Stock teams could also be required to take alternate trips along the JMT during trail improvement implementation on the Stock Trail. Impacts related to stock teams and other park operations from Stock Trail construction activities are detailed in Appendix C.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

Implementation of Alternative C has the potential to result in short-term, low-intensity visitor disorientation associated with changes in circulation patterns and access to the Mist Trail Corridor relative to existing conditions. This impact would be limited in duration and primarily affect visitors familiar with the current configuration during the initial transition period. Proposed changes do not restrict access or reduce available visitor facilities or services in the long term. Clear signage and enhanced wayfinding at the Happy Isles Shuttle Stop, along Happy Isles Loop Road, and throughout the pedestrian promenade would further reduce confusion and facilitate visitor orientation. Over the long term, Alternative C would result in beneficial effects providing a more intuitive, cohesive, and connected visitor experience compared to Alternative B.

Construction activities associated with the footbridge would result in temporary access restrictions to Happy Isles destinations and temporarily disrupt visitors' enjoyment of this area, resulting in short-term adverse impacts to visitor use and experience. These impacts would be temporary and would occur only during construction; no permanent disruptions are anticipated. During construction, access to the Mist Trail Corridor would be maintained via the existing trailhead on the east side of the Merced River.

Create a New Pedestrian Promenade

The new pedestrian promenade would provide a more formalized and educational route linking together the Happy Isles Shuttle Stop, the new trailhead, and footbridge. Similar to impacts described under the *Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge* section, the pedestrian promenade would result in long-term benefits to visitor experience as compared to current conditions.

Compared to Alternative B, the pedestrian promenade under Alternative C would better support direct visitor circulation and access to other Happy Isles destinations due to its proximity to the new trailhead. This configuration would eliminate the need for signage

intended to discourage visitor backtracking across the vehicle bridge. As a result, Alternative C would provide greater long-term beneficial impacts to visitor experience than Alternative B.

Create a New Trailhead

Installation of a new trailhead would increase foot traffic into Happy Isles, which is currently a relatively quiet area as compared to the existing trailhead. With infrastructure in this area that supports information gathering and potential resting, those visitors looking for a quieter space could experience a diminished sense of solitude within Happy Isles as compared to the current conditions.

A new trailhead with signage, seating, and preparedness focused messaging would improve visitor orientation and readiness as compared to existing conditions. Increased visitor preparedness could reduce unsafe behaviors and contribute to improved safety along the Mist Trail Corridor. Overall, the new trailhead adjacent to the proposed footbridge would provide a long-term benefit to visitor experience and safety.

Trailhead construction could temporarily limit access to Happy Isles destinations, causing short-term impacts to visitor experience that would cease once construction is complete.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

The proposed actions related to messaging and signage would reduce existing wayfinding and orientation challenges. Improved wayfinding would support a more prepared and informed visitor population along the Mist Trail Corridor and could indirectly reduce the frequency of SAR incidents, resulting in beneficial effects on visitor safety and the safety of park and volunteer SAR personnel. Expanded opportunities for timely “live” information on trail conditions and safety would further enhance visitor preparedness. Overall, implementation of a signage and messaging plan would result in short- and long-term beneficial impacts on visitor use and experience.

Advertising the existing loops above Vernal Fall Footbridge could reduce traffic by encouraging (but not requiring) a one-way flow, which would improve the visitor experience, as loop trails decrease both visitor density and the sense of crowding and increase safety as fewer hikers would need to pass on narrow stretches (Creany et al. 2021; NPS 1983a; NPS 2004). Therefore, this action likely would result in long-term, beneficial impacts to visitor use and experience as compared to current conditions.

Advertising the existing upper trail loops also could enhance visitor decision-making by offering alternate route options and providing clear and achievable “turnaround” points. Increased use of loop options also could reduce SAR incidents along the upper trail corridor, resulting in long-term beneficial effects for both visitors and park operations staff. In addition, education and signage would inform visitors of alternatives to backtracking down the steep Mist Trail steps, which are among the areas with the highest occurrence of SAR incidents. Conversely, formalizing the existing trail loop network could disperse visitor use to less-traveled routes

within the corridor, such as the Clark Point Cutoff Trail, potentially resulting in long-term adverse effects on visitor experience for those seeking solitude.

Provide Trip-planning and Wayfinding Resources

Providing trip-planning and wayfinding resources would improve visitor access to timely and relevant information, resulting in a more informed and better prepared visitor population. Strategically placed kiosks in high-use locations would further reduce wayfinding and orientation challenges encountered along the trail corridor. Collectively, these trip-planning and wayfinding tools would result in long-term beneficial impacts on visitor use and experience.

Clearly Delineate Pedestrian Access to Happy Isles

The proposed Happy Isles Loop Road traffic pattern change could contribute to a clearer and safer visitor arrival sequence as compared to the no-action alternative, reducing visitor confusion, lost time, and mental fatigue. The change in traffic pattern, including the pullout for the shuttle bus to unload passengers directly at the Happy Isles Shuttle Stop, would promote a decrease in vehicle-pedestrian related conflicts, thereby improving visitor safety and providing long-term beneficial impacts.

Temporary lane closures associated with this action would potentially disrupt traffic and visitor access to Happy Isles, likely resulting in short-term adverse impacts to visitor use and experience. However, these temporary disruptions would cease upon construction completion. The NPS would notify park visitors in advance of any closures or detours, thereby minimizing construction impacts to visitor use, experience, and safety.

Improve Happy Isles Shuttle Stop

Happy Isles Shuttle Stop improvements would more adequately meet the existing capacity of visitors arriving and departing on shuttles as well as provide information to visitors related to various destinations in the Happy Isles area and along the Mist Trail Corridor. In addition, signage and messaging implemented at the Happy Isles Shuttle Stop could potentially disperse visitors to alternate Happy Isles destinations, which could ultimately reduce pedestrian traffic along the Mist Trail Corridor. As a result, proposed shuttle stop improvements would beneficially impact visitor use and experience in the long term both in Happy Isles and along the Mist Trail Corridor.

Construction activities could result in temporary closures of the Happy Isles Shuttle Stop area or disruptions to the shuttle service, resulting in short-term impacts to visitor use and experience. However, these temporary disruptions would cease upon construction completion. The NPS would notify park visitors in advance of any closures or detours, thereby minimizing construction impacts to visitor use, experience, and safety.

Rehabilitate Happy Isles Restroom Facilities

Adding restroom stalls to the existing restroom facility would reduce visitor wait times, which would provide a long-term benefit to visitor use and experience. During construction activities, temporary closures could be necessary, causing short-term adverse impacts to visitors. However, the NPS would provide an alternative solution for restrooms (i.e., portable

restrooms) during this period. Once operational, the upgraded and expanded restrooms would also require additional time for regular cleaning and maintenance, as detailed in Appendix C. Despite these anticipated short-term and long-term adverse impacts, the rehabilitated restroom facilities would provide an overall long-term benefit to visitor use and experience.

Increase Trail Pullouts

An increase in trail pullouts at strategic locations, including at Vernal Fall Footbridge, would better accommodate the existing volume and variety of trail user groups, enhance safety along the trail by providing opportunities to rest or pull off in crowded sections, and improve the overall experience of visitors. Alternatively, by adding more trail pullouts above Vernal Fall Footbridge, there is a potential long-term impact that visitors could experience a false expectation of available visitor facilities and services at a point where the trail, in reality, becomes more, not less, difficult. However, overall, it is anticipated that there would be a long-term benefit to visitor experience and safety as a result of this action.

Installation of trail pullouts could require temporary trail closures during construction, causing short-term adverse impacts to the overall visitor experience due to noise and presence of construction equipment. However, the NPS would maintain pedestrian access for the duration of construction by providing temporary detours or alternative routes around closed trail sections, if any. The NPS would ensure that trail detours are clearly marked and would provide advance notice of trail closures on the park website. Detour routes would be determined during the detailed design phase. Once construction is complete, the trail corridor would be open to visitors in its entirety, eliminating any further disruptions to visitors.

Restore Scenic Vistas

Selective tree clearing is anticipated to improve the visitor experience by providing new recreational "destinations" along the trail corridor. Therefore, it is anticipated that there would be long-term beneficial impacts as a result of this action. Short-term impacts related to vegetating clearing activities would be similar to those described under the *Increase Trail Pullouts* section. Any tree clearing completed near swift water would be accompanied with safety barrier installation to deter unsafe water access.

BIOLOGICAL RESOURCES – INCLUDING VEGETATION, WILDLIFE, AND SPECIAL STATUS SPECIES

Affected Environment

Vegetation

Yosemite has five different vegetation zones within its elevation range, including: foothill-woodland, lower montane forest, upper montane forest, subalpine forest, and alpine (NPS 2023a). Within the park, most of the project area is located within the foothill-woodland and the lower montane forest zones. More information on specific vegetative communities in the project area, including non-native plants, can be found in Appendix J—*Biological Resources Analysis Supporting Information*.

The NPS has determined that, although the potential for invasive species exists in the project area, there are no high-priority populations within the project area, and BMPs, such as those listed in Appendix G, would reduce the already minimal potential for impacts associated with invasive species. As such, invasive species are not discussed further within this EA.

Wetlands and non-vegetated exposed rock and talus fields are also present within the project area. Wetlands are discussed further in the *Water Resources* section.

Happy Isles

The vegetative community at the existing trailhead and adjacent areas along the east side of the Merced River is characterized by a lush deciduous understory dominated by tree and shrub species such as Pacific dogwood (*Cornus nuttallii*), white alder (*Alnus rhombifolia*), big-leaf maple (*Acer macrophyllum*), and arroyo willow (*Salix lasiolepis*) (OTL Environmental LLC 2024). This community occurs at approximately 4,000 feet above mean sea level and is subject to periodic inundation during spring snowmelt.

Both within and immediately west of Happy Isles, a variety of wetland habitats are present, including a rare and fragile peat-forming wetland known as the Fen. The structure and composition of the riparian understory have been influenced by long-term fire suppression, which has contributed to overgrowth within the Lower Montane Forest.

In contrast, Happy Isles Loop Road between the Valley Trailhead Parking Lot and Happy Isles, the Happy Isles vehicle bridge leading to the existing trailhead, and developed areas of Happy Isles on the west side of the Merced River consist primarily of paved or compacted dirt surfaces and trails and with areas that are largely devoid of vegetation.

Mist Trail Corridor

The JMT and Stock Trail ascend from Happy Isles to the Vernal Fall Footbridge, gaining approximately 495 feet in elevation. Vegetation within this reach is dominated by Lower Montane Forest. This community is characterized by montane chaparral and coniferous forest species, including California black oak (*Quercus kelloggii*), ponderosa pine (*Pinus ponderosa*), incense-cedar (*Calocedrus decurrens*), and white fir (*Abies concolor*).

From the Vernal Fall Footbridge to the Upper JMT–Mist Trail Junction at approximately 5,900 feet above mean sea level, including the Mist Trail, the JMT, and the Clark Point Cutoff Trail, the vegetation community remains Lower Montane Forest, with species composition consistent with that found below the Vernal Fall Footbridge.

Wildlife

The park supports more than 400 species of vertebrates, including mammals, birds, bats, fish, amphibians, and reptiles, as well as a wide variety of invertebrates such as insects (NPS 2017a). This high species diversity reflects the wide range of habitats present within the park. The relatively mild climate of Yosemite Valley also supports a greater concentration of wildlife, with generally fewer species occurring at higher elevations (NPS 2017a). Wildlife known to occur within the park, and therefore with the potential to occur within the project area, includes black bear (*Ursus americanus*), mountain lion (*Puma concolor*), coyote (*Canis latrans lestes*),

mule deer (*Odocoileus hemionus*), marmot (*Marmota flaviventris*), bobcat (*Lynx rufus*), and a variety of birds, bats, other mammals, amphibians, reptiles, fish, and invertebrates (NPS 2017a, 2024a).

Although no invasive animal species of concern have been documented within the park, the New Zealand mud snail (*Potamopyrgus antipodarum*) has been recorded in waterways south of Mono Lake, adjacent to the park's eastern boundary (NPS 2023b). While this species has not been documented within the park, there is potential for future introduction via park waterways if not effectively monitored (NPS 2023b). The park also identifies several designated "forest pests," defined as insects or diseases introduced to an ecosystem that could result in environmental or economic damage (NPS 2025a). Forest pests could be inadvertently introduced through transported firewood; therefore, the use of outside firewood is prohibited within the park (NPS 2025a). Although 16 forest pest species are known to threaten ecosystems within the park, the NPS has confirmed that forest pests are not a concern within the project area and are not analyzed further in this EA.

Happy Isles

Both the Fen and riparian corridor areas are known to provide habitat for a variety of wildlife species, including those previously listed. There are also 17 species of bat known to be present within the park (NPS 2018), some of which could be present in Happy Isles, either for nighttime foraging or summer roosting. However, the Happy Isles Loop Road between the Valley Trailhead Parking Lot to Happy Isles, the Happy Isles vehicle bridge to the existing trailhead, and the Happy Isles area (specifically located on the west side of the Merced River) are either paved or dirt surfaces and/or trails, devoid of vegetation.

A wetland is present within the Happy Isles area, which provides habitat for wildlife and serves as an important wildlife corridor; however, it is located in an area with typically high visitor concentrations. As such, wildlife likely uses the habitat as a corridor when traveling from one area to another.

Mist Trail Corridor

Wildlife species that could occur along the Mist Trail Corridor typically include black bear, fisher, Northwestern pond turtle, California red-legged frog, California spotted owl, great gray owl, peregrine falcon (*Falco peregrinus*), Mount Lyell salamander, Sierra newt (*Taricha sierrae*), Pacific tree frog (*Pseudacris regilla*), and various other bat and bird species (NPS 2025b).

Special Status Species

For the purposes of this analysis, *special status species* are defined as wildlife and plant species that are either federally listed under the ESA or managed for conservation and protection by the NPS. To evaluate the potential presence of special status species within the project area, the California state list of endangered and threatened species was reviewed (California Department of Fish and Wildlife [CDFW] 2025a), along with records from the California Natural Diversity Database (CNDDB). The CNDDB was queried for the United States Geological Survey (USGS) 7.5-minute Half Dome, California quadrangle and five surrounding quadrangles encompassing the project area (CDFW 2025b). In addition, a species list was obtained from the

USFWS Information for Planning and Consultation (IPaC) system on August 11, 2025, identifying federally listed species with the potential to occur in the project area (USFWS 2025a). Copies of the IPaC and CNDDB results are provided in Appendix K—*USFWS IPaC and CNDDB Results*. Coordination with NPS staff resulted in the inclusion of two additional species managed by the park for conservation purposes, reflecting ongoing NPS management priorities.

In addition to database reviews, NPS staff conducted a focused plant survey over four days in July 2025 within approximately 9.61 acres of the project area (NPS 2025c). The survey targeted rare and special status plant species with documented historic occurrence in the park. Prior to fieldwork, biologists reviewed previously mapped population polygons near the Mist Trail and the Fen to familiarize themselves with target species characteristics. Target species included sugarstick (*Allotropa virgata*), Yosemite rockcress (*Boechera repanda*), Sierra false coolwort (*Bolandra californica*), clustered-flower cryptantha (*Cryptantha glomeriflora*), mountain lady's slipper (*Cypripedium montanum*), stream orchid (*Epipactis gigantea*), purple fawn lily (*Erythronium purpurascens*), and wood saxifrage (*Saxifraga mertensiana*).

Although several of these species have been documented in previous survey efforts, only Yosemite rockcress was identified within the project area during the 2025 survey (NPS 2025c). Survey results are summarized in Table J-1 of Appendix J—*Biological Resources Analysis Supporting Information* and discussed further in the *Biological Resources, Environmental Consequences* section.

Based on federal and state resource reviews, a total of 14 special status species have the potential to occur within the project area. These species are listed in Appendix J, Table J-1, along with their listing status, habitat preferences, and an assessment of likelihood of occurrence. Following coordination with park staff, it was determined that nesting migratory birds and seven species—or their suitable habitat—are likely to occur within the project area and could be affected by the proposed action: fisher, California spotted owl, northwestern pond turtle, California red-legged frog, Mount Lyell salamander, monarch butterfly, and Yosemite rockcress. Accordingly, impact analysis in this EA focuses on these seven species.

Although some federally listed species included in Appendix J, Table J-1 have federally designated critical habitat, no critical habitats overlap with the project area; therefore, critical habitats are not analyzed further in this EA.

Environmental Consequences

Impact Analysis Methodology

The analysis of impacts to biological resources focuses on potential effects to vegetation, wildlife, and habitats supporting special status and other sensitive species described in the *Biological Resources, Affected Environment* section. Impact analysis is based on existing biological data, evaluation of potential interactions with the proposed actions, professional judgment, information provided by NPS staff, public comments, and experience from similar past projects. For each action alternative, the impact analysis assumes that the NPS would implement the mitigation and avoidance measures and BMPs outlined in Appendix G.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

Vegetation. The existing vehicle bridge does not support vegetation; therefore, vegetation would not be affected by the proposed vehicle bridge improvements.

Wildlife. Although the vehicle bridge does not provide habitat, some wildlife, such as black bears, could use the area at night when traffic is minimal. Impacts to wildlife would be minor, as nighttime use patterns and noise levels would remain similar to existing conditions.

Special Status Species. Fishers and California spotted owls can be sensitive to changes in vehicle activity, particularly during dawn and dusk when individuals are more likely to cross or forage near roadways. Vehicle collisions have been identified as a mortality factor for these species at a park-wide scale, including documented fisher mortality over the past two decades (NPS 2024a). However, vehicle traffic at the Happy Isles vehicle bridge consists primarily of shuttle buses and occasional park staff vehicles, operating at low speeds, and would not increase in frequency from the existing condition.

Similarly, while some studies have found that Northern spotted owls—and by extension, California spotted owls—could experience reduced reproductive success in areas with consistently high traffic noise, other research has found no measurable stress response in California spotted owls associated with road or chainsaw noise (Temple and Gutiérrez 2003, 2004; NPS 2024a). Because Alternative B would not result in increased traffic volumes or substantially altered noise conditions at the vehicle bridge, effects on these species would be unlikely and would not exceed existing conditions.

Special status species could experience minor, short-term impacts during construction activities under this alternative due to increased human presence and construction-related noise. Such noise could temporarily deter species such as the fisher and California spotted owl from transiting or using areas near active work zones; however, these effects would be localized and temporary, as construction activities would be confined to the immediate project footprint, and these species can use adjacent areas to move through the project area. No long-term impacts are anticipated, as the project would not substantially alter habitat conditions or movement corridors.

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

Vegetation. As noted previously, the vehicle bridge does not support vegetation, and proposed improvements would not impact vegetation.

Wildlife. Wildlife use of the vehicle bridge area is limited, typically occurring during nighttime when human activity is low. During construction, wildlife movement may be temporarily disrupted if the area is inaccessible, and construction noise could deter wildlife from the immediate vicinity. These impacts would be short term and minor, as wildlife can use adjacent areas to cross the Merced River.

Special Status Species. As described previously, fishers and California spotted owls are sensitive to vehicle collisions and traffic changes and would continue to experience impacts from existing traffic (NPS 2024a). Therefore, impacts related to use of the vehicle bridge for pedestrian access would be minimal.

Enhance the Existing Trailhead

Vegetation. Ground disturbance, including vegetation clearing, and limited expansion of the developed footprint would occur, contributing to short-term and long-term adverse impacts on vegetation. Construction of new infrastructure in the existing trailhead area would require minimal removal of shrub and herbaceous vegetation, with some areas restored following construction and others permanently converted.

Wildlife. Ground disturbance and construction noise could temporarily affect wildlife in the existing trailhead area. Some wildlife species, such as black bears, could use the area as a habitat corridor, and depending on the timing of construction, birds could nest and bats could roost in the vicinity. Increased noise and human presence would likely result in temporary avoidance of the area by mobile wildlife species. Species that are nesting or roosting during construction could experience greater disturbance because they could be less able to relocate. To minimize these effects, BMPs outlined in Appendix G, such as pre-construction surveys and seasonal restrictions to avoid peak nesting or roosting periods, would be implemented.

Improvements at the existing trailhead could also result in indirect adverse effects associated with improper disposal of food waste or trash. Improperly managed waste could degrade soil or water quality and attract wildlife such as black bears, increasing the potential for human–wildlife interactions and injury. These effects would be minimized through visitor messaging and signage, as well as additional measures outlined in Appendix G. Following construction, no long-term changes to wildlife movement patterns or habitat use are expected.

Special Status Species. Special status wildlife species, such as California spotted owls, and monarch butterflies, could use the area as a habitat corridor, occasionally crossing the road (with the California spotted owls potentially nesting in the vicinity). As described previously, minor, short-term impacts could occur during construction due to increased noise and human presence, but these would be temporary and confined to the immediate project footprint, with no anticipated long-term effects on wildlife movement patterns. Pre-construction surveys would be conducted to confirm the presence or absence of the California spotted owl, and additional measures outlined in Appendix G would be implemented to avoid or minimize impacts to California spotted owls and monarch butterflies (through avoidance of impacts to sensitive plant species and communities).

Formalize Stock Trail Loop

Vegetation. Post-pilot program Stock Trail improvements would require limited widening of the trail prism which currently is three to four feet in width along most of the Stock Trail. Trail widening would be sited to minimize vegetation disturbance and avoid tree removal to the extent practicable. Where widening occurs, trailside vegetation clearing would result in permanent (long-term) impacts confined to the immediate project footprint and would not

extend to the broader resource area. BMPs, including measures for sensitive natural communities and special status plants described in Appendix G, would be implemented to avoid and minimize impacts. Additional trail improvements, such as drainage features or causeway upgrades, could also result in minor vegetation removal adjacent to the trail for construction. Overall, adverse impacts to vegetation would be minor when considered in the context of existing vegetation conditions within the Mist Trail Corridor.

Wildlife. During trail improvement construction, impacts would include short-term wildlife displacement or avoidance of disturbed areas due to construction noise and increased human presence. These effects would be temporary confined to the immediate project footprint, with wildlife expected to resume use of adjacent areas following completion of construction activities.

Over the long term, formalizing the Stock Trail Loop could result in avoidance by some wildlife species within the immediate trail corridor. As such, adverse impacts to wildlife would be anticipated, as visitor presence could increase substantially, as compared to current Stock Trail use primarily by packers with stock trains and park operational and maintenance personnel accessing areas above Vernal Fall. Increased visitor presence could also result in indirect adverse impacts related to improper disposal of human trash or waste. Improperly discarded trash could degrade soil and water quality over time and could attract wildlife to food remnants, increasing the potential for injury.

Special Status Species. Depending on the timing of project implementation, California spotted owls could nest within suitable habitat near the Stock Trail, and fishers could occur within habitats overlapping the trail corridor. Short-term construction-related noise and limited vegetation clearing could temporarily disturb nesting birds or denning fishers.

Sensitive species found in talus areas—including California red-legged frog, Mount Lyell salamander, and the plant species, Yosemite rockcress—could be adversely impacted by proposed causeway improvements if near-water disturbances or movement of large boulders within rock talus habitats were to occur. Such activities could result in direct injury to individuals, temporary increases in turbidity from suspended sediments, or short-term behavioral avoidance by aquatic species due to underwater noise. Boulder relocation could also disturb Yosemite rockcress populations or Mount Lyell salamander habitat. Surveys conducted in July 2025 confirmed that both Mount Lyell salamander and Yosemite rockcress occupy rocky talus habitats that overlap areas proposed for disturbance (NPS 2025c, d).

Pre-construction surveys would be conducted to confirm the presence or absence of sensitive species within work areas prior to ground disturbance, as detailed in Appendix G. Known Yosemite rockcress populations have been mapped for avoidance and future reference (NPS 2025c). Additional measures, such as improved trail definition and targeted signage, would further reduce the potential for disturbance and support long-term conservation of these populations. If avoidance of known populations is not feasible, additional mitigation measures would be developed by the NPS.

Impacts to special status species as a result of increased visitor use along the Stock Trail would be similar to those described under the *Enhance the Existing Trailhead* section.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

Vegetation. The selective removal and pruning of existing vegetation associated with new footbridge construction would have long-term adverse impacts on vegetation. In the context of the existing vegetation in the Happy Isle area, the impacts of the removal or pruning of few individuals species would be minor. Based on the conceptual design, it is anticipated that up to five trees would be impacted through removal or pruning (two multi-stemmed live oaks, two incense cedar, and one ponderosa pine).

Wildlife. Depending on the timing of project implementation, black bears, nesting birds, or roosting bats, could be present. Construction activities would increase noise and human presence in the immediate vicinity of work areas and could result in temporary displacement or behavioral avoidance by wildlife near active construction zones. As described in the *Vegetation* subsection, limited long-term vegetation disturbance would result in a small reduction in available habitat. However, given the extent and continuity of similar habitat within the surrounding corridor, these effects would be localized to the immediate project area and minor in context.

Following construction, visitor use of the new footbridge would alter circulation patterns relative to existing conditions. Changes in visitor movement could result in localized shifts in wildlife use near the footbridge and adjacent trails; however, overall levels of human activity in the area would remain comparable to existing conditions under the no-action alternative. Accordingly, the proposed footbridge could result in short-term adverse effects to wildlife during construction and minor, localized long-term effects following project implementation.

Special Status Species. Potentially sensitive species, such as fishers, that could use the Merced River as a water source could experience temporary disturbance during near-water construction activities associated with installation of the new footbridge. Increased noise and human presence could result in short-term displacement from the immediate area. Although Yosemite rockcress populations could occur in this vicinity, impacts to this species would be avoided to the extent practicable. Pre-construction surveys would be conducted to confirm the presence or absence of sensitive species, and mitigation measures identified in Appendix G would be implemented to avoid or minimize potential impacts to fishers and Yosemite rockcress.

Create a New Pedestrian Promenade

Impacts under Alternative C would be like those associated with trailhead enhancements under *Alternative B, Enhance the Existing Trailhead* section as this area is already largely devoid of vegetation. Construction of the promenade would, therefore, be expected to result in minimal impacts to wildlife and special status species.

Create a New Trailhead

Impacts from the new trailhead under Alternative C would be like those associated with the existing trailhead enhancements under *Alternative B, Enhance the Existing Trailhead* section. The restoration of the existing trailhead area under Alternative C would result in a long-term beneficial impact on vegetation by allowing natural revegetation toward preexisting conditions. Vegetation restoration would improve the quality of available wildlife habitat by increasing forage and refuge opportunities. Potential floodplain restoration would further enhance habitat conditions east of the Merced River. In addition, the reduction in human use in this area could encourage increased wildlife movement through the area due to reduced noise and overall disturbance.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

Vegetation. As previously noted, signage upgrades would occur in existing disturbed areas, with minimal new installations and little to no vegetation impact. New messaging and signage related to resource protection could have a beneficial impact on vegetation as visitor education could lead to less off-trail trampling of vegetation in natural areas.

Wildlife. As described previously, short-term adverse impacts to wildlife present could occur during ground disturbing activities due to noise and increased human presence. Depending on the timing of project implementation, there is potential for birds to nest and/or bats to roost in the vicinity of Happy Isles. With the implementation of BMPs, minimal adverse effects to sensitive biological resources would be expected.

"Pack-in/pack-out" messaging would also be included within the new signage, including education regarding the impacts of approaching and/or feeding wildlife and minimizing visitor impacts. These efforts would provide a long-term beneficial impact on existing wildlife and associated habitats.

Special Status Species. Special status species are not expected to be adversely impacted from implementation of a signage and messaging plan beyond impacts discussed previously for general wildlife.

Provide Trip-planning and Wayfinding Resources

Impacts to biological resources from proposed trip-planning and wayfinding resources would be similar to those described in the previous *Revise Visitor Messaging and Signage* section.

Clearly Delineate Pedestrian Access to Happy Isles

Vegetation. The existing roadway is devoid of vegetation and as such, vegetation would not be adversely impacted by the proposed actions along the road to divide traffic from pedestrians. The roadway traffic pattern change could minimize the use of the space between the Valley Loop Trail and Happy Isles Loop Road, which would potentially result in beneficial impacts to vegetation, by reducing vegetation trampling, soil compaction, and overall ground disturbance that occurs in existing conditions.

Wildlife. Wildlife would be temporarily impacted during construction activities under alternatives B and C, as Happy Isles Loop Road could be temporarily blocked to transiting individuals. Additionally, noise generated during construction activities could temporarily deter wildlife from using this area as they could opt to flee or detour to avoid the disturbances. However, as described previously, impacts are expected to be minimal as wildlife can use other nearby areas to cross and construction activities would be temporary.

Special Status Species. Impacts to special status species would be similar to those described under *Alternative B, Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge* section.

Improve Happy Isles Shuttle Stop

Vegetation. Proposed Happy Isles Shuttle Stop improvements would occur within previously disturbed areas. As such, impacts to existing vegetation are expected to be minimal.

Wildlife. Impacts to general wildlife as a result of Happy Isles Shuttle Stop improvements would be similar to those described under *Alternative B, Enhance the Existing Trailhead* section.

Special Status Species. Impacts to special status species as a result of Happy Isles Shuttle Stop improvements would be similar to those described under *Alternative B, Enhance the Existing Trailhead* section.

Rehabilitate Happy Isles Restroom Facilities

General construction noise and increased presence of construction equipment and workers associated with this action would temporarily cause an adverse impact to sensitive species that could be nearby as they would likely avoid the area of disturbance. As such, impacts on biological resources and associated protective measures are expected to be the same, or similar to, those previously described for the *Improve Happy Isles Shuttle Stop* section.

Increase Trail Pullouts

Vegetation. Selective tree clearing could be required to widen pre-existing compacted areas to accommodate new trail pullouts. The NPS would site each pullout within previously disturbed areas or locations devoid of sensitive resources to the extent practicable. As a result, only a very limited number of trees and shrubs would be removed or pruned. Some low-growing vegetation could be permanently affected where wooden or granite benches are installed. Overall, vegetation disturbance would be minimal, and BMPs, including those for sensitive natural communities and special status plants, would be implemented to avoid and minimize potential impacts.

Wildlife. As previously described, noise could cause wildlife in the surrounding areas to relocate elsewhere until construction efforts are complete. New trail pullouts would also increase human presence, causing a potential long-term, adverse impact of displacing and/or interacting negatively with wildlife.

Although there is the potential for wildlife displacement, wildlife injury, and/or increased interaction with visitors, the existing trails are in previously disturbed areas with compacted dirt surfaces, devoid of vegetation, and with a regular human presence. The addition of pullouts

could lead visitors to linger in areas longer than previously, which could cause an increase in human-wildlife conflicts; however, the proposed improvements to the corridor are not expected to pose a substantial change in existing use.

Special Status Species. If boulders/talus areas are disturbed, the Mount Lyell salamander and Yosemite rockcress plant species could be directly impacted—injured, killed, or in the case of the salamander, displaced—if either species is present during construction activities. Additionally, special status species could experience the same impacts as previously described for general wildlife, such as displacement, injury, and/or increased potential for human-wildlife conflicts.

Restore Scenic Vistas

Vegetation. Impacts to vegetation as a result of vegetation pruning and tree clearing are anticipated. A key objective of this action is to encourage visitors to use designated viewing areas and reduce off-trail travel, which can result in the creation of social paths to view waterfalls or other features along the trail corridor. Specific locations and number of trees to be cut or removed would be determined during the future, detailed design phase. All tree clearing would occur outside Yosemite Wilderness.

Wildlife. Impacts to wildlife from activities associated with restoring scenic vistas would be the same as those described in the *Increase Trail Pullouts* section.

Special Status Species. Impacts to special status species associated with restoring scenic vistas would be the same as those described in the *Increase Trail Pullouts* section.

WATER RESOURCES

Affected Environment

The Merced River is a prominent feature within the project area; it originates in the park at the crest of the Sierra Nevada and flows freely from its headwaters downstream, descending almost 10,000 feet in elevation, on its 81-mile journey through the park (NPS 2014a). In 1987, US Congress designated the Merced River within the park as a component of the National WSR Systems. The NPS is the managing agency for the portions of the Merced WSR in the park, and in 2014, the NPS adopted the MRP (NPS 2014a) as the guiding document for long-term management and public use of the river corridor. According to the MRP, the Merced River is also managed under the provisions of the laws, policies, and regulations applicable to all units of the National Park System (NPS 2014a). Section 2 of the WSRA further details that the river must be classified and administered as “wild,” “scenic,” or “recreational” for each river segment, based on the condition of the river corridor at the time of designation. Designated river segments are classified in one of these three categories depending on the extent of development and accessibility along each section (NPS 2014a). The portion of the Merced River within the project area (Segment 2A) is designated as “recreational.” Recreational WSR are defined as “rivers or sections of rivers readily accessible by road or railroad, that could have some development along their shorelines and could have undergone some impoundment or diversion in the past” (NPS 2014a).

A portion of Illilouette Creek, namely Illilouette Gorge, also exists within the project area where it flows across the Stock Trail and continues north downstream where it meets the Merced River. Both the Merced River and Illilouette Creek are jurisdictional waters of the United States (WOUS). Any activity that involves discharge of dredged or fill material into a WOUS, including wetlands, is subject to regulation by the US Army Corps of Engineers (USACE) and are protected under Section 404 of the Clean Water Act. WOUS are currently defined as territorial seas and traditional navigable waters; perennial and intermittent tributaries to those waters; certain lakes, ponds and impoundments; and wetlands adjacent to jurisdictional waters. Furthermore, WOUS are classified as wetlands per NPS guidance found in Procedural Manual 77-1 and are, thus, subject to NPS protection in accordance with Director's Order 77-1: *Wetland Protection*. However, given the very small potential impact area to WOUS, which are described in this section, wetlands were not retained for detailed analysis.

Happy Isles

Floodplains

A portion of the existing trailhead area on the east side of the Merced River, as well as portions of the Happy Isles Loop Road and the restroom facilities are situated within both the 100-year and 500-year floodplain (Sherwood Design Engineers 2024). A 100-year floodplain is an area with a 1% chance of experiencing a flood equal to, or exceeding, the "base flood" in any single year. Similarly, a 500-year floodplain is an area with a 0.2% chance of being inundated by floodwaters in any given year. NPS policy is to preserve floodplain functions and values and minimize potential flood hazards. As portions of the project area are within known 100-year and 500-year floodplains, Floodplain Statement of Findings may be required in accordance with Director's Order 77-2: *Floodplain Management* (NPS 2003) and its manual when more detailed design information is available.

Surface Waters, including Wild and Scenic Rivers

There are two distinct isles within the Merced River corridor (i.e., North Happy Isle and South Happy Isle), which gives the Happy Isles area its name. The Merced River flows north under the existing Happy Isles vehicle bridge then generally meanders to the west after leaving the project area. Several built features associated with the Merced River exist at Happy Isles, including a USGS gage station (11264500) and an abutment from the historic Happy Isles Footbridge. The historic footbridge was demolished in 2001, after it partially collapsed due to rockfall and subsequent flooding that took place in 1996 and 1997, respectively. The gage station is adjacent to the location of the historic Happy Isles Footbridge, on the west side of the river. This gage station is currently operative and collects data on gage height and discharge. As discussed in Chapter 2, there is a historic gage station located immediately downstream of the historic Happy Isles Footbridge, on the east side of the river; the historic gage station was operable from 1916 to 2010 (NPS 2010).

Along the west side of the Merced River within the Happy Isles area, the natural grade adjacent to the historic footbridge alignment is generally flat beyond the crest of the riverbank which rises steeply from the channel-bottom. The immediate area is less wooded than that upstream or downstream, and paved trails intersect at the location of the historic footbridge. Conversely,

at the east side of the river, the natural grade slopes up gradually from the channel-bottom past the 1997 flood extent then abruptly sharpens where the trail begins to climb. This area is more heavily wooded. Large boulders exist along and upstream of the former alignment.

Mist Trail Corridor

Floodplains

Small areas of the Stock Trail and Stock Trail shoulder are situated within the 500-year floodplain of the Merced River (Sherwood Design Engineers 2024).

Surface Waters, including Wild and Scenic Rivers

Between the Happy Isles vehicle bridge and the Vernal Fall Footbridge, the Merced River flows generally north to south and then west to east, between the JMT and the Stock Trail. Through this section of the John Muir Trail, the Merced River is a rare, mid-elevation alluvial river (NPS 2014a). Vernal and Nevada Falls are often referred to as the "Giant Staircase" due to their stair-step river morphology and are managed as river-related outstanding remarkable values rather than as separate river features (NPS 2014). Above the Vernal Fall Footbridge, the Merced River generally follows the JMT and crosses from the west to east of the trail and the Silver Apron Footbridge. Delineated not-wetland waters overlapping with the Stock Trail exist directly west and east of the area just upstream of where Illilouette Creek meets the Merced River (OTL Environmental LLC 2024). These areas are associated with the perennial and intermittent stream channels and are considered three-parameter features with partial ordinary high-water marks.

Illilouette Creek crosses over the Stock Trail and merges with the Merced River where the flow direction changes. This portion of Illilouette Creek exhibits signs of disturbance, both from use by stock and hikers, in the form water quality degradation, likely due to vegetation trampling and erosion. The Illilouette Creek forms an alluvial fan as it transitions from confined bedrock gorge to its confluence with the Merced River. Alluvial fans are geologic features that occur where a fast-moving stream loses energy and deposits sediment (alluvium) as the stream transitions to flatter areas, branching into several smaller creeks. Alluvial fans can dictate the vegetative communities of an area and often cause variations in stream flows and volumes. Illilouette Creek is a tributary of Merced River and is known for its 370-foot waterfall, considered peaceful and secluded as it is lesser known to the public. Most of the creek flows through wild and rugged terrain with trails running alongside it.

Environmental Consequences

Impact Analysis Methodology

A qualitative analysis of potential impacts to water resources within the project area was conducted. The analysis considered potential effects on surface waters, including the free-flowing condition of the Merced River corridor and Illilouette Creek per the WSRA, as well as effects on natural flowlines and bank and channel features within existing floodplains. The assessment was informed by review of relevant technical reports and planning documents including the Happy Isles Hydraulic Modeling Report (Sherwood Design Engineers 2024), and

the MRP (NPS 2014a), aerial imagery (Google Earth 2025), park-specific scientific research, and the professional judgment of NPS staff. For each action alternative, the impact analysis assumes that the NPS would implement the mitigation and avoidance measures and BMPs outlined in Appendix G.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

Continued use to the Happy Isles vehicle bridge to access the existing trailhead would not involve new ground disturbance; therefore, no impacts to water resources would occur.

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

The new pedestrian promenade and associated vehicle bridge improvements would have no impact on water resources as the construction would not result in new ground disturbance.

Enhance the Existing Trailhead

Floodplains. The proposed existing trailhead enhancements would result in minor vegetation clearing and small new development footprints. Improvements could result in localized soil compaction, vegetation removal, and a minor increase in impermeable surfaces, all of which would occur within the floodplain. The addition of impermeable surfaces could reduce floodplain infiltration; however, in the context of the Merced River floodplain, these effects would be limited in extent.

Surface Waters, including Wild and Scenic Rivers. Ground disturbing activities occurring adjacent to the Merced River have the potential to alter drainage patterns, concentrate flow, and increase sedimentation causing direct adverse impacts to water quality. An increase in foot traffic adjacent to the Merced River would also have the potential to destabilize the riverbanks and create erosion and sloughing of the banks into the channel, causing direct adverse impacts to water quality. The creation of additional impermeable surfaces could also cause increased runoff intensity, indirectly impacting water quality. The potential impacts to surface waters would not result in a measurable change to the values for which the river was designated as a WSR.

Formalize Stock Trail Loop

Floodplains. Similar to the potential impacts from enhancing the existing trailhead, the creation of additional impermeable surfaces post-pilot program implementation could adversely impact the existing floodplain, reducing long-term infiltration of the surrounding area. However, the overall footprint of added impermeable surfaces would be minimal.

Surface Waters, including Wild and Scenic Rivers. Potential post-pilot program ground disturbing activities occurring adjacent to the Merced River and Illilouette Creek have the potential to alter drainage patterns, concentrate flow, and increase sedimentation that could cause short-term adverse impacts to water quality. An increase in foot traffic adjacent to

Illilouette Creek would also have the potential to destabilize the riverbanks and create erosion and sloughing of the banks into the channel, causing direct adverse impacts to water quality.

The creation of additional impermeable surfaces could also indirectly cause runoff channelization and headcutting, impacting water quality and trail widening efforts could result in channelization of sheet flow runoff from the valley walls and from drainage into Illilouette Creek, which could create new headcuts and increase erosion. However, the overall footprint of added impermeable surfaces would be minimal.

The proposed post-pilot program upgrades to the existing causeway at the intersection of the Stock Trail with Illilouette Creek would be designed to provide an overall long-term benefit to water resources by adequately accommodating flow conveyance. During construction, there would be direct impacts to surface waters from the replacement of the existing converts and would require a Clean Water Act Section 404 permit. The short-term impacts to surface waters would be adverse.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

Floodplains. Under normal and 100-year flood conditions, the proposed footbridge would not be overtopped and would maintain hydraulic conveyance consistent with regulatory design criteria. During a rare 500-year flood event, however, floodwaters could overtop the footbridge deck and approaches. Overtopping could temporarily alter local hydraulic conditions, including increased backwater upstream of the structure and changes in flow distribution across the floodplain. These effects would be short term and limited to the duration of the extreme flood event. Flood-related impacts associated with the 500-year event would be low in frequency and short in duration. The footbridge is not intended to remain fully operational during extreme flood events, and functional disruption during such events is consistent with accepted risk-based infrastructure design practices.

Surface Waters, including Wild and Scenic Rivers. Given the proximity of the Merced River, near-water work could alter drainage patterns, concentrate flow, and increase sedimentation causing direct adverse impacts to water quality. NPS would employ erosion and sediment control measures in addition to BMPs outlined in Appendix G, to reduce potential impacts to surface waters to the extent feasible and as such, only temporary impacts are expected. Proposed activities would be implemented in accordance with Section 7 of the WSRA; therefore, the NPS would coordinate with the NPS WSR Program to implement any necessary conditions and complete a Section 7 determination analysis.

Construction of abutments and footbridge approaches within 150 feet of the river channel could also result in a slight increase impermeable surface, potentially leading to an increase in runoff. This impact would be minor as an abutment and permeable trail surfaces already exist from the previous structure. The footbridge would be constructed within the 2A segment of the Merced River, which is designated recreational in the MRP, with existing infrastructure

described as “lodges, campgrounds, administrative facilities, and other developments typical of a heavily visited destination” (NPS 2014a). As such, the proposed action of installing a new footbridge would not change the description or use of this segment of the Merced River.

A preliminary design concept and associated limits of construction and grading disturbance for the footbridge have been developed, as depicted in Appendix E, Figures E-7 and E-8, respectively. Final design and construction details would be determined during the detailed design phase of the project.

Create a New Pedestrian Promenade

Construction activities associated with installation of signage, interpretive elements, and seating along the new promenade under Alternative C would result in similar impacts as those described for Alternative B in the *Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge* section.

Create a New Trailhead

Floodplains. Proposed construction activities associated with the new trailhead at the south end of Happy Isles would occur within previously disturbed areas (e.g., areas that are already paved or cleared); therefore, minimal adverse effects on floodplains are expected. Impacts to floodplains associated with construction would be similar to, or less than, those described for Alternative B in the *Enhance the Existing Trailhead* section.

Under Alternative C, the existing trailhead area restoration would result in a beneficial impact by restoring 1.25 acres of the floodplain, including riparian habitat, thereby improving floodplain function through reduced runoff and enhanced water quality as compared to Alternative B.

Surface Waters, including Wild and Scenic Rivers. Ground disturbing activities occurring adjacent to the Merced River have the potential to alter drainage patterns, concentrate flow, and increase sedimentation causing direct adverse impacts to water quality. An increase in foot traffic adjacent to the Merced River would also have the potential to destabilize the riverbanks and create erosion and sloughing of the banks into the channel, causing direct adverse impacts to water quality.

The creation of any additional impermeable surfaces could also intensify runoff, indirectly impacting water quality. The potential impacts to surface waters would not likely change the values for which the river was designated as a WSR.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

Although some signage could be located within areas that overlap floodplains—such as within the existing trailhead enhancements footprint under Alternative B or near the Happy Isles restroom facilities under alternatives B and C—implementation of the signage and messaging plan is not expected to result in adverse impacts to water resources. In most cases, existing signs would be replaced in similar locations. Any new signage would be small in scale and sited

to avoid surface waters and to minimize placement within floodplains, to the extent practicable.

Provide Trip-planning and Wayfinding Resources

Proposed trip-planning and wayfinding resources would not occur in areas where water resources are present; therefore, this action is not expected to cause adverse impacts to water resources.

Clearly Delineate Pedestrian Access to Happy Isles

Changing the Happy Isles Loop Road traffic pattern and, therefore, aiming to minimize visitor use of the space between the Valley Loop Trail and the Happy Isles Loop Road, has the potential to result in beneficial impacts to water resources, by reducing vegetation trampling, soil compaction, and ground disturbance within the floodplain.

Improve Happy Isles Shuttle Stop

Floodplains. Proposed Happy Isles Shuttle Stop improvements would involve an increase in impermeable surfaces, which would have adverse impact on the existing floodplain by reducing infiltration. However, the overall footprint of added impermeable surfaces would be very small in the context of the floodplain for the Merced River.

Surface Waters, including Wild and Scenic Rivers. Ground disturbing activities have the potential to alter surface drainage patterns along the Merced River. To reduce potential impacts on water resources, the NPS would implement erosion and sediment control measures in work areas near surface waters. The addition of impermeable surfaces could also indirectly intensify runoff channelization and headcutting, thereby affecting water quality from sedimentation into the surface water. However, the overall footprint of added impermeable surfaces would be small. Minor potential impacts to surface waters would not likely change the values for which the river was designated under the WSR.

Rehabilitate Happy Isles Restroom Facilities

Floodplains. Because the Happy Isles restroom facility is located within the 100-year floodplain, rehabilitation activities have the potential to affect floodplain resources and introduce a small increase in impervious surface. In the context of the existing floodplain, any expansion would be limited in scale and would not measurably affect floodplain storage capacity or other floodplain functions or values. Consistent with NPS policy to preserve floodplain functions and values and to minimize potentially hazardous conditions associated with flooding, a Floodplain Statement of Findings would be completed during the detailed design phase in accordance with Director's Order 77-2 and in coordination with the NPS Water Resources Division.

Surface Waters, including Wild and Scenic Rivers. No adverse impacts to surface waters would occur from the rehabilitation of the Happy Isles restroom facilities, as this action would involve minimal ground disturbance and would be located away from surface waters.

Increase Trail Pullouts

The addition of impermeable surfaces as part of trail pullout installation could alter drainage patterns, concentrate flow, and increase sedimentation in adjacent waterways. However, the overall footprint of added impermeable surfaces would be small and would occur in existing disturbed areas. Furthermore, the NPS would implement erosion and sediment control measures in work areas near waterways to reduce any potential indirect impacts.

Restore Scenic Vistas

No adverse impacts to water resources are expected to occur as a result of restoring scenic vistas because this activity is outside of the floodplain and surface waters. Barriers would be installed, as appropriate, to deter unauthorized access to the Merced River.

CULTURAL LANDSCAPES

Affected Environment

The NHPA of 1966, as amended, requires federal agencies to take into account the effects of undertakings on historic properties[4] and to provide the Advisory Council on Historic Preservation with a reasonable opportunity to comment on those undertakings. The proposed project is considered an undertaking pursuant to 36 CFR Part 800.16(y). An undertaking could have an adverse effect on historic properties when it directly or indirectly alters any of the characteristics of a historic property that qualify it for inclusion in the National Register of Historic Places (NRHP) through diminishing of integrity. For more information on how the NPS evaluates effects to cultural resources, refer to Appendix L—*Cultural Resources Analysis Supporting Information*.

There are three cultural landscapes/historic districts within the proposed construction limits: Half Dome Trail Corridor Cultural Landscape (HDTCCL), which resulted from the recent *Half Dome Trail Corridor Cultural Landscape Inventory* (CLI; Quinn Evans 2026), Yosemite Valley National Register of Historic Places Historic District (National Register Information System [NRIS] 04001159, listed December 14, 2006), and the Yosemite Valley Archeological District (YVAD). The three cultural landscapes/historic districts are summarized in this section. Additional detail related to the HDTCCL is provided in Appendix L.

Half Dome Trail Corridor Cultural Landscape

The HDTCCL is inclusive of archeological (precontact and historic-era), ethnographic and historic built environment resources along 11.5 miles of trail, extending 10 meters (33 feet) on either side of segments of the John Muir, Mist, and Half Dome Trails, and includes use areas at Happy Isles and Little Yosemite Valley Campground.

[4] As defined in the NHPA (54 US Code 300308), a historic property or historic resource is "any prehistoric [precontact] or historic district, site, building, structure, or object included on, or eligible for inclusion on, the [NRHP], including artifacts, records, and material remains relating to the district [cultural landscape], site, building, structure, or object."

The HDTCCL retains a high degree of integrity in relation to its continued significance as the homeland of the seven traditionally affiliated Tribes (Bishop Paiute Tribe, Bridgeport Indian Colony, Mono Lake Kootzaduka'a Tribe, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of Chukchansi Indians, Southern Sierra Miwuk Nation, and Tuolumne Band of Me-Wuk Indians). The HDTCCL also retains a high degree of integrity and embodies the ongoing cultural and spiritual practices of Indigenous peoples, as well as its historic recreational use from 1855 to 1972.

Major natural features and landmarks along the corridor remain in their original locations, supporting traditional knowledge and practices. The HDTCCL also reflects its development for recreation, with historic workmanship evident in stonework and construction features.

The period of significance (POS) for the HDTCCL under Criterion A extends from deep time to the present, capturing both ancestral presence and ongoing Indigenous connections. The period from 1855 to 1972 covers Euroamerican development and NPS transformation of the trail system. Key landscape characteristics as detailed by Quinn Evans (2026) are summarized in Appendix L.

Yosemite Valley Historic District

Yosemite Valley Historic District (YVHD; NRIS 04001159, listed December 14, 2006) is composed of 923 contributing buildings, sites, and structures. Some of these resources were previously listed in National Register designations in the 1970s and 1980s. The 2006 listing was the first to include the trail corridor. The district is generally within the Yosemite Valley floor from the Pohono Bridge to Happy Isles. The POS extends from 1855 to 1942.

Yosemite Valley Archeological District

The YVAD is composed of over 100 ancestral sites and historic sites that encompass the entire Yosemite Valley from Pulpit Rock in the west to Happy Isles and Mirror Lake in the east. The southeastern edge of the YVAD overlaps with the HDTCCL just north of Happy Isles, with four ancestral sites in this area. These known sites contribute to the understanding of Indigenous use and occupation of Yosemite Valley.

For details regarding individual historic properties, see the *Affected Environment, Historic Properties* section.

Environmental Consequences

Impact Analysis Methodology

The following effects analysis covers proposed actions within construction limits that have the potential to affect NRHP-eligible cultural landscapes, characteristics of the landscape, and contributing features.

The analysis of potential effects is based on the criteria of adverse effects under Section 106 of the NHPA and guidelines stated within the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b). An adverse effect is defined in the regulations implementing Section 106 (36 CFR Part 800.5(a)(1)). Pursuant to that definition, an adverse

effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. For the purposes of this analysis, a resource that has not yet been evaluated for the NRHP is assumed eligible for listing and treated as historic property until determined otherwise. In this analysis, an adverse effect constitutes an adverse impact under NEPA. Information for this analysis was collected from sources listed previously in the *Cultural Landscapes, Affected Environment* section. The historic conditions, existing conditions, and characteristics of contributing features of the HDTCCL are identified in the CLI (Quinn Evans 2026). As design becomes more fully developed, the NPS would conduct a project-specific effects analysis for the HDTCCL and cultural landscapes in compliance with Section 106 of the NHPA. This EA provides a more general assessment.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Landscape characteristics such as land use, circulation and views would not significantly change as a result of Alternative B. Ground disturbance associated with Happy Isles improvements has the potential to adversely affect characteristics of the HDTCCL including archeological sites and plant communities of the HDTCCL that are tied to cultural traditions, and the YVAD. It is recommended that vegetation that contributes to the historic character of the landscape be protected using appropriate methods in consultation with affiliated Tribes. Additionally, if deemed appropriate by Tribal representatives, consider interpretation or education related to Indigenous use of plant species and management of vegetation. Park cultural resources staff review, Tribal consultation, and implementation of standard protection measures are recommended during the design phase to avoid potential adverse effects to these characteristics of the HDTCCL. The following impact analysis focuses on the built environment components of the HDTCCL for proposed actions under Alternative B.

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

The Happy Isles vehicle bridge is a contributing feature of the HDTCCL from the recreation POS. Whereas the proposed implementation of traffic pattern changes to turn the vehicle bridge into a one-way road and separate pedestrians and bicyclists from vehicles would change the circulation patterns of the vehicle bridge and its relationship to roads and trails, it would be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b) and would be consistent with the Yosemite Design Guidelines (NPS 2012). Therefore, these actions would not constitute an adverse effect on the Happy Isles vehicle bridge. The Happy Isles vehicle bridge retains integrity of location, design, materials, and workmanship, and contributes to the historic character of the Mist Trail Corridor. This action would not preclude the vehicle bridge from contributing to the historic character of the HDTCCL, nor alter the architectural features, massing, or function of the vehicle bridge in a way that would diminish the integrity of location, design, or the materials or workmanship of the vehicle bridge. Elevated curbs or bollards would be low-profile, minimizing the visibility of changes, and reversible, and would be consistent with the Yosemite Design Guidelines (NPS

2012). Therefore, the improvements would not adversely affect character-defining features of the vehicle bridge or any other contributing features or characteristics of the HDTCCL.

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

The new pedestrian promenade would span the Happy Isles vehicle bridge which is a contributing feature of the HDTCCL. The promenade would be designed to protect landscape characteristics of the HDTCCL including land use, circulation, buildings and structures, and the views. The vehicle bridge already serves as the primary circulation route for visitors accessing the existing trailhead, and as such, these improvements would formalize this existing condition. Therefore, the improvements would not adversely affect character-defining features of the vehicle bridge or characteristics of the HDTCCL.

Enhance the Existing Trailhead

The JMT-Mist Trail trailhead is a contributing feature of the HDTCCL for its location and function as part of the HDTCCL including characteristics regarding land use and circulation. The existing Lower JMT from the trailhead to the Mist Trail continues to follow the route of the 1882–1883 Anderson trail and retains historic trail features including its stone edges and retaining walls. Similarly, the western end of the trail segment continues to follow the route of the 1885 trail extension to connect the route to the earlier Vernal Fall trail. The entire trail segment contributes to the historic character of the corridor (Quinn Evans 2026:121). Proposed enhancements to the existing trailhead would not change the function, location or characteristics that add to the historic character of the corridor, and design would be consistent with the Yosemite Design Guidelines (NPS 2012). Construction of the water-filling station at the existing trailhead would require bringing a waterline across the Happy Isles vehicle bridge, which is a contributing feature of the HDTCCL. The addition of a waterline would be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b) and, therefore, would not constitute an adverse effect to the Happy Isles vehicle bridge or characteristics of the HDTCCL.

All improvements are proposed within existing disturbed areas. Any new ground disturbance associated with enhancement to the existing trailhead has the potential to adversely affect characteristics of the HDTCCL including archeological sites and plant communities of the HDTCCL that are tied to cultural traditions, and the YVAD. It is recommended that vegetation that contributes to the historic character of the landscape be protected using methods developed in consultation with affiliated Tribes. Park cultural resources staff review, Tribal consultation, and prescribed standard protection measures are recommended during the design phase to avoid potential adverse effects to these characteristics of the HDTCCL. In addition, cultural resource interpretation and language protecting cultural resources (developed in consultation with park staff and affiliated Tribes) would be added to exhibits and signage, where appropriate, which would result in a long-term beneficial effect to the HDTCCL through increased visitor education and resource appreciation.

Increased foot traffic at the existing trailhead and vicinity may affect the integrity and significance of contributing features of the HDTCCL through additional physical disturbance.

However, with park standard protection measures in place, characteristics of the HDTCCL would be protected and not adversely affected.

Formalize Stock Trail Loop

According to Quinn Evans (2026:124):

> The Stock Trail contributes to the historic character of the landscape under Criterion A as part of the recreational trail system. Due to modifications to the trail after the end of the period of significance to address drainage issues and incorporate a connection to the water tank, the trail is no longer representative of Criterion C in the area of Engineering as original materials and workmanship are no longer extant. In addition, the existing Stock Trail follows a route similar to the ancestral Mono Trail along the south side of the Merced River, and it may have importance to associated tribes. The Access Road was constructed after the end of the period of significance and does not contribute to the historic character of the trail corridor.

The potential implementation of Stock Trail improvements after the conclusion of the pilot program has the potential to adversely affect the Stock Trail's integrity and character-defining features. Ground disturbing activities have the potential to adversely affect the integrity of archeological resources and other historic properties. Potential effects may be minimized by implementing the Secretary of the Interior's Standards for the Treatment of Historic Properties (NPS 2017b), Yosemite Design Guidelines (NPS 2012), and other park standard protection measures.

Formalization of the existing social trail between the Stock Trail and Vernal Fall Footbridge restroom facility (referred to as Vernal Fall Footbridge comfort station in the CLI) would have no adverse effect to the restroom facility, which is a contributing feature of the HDTCCL. The Vernal Fall Footbridge restroom facility is already accessed by visitors using the existing social trail, and continued use of this trail would not affect the integrity or significance of the restroom facility.

Ground disturbance and vegetation removal needed for post-pilot program Stock Trail improvements, construction, and formalization of the existing social trail may adversely affect characteristics of the HDTCCL including archeological sites and plant communities of the HDTCCL that are tied to cultural traditions and the ancestral Mono Trail. It is recommended that vegetation that contributes to the historic character of the landscape be protected using methods that are sensitive to its significance. Additionally, if deemed appropriate by Tribal representatives, the NPS would consider interpretation or education related to Indigenous use of plant species and management of vegetation. Park cultural resources staff review, Tribal consultation, and standard protection measures are recommended during the design phase to avoid potential adverse effects to these characteristics of the HDTCCL under Alternative B.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Ground disturbance and vegetation removal associated with Happy Isles improvements under Alternative C may adversely affect characteristics of the HDTCCL including archeological sites

and plant communities of the HDTCCL that are tied to cultural traditions, the ancestral Mono Trail and the YVAD. Park cultural resources staff review, Tribal consultation, and prescribed standard protection measures are recommended during the design phase to avoid potential adverse effects to these characteristics of the HDTCCL. It is recommended that vegetation that contributes to the historic character of the landscape is protected using methods developed in consultation with affiliated Tribes. Cultural resource interpretation and language developed for protection of cultural resources (in consultation with park staff and affiliated Tribes) would be added to exhibits and signage, where appropriate, which would result in a long-term beneficial effect for the HDTCCL through increased visitor education and resource appreciation. The following impact analysis focuses on the built environment components of the HDTCCL for proposed actions under Alternative C.

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

The new footbridge would use an existing abutment and be in a location where the Happy Isles Footbridge existed historically. The historic footbridge abutments and gaging station within the construction footprint are contributing to the HDTCCL. Reinstatement of a footbridge in this location would have a beneficial effect on the HDTCCL because it would restore landscape characteristics such as land use, circulation, existing trail alignments, historic viewsheds and connectivity to buildings and structures such as the Happy Isles area. The design of the footbridge would retain the historic gaging station and abutments and would not destroy historic materials that characterize the property. The new work would be differentiated from the old and would be compatible with the massing, size, scale, and architectural features consistent with the Yosemite Design Guidelines (NPS 2012) and *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b). The new footbridge would be visible from the Happy Isles vehicle bridge which is a contributing feature of the HDTCCL. However, the visual intrusion would not alter the characteristics of the Happy Isles vehicle bridge. The Happy Isles vehicle bridge would retain integrity of location, design, materials, and workmanship (Quinn Evans 2026). The setting of the vehicle bridge is not identified as an aspect of integrity that conveys significance. The setting of the vehicle bridge has already been altered since it was constructed. Construction of a footbridge in this location would not have an adverse effect on the Happy Isles vehicle bridge, historic gaging station and abutments, or any other features that contribute to the significance of the HDTCCL. To minimize potential impacts to the integrity of the HDTCCL, the proposed action should follow the Yosemite Design Guidelines (NPS 2012) and *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b). Regardless of the construction of a new footbridge, the HDTCCL would continue to convey its significance under Criteria A, B, and C.

The proposed signage improvements along the walkways, new footbridge, and new access point to the Mist Trail Corridor would be reversible and would not adversely affect the HDTCCL. Cultural resource interpretation and language protecting cultural resources (developed in consultation with park staff and affiliated Tribes) is recommended, where appropriate.

Create a New Pedestrian Promenade

According to Quinn Evans (2026:119):

> The contributing status of the trails and walkways at Happy Isles is undetermined, but potentially significant. The majority of trails and walkways within the Happy Isles area appear to have been established as part of redevelopment of the Art and Nature Center after hatchery operations ceased in 1956. Trails on the two isles have been present since 1910, but research to date has not determined if the existing trails follow the alignment and retain historic retaining walls and edges. As this area is within the vicinity of ancestral villages and a branch of the Mono Trail, it may have importance to associated tribes.

For the purposes of effects analysis, the Happy Isles asphalt walkways are assumed to be contributing to the significance of the HDTCCL under the historic themes regarding early recreational trail systems and recreation in the park. Improvements have already been made to the walkways outside the POS when the park developed the Art and Nature Center. Widening the existing paved walkway and providing seating and interpretive opportunities along its length would be consistent with the Yosemite Design Guidelines (NPS 2012) and would not adversely affect the Happy Isles asphalt walkways or contributing features of the HDTCCL. The proposed improvements would not change the integrity of location, design, or association of the walkways or any contributing features of the HDTCCL. The proposed changes would not alter the use of the trails and would still be in keeping with recreation as a significant historic theme of the HDTCCL.

Create a New Trailhead

The contributing status of Happy Isles asphalt walkways to the significance of the HDTCCL is undetermined. For the purposes of impact analysis, the Happy Isles asphalt walkways are assumed to be contributing to the significance of the HDTCCL. Portions of the area proposed for the new trailhead are currently paved and developed with small-scale improvements such as benches and bike racks, and water-filling stations, which are modern installations outside of the POS. Installation of additional small-scale improvements would be in keeping with the current use and would be consistent with the Yosemite Design Guidelines (NPS 2012). The walkways are currently sparsely signed. The installation of interpretive opportunities would not adversely affect features of the HDTCCL. Cultural resource interpretation and language protecting cultural resources (developed in consultation with park staff and affiliated Tribes) is recommended, where appropriate.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

Development and implementation of a signage and messaging plan throughout the Happy Isles area and the Mist Trail Corridor would have a long-term beneficial effect to the HDTCCL as long as installation of signage avoids ground disturbance and other potential effects to characteristics of the HDTCCL including archeological sites and plant communities of the HDTCCL that are tied to cultural traditions, the ancestral Mono Trail and the YVAD. Cultural

resource interpretation and language protecting cultural resources (developed in consultation with park staff and affiliated Tribes) is recommended, where appropriate. The current wayfinding and interpretive signs within the HDTCCL are non-contributing features of the cultural landscape. Per the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b), the proposed improvements would be reversible Effects of the action would be minimized by using existing sign locations for new signage when possible and reducing the number of signs through strategic placement in high traffic locations, and would be consistent with the Yosemite Design Guidelines (NPS 2012). Signage and messaging would not adversely affect the integrity of the contributing features of the HDTCCL. With park standard protection measures in place, alternatives B and C implementation of a signage and messaging plan would have no adverse effect to the HDTCCL with added beneficial effects from interpretation and education about the HDTCCL.

Provide Trip-planning and Wayfinding Resources

Providing additional trip-planning and wayfinding resources to improve visitor experience would not adversely affect the integrity of the contributing features of the HDTCCL and would have added beneficial effects from interpretation and education about the HDTCCL. Any ground disturbance and vegetation clearing associated with the installation of trip resources, such as kiosks, may adversely affect characteristics of the HDTCCL including archeological sites and plant communities of the HDTCCL that are tied to cultural traditions, the ancestral Mono Trail and the YVAD and would need to be reviewed by the park archeologist and affiliated Tribes to incorporate resource protection measures into the design to avoid adverse effects. Effects of the installation of kiosks would be minimized by reducing the number of kiosk locations through strategic placement in high traffic locations and would be consistent with the Yosemite Design Guidelines (NPS 2012). With park standard protection measures in place, alternatives B and C implementation of trip-planning and wayfinding resources would have no adverse effect to the HDTCCL with added beneficial effects from interpretation and education.

Clearly Delineate Pedestrian Access to Happy Isles

The Happy Isles Loop Road traffic pattern change would result in alterations to the road and vehicle bridge. The Happy Isles vehicle bridge is a contributing feature of the HDTCCL from the recreation POS. Whereas the proposed improvement would change the circulation patterns of the vehicle bridge and its relationship to roads and trails, it would be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b) and would be consistent with the Yosemite Design Guidelines (NPS 2012). Therefore, these actions would not constitute an adverse effect on the Happy Isles vehicle bridge. Whereas these installments would slightly affect the Happy Isles vehicle bridge's integrity of setting, materials and feeling, they would not affect the overall location, design, function, and association of the vehicle bridge within the HDTCCL. All improvements are proposed within existing disturbed areas and therefore no effects to archeological sites and cultural plant communities or other Tribal resources contributing to the HDTCCL are anticipated from the proposed improvements. Cultural resource interpretation and language protecting cultural resources (developed in consultation with park staff and affiliated Tribes) is recommended, where appropriate.

Improve Happy Isles Shuttle Stop

The Happy Isles Shuttle Stop shelter is a non-contributing feature of the HDTCCL. The proposed shuttle stop improvements would be constructed within a previously disturbed area that is currently used for arriving visitors. All work would be consistent with the Yosemite Design Guidelines (NPS 2012). Therefore, construction of new infrastructure at the Happy Isles Shuttle Stop would not adversely affect any contributing features of the HDTCCL.

Rehabilitate Happy Isles Restroom Facilities

The existing Happy Isles restroom facility is a non-contributing feature of the HDTCCL and, therefore, changes to the building would not be considered an adverse effect. The proposed improvements do not have the potential to cause adverse visual or setting effects to the HDTCCL because they would be consistent with the Yosemite Design Guidelines (NPS 2012).

Increase Trail Pullouts

Trail pullouts would be consistent with the Yosemite Design Guidelines (NPS 2012).

Restore Scenic Vistas

Selective vegetation clearing has the potential to adversely affect characteristics of the HDTCCL related to views, vistas and vegetations. It is recommended that vegetation that contributes to the historic character of the landscape is protected using methods that are sensitive to its significance. Additionally, if deemed appropriate by Tribal representatives, consider interpretation or education related to Indigenous use of plant species and management of vegetation.

HISTORIC PROPERTIES – INCLUDING HISTORIC STRUCTURES AND ARCHEOLOGICAL AND ETHNOGRAPHIC RESOURCES

Affected Environment

As discussed in the previous section, the NHPA requires federal agencies to take into account the effects of undertakings on historic properties which is defined as “any prehistoric [precontact] or historic district, site, building, structure, or object included on, or eligible for inclusion on, the [NRHP], including artifacts, records, and material remains relating to the district, site, building, structure, or object” (36 CFR Part 800.16[l]). The proposed project is considered an undertaking pursuant to 36 CFR Part 800.16(y). An undertaking may have an adverse effect on historic properties when it directly or indirectly alters any of the characteristics of a historic property that qualify it for inclusion in the NRHP through diminishing of integrity. See the previous section for definitions of the four NRHP criteria and seven aspects of integrity.

The following affected environment describes the existing condition of historic properties that could be adversely affected by implementing any of the alternatives. The project area is located at the southeast end of Yosemite Valley and played an important role in the lives of Indigenous communities who dwelled in the valley and maintained a trail system for hunting and trade for

several thousand years. The trail corridor is part of the homeland of the seven traditionally associated Tribes, who maintain strong cultural connections to the landscape today. People have occupied the project area and Mist Trail Corridor for millennia due to its ease of access to the Merced River, a prime trading and settlement location in the Little Yosemite Valley, which is located east of the project area. The rare flat landforms scattered along the Mist Trail were useful for various purposes, ranging from seasonal pre-contact Native American habitation to historical and modern recreational tourism. Ethnographic and historic documentation supports the prolonged use of Little Yosemite Valley and its link to Yosemite Valley into the historic periods. The northern edge of the Happy Isles portion of the project area within the Half Dome Trail Corridor is part of the YVAD, with four precontact sites in this area. These known sites contribute to the understanding of Indigenous use and occupation of Yosemite Valley and Indigenous trail systems throughout Yosemite and beyond (Huizinga et al. 2025; Quinn Evans 2026).

An archeological survey and literature review was conducted in support of the project in 2024 by park cultural resources staff (Huizinga et al. 2025). Survey methods included linear survey of a 60-foot corridor with the existing trail as the centerline along the existing Mist Trail Corridor between Vernal and Nevada Falls, overlapping the La Casa Nevada Hotel site. Subsurface shovel probe testing was conducted at sites that had not previously been subject to testing or that were determined to be unique even though they had been subject to limited testing in the past. A total of eight precontact and historic-era archeological sites have been identified within or adjacent to the proposed project construction limits.

Historic use within the Yosemite Valley began in 1851 when the Mariposa Battalion became the first Euroamericans to explore the valley. Five distinct periods of historic use and development have been identified: The First People, Early Tourism and Trail Development from 1855–1889, Establishment of Yosemite National Park and Early Development under US Army Administration from 1890–1917, Yosemite between the Wars from 1918–1942, and Rockfalls and Repairs: the Corridor from 1943–Present (Quinn Evans 2026). See the *Cultural Landscapes, Affected Environment* section and Appendix L for additional historic context. Ten historic-era properties associated with the built environment have been identified within or adjacent to the proposed project construction limits.

For a brief overview of the historical and ancestral ethnographic development within the park, see the *Cultural Landscapes, Affected Environment* section of this EA. The HDTCCL is also summarized in the *Cultural Landscapes* section of this EA with more detail provided in Appendix L. Historic properties within the project construction limits are further described by Quinn Evans (2026), Wilson (1976), and Carr et al. (2006). For archeological properties see Huizinga et al. (2025).

Specifically, the following historic properties including archeological resources, built environment resources and historic districts have been identified within or adjacent to each of the proposed project construction limits.

Happy Isles

- YVHD (NRHP listed 2006, NRIS 04001159; contributing to the HDTCCL) inclusive of:

  - Eastern Portion of Loop Road (contributing to the YVHD)
  - Happy Isles Art and Nature Center (contributing to the YVHD; contributing to the HDTCCL)
  - Happy Isles Bridge (vehicular) (contributing to the YVHD; NRHP listed as part of the Yosemite Valley Bridges listing; contributing to the HDTCCL)
  - Happy Isles Middle Bridge (contributing to the YVHD; contributing to the HDTCCL)
  - Happy Isles West Bridge (contributing to the YVHD; contributing to the HDTCCL)
  - CA-MRP-1425H, historic-era archeological site (listed in the NRHP as contributor to YVHD)
- JMT (NRHP eligible – draft nomination prepared 1989; contributing to the HDTCCL)
- YVAD (NRHP listed 1976) (contributing to CLI)
- Three historic-era archeological sites

Mist Trail Corridor

- YVHD (NRHP listed 2006, NRIS 04001159) inclusive of:
  - Vernal Fall Footbridge restroom facility[5] (contributing to the YVHD; contributing to the HDTCCL)
  - Mist Trail and Nevada Falls Corridor Trails (contributing to the YVHD; individually NRHP eligible – draft nomination prepared 1989)
- JMT (NRHP eligible – draft nomination prepared 1989; contributing to the HDTCCL)
- Stock Trail (unevaluated)[6]
- Seven archeological sites: four precontact and three historic-era

For additional detail regarding the HDTCCL, see *Cultural Landscapes, Affected Environment* section and Appendix L.

Environmental Consequences

Impact Analysis Methodology

The following effects analysis covers proposed actions within construction limits that have the potential to affect NRHP-eligible historic properties. The effects analysis followed the same impact analysis methodology as used in the above *Cultural Landscapes* section of this document. Information for this analysis was collected from sources listed above in the *Historic Properties, Affected Environment* section. As design becomes more fully developed, NPS would conduct a project-specific effects analysis for historic properties including historic structures and archeological resources in compliance with Section 106 of the NHPA. This EA provides a more general assessment.

[5] The Vernal Fall Footbridge restroom facility is referred to as Vernal Fall Footbridge comfort station in the CLI.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Ground disturbance associated with Happy Isles improvements under Alternative B has the potential to adversely affect archeological resources and other historic properties. Review by park cultural resources staff, Tribal consultation and implementation of standard protection measures are recommended during the design phase to avoid potential adverse effects to archeological resources and other historic properties under Alternative B. In addition, cultural resource interpretation and protection language (developed in consultation with park staff and affiliated Tribes) would be added to exhibits and signage, where appropriate, which would result in a long-term beneficial effect on historic properties. The following effects analysis generally focuses on built environment historic properties for proposed actions under Alternative B.

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access

The Happy Isles vehicle bridge is an NRHP-listed historic property as part of the Yosemite Valley Bridges listing. Proposed implementation of traffic pattern changes to turn the vehicle bridge into a one-way road and separate pedestrians and bicyclists from vehicles would be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b). Elevated curbs or bollards would be low-profile, minimizing the visibility of changes, and reversible, and would be consistent with the Yosemite Design Guidelines (NPS 2012). Therefore, these actions would not constitute an adverse effect to the Happy Isles vehicle bridge or any other historic properties.

Create a New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

The new pedestrian promenade would span the Happy Isles vehicle bridge which is a historic property. The vehicle bridge already serves as the current primary circulation route for visitors accessing the existing trailhead, and as such, these improvements would formalize this existing condition. Therefore, the improvements would not adversely affect character-defining features of the vehicle bridge or any other historic properties.

Enhance the Existing Trailhead

The Mist Trail and Nevada Falls Corridor is an individually eligible historic property and contributing to the YVHD. Proposed enhancements to the existing trailhead would not change the characteristics of the trailhead that make it eligible for the NRHP including the generally unaltered alignment of the route and the historic character of the trail corridor, and would be consistent with the Yosemite Design Guidelines (NPS 2012; Quinn Evans 2026). The potential addition of a waterline across the vehicle bridge would be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b) and, therefore, would not constitute an adverse effect to the Happy Isles vehicle bridge.

Increased foot traffic at the existing trailhead area has the potential to adversely affect the integrity and significance of contributing features of the HDTCCL through physical disturbance. However, with park standard protection measures in place, characteristics of the HDTCCL would be protected and the district would not be adversely affected. In addition, cultural resource

interpretation and protection language (developed in consultation with park staff and affiliated Tribes) would be added to exhibits and signage, where appropriate, which would result in a long-term beneficial effect for the resources contributing to the HDTCCL through increased visitor education and resource appreciation.

Formalize Stock Trail Loop

For the purposes of this effects analysis, the Stock Trail is assumed to be eligible for listing in the NRHP. The potential implementation of Stock Trail improvements after the conclusion of the pilot program has the potential to adversely affect the Stock Trail's integrity and historic alignment. Ground disturbing activities and vegetation removal have the potential to adversely affect the integrity of archeological sites within the proposed construction limits. Potential effects may be minimized and avoided through review by the park archeologist, Tribal consultation, and implementation of the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b), Yosemite Design Guidelines (NPS 2012), and other park standard protection measures.

After the pilot program, Stock Trail use may be managed with operational controls. Adaptive management actions have the potential to adversely affect the integrity of the Stock Trail and archeological resources and other historic properties within the proposed construction limits due to increased visitor use and physical disturbance. These potential effects would need to be analyzed once the pilot program is complete and final designs are determined.

Formalization of the existing social trail between the Stock Trail and Vernal Fall Footbridge restroom facility (referred to as Vernal Fall Footbridge comfort station in the CLI) would have no adverse effect on the restroom facility. The Vernal Fall Footbridge restroom facility is already accessed by visitors using the existing social trail and continued use of this trail would not affect the integrity or significance of the restroom facility.

Formalization of the existing social trail, including any ground disturbance to formalize or maintain this trail may adversely affect archeological resources and other historic properties through physical disturbance and erosion. Implementation of park standard protection measures would avoid potential adverse effects to historic properties.

Proposed Stock Trail construction and staging could include trail widening and passing locations, causeway upgrades, and staging areas. Implementation of the Stock Trail construction has the potential to adversely affect the Stock Trail's integrity and character-defining features. Ground disturbing activities have the potential to adversely affect the integrity of archeological resources and other historic properties. Potential effects may be minimized by implementing the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b), Yosemite Design Guidelines (NPS 2012), and other park standard protection measures.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Ground disturbance associated with Happy Isles improvements under Alternative C has the potential to adversely affect the integrity of archeological resources and other historic

properties. Park cultural resources staff review, Tribal consultation, and implementation of standard protection measures are recommended during the design phase to avoid potential adverse effects on archeological resources and other historic properties under Alternative C. In addition, cultural resource interpretation and protection language (developed in consultation with park staff and affiliated Tribes) would be added to exhibits and signage, where appropriate, which would result in a long-term beneficial effect on historic properties. The following effects analysis generally focuses on built environment historic properties for proposed actions under Alternative C.

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

The new footbridge would use an existing abutment and be in a location where the Happy Isles Footbridge existed historically. The historic footbridge abutments and gaging station within the construction footprint are unevaluated historic properties. Reinstatement of a footbridge in this location would have a beneficial effect on the footbridge abutment and gaging station and other historic properties because it would restore historic viewsheds, circulation patterns between trail corridors, the setting of the gaging station as closely associated with a pedestrian footbridge, and design of the Happy Isles area. The design of the footbridge would retain the historic gaging station and abutments and would not destroy historic materials that characterize the property. The new work would be differentiated from the old and would be compatible with the massing, size, scale, and architectural features so as to protect the historic integrity of the property and its environment per the Yosemite Design Guidelines (NPS 2012) and *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b). The new footbridge would be visible from the Happy Isles vehicle bridge, which is an NRHP-listed historic property. However, the visual intrusion would not alter the characteristics of the Happy Isles vehicle bridge. The Happy Isles vehicle bridge would retain integrity of location, design, materials, and workmanship (Quinn Evans 2026). The setting of the vehicle bridge is not identified as an aspect of integrity that conveys significance and has already been altered since it was constructed. Construction of a footbridge in this location would not have an adverse effect on the Happy Isles vehicle bridge, historic gaging station and abutments, or any other historic properties. To minimize potential impacts, the proposed action should follow the Yosemite Design Guidelines (NPS 2012) and *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b).

The proposed signage improvements along the walkways, new footbridge, and new access point to the Mist Trail from the new footbridge would be reversible and would not adversely affect historic properties.

The proposed construction of a new footbridge would involve ground disturbance and vegetation removal that may adversely affect archeological resources. All proposed ground disturbance associated with the new footbridge construction, staging areas and new trail access from the new footbridge to the Mist Trail Corridor would need to be reviewed by the park archeologist and affiliated Tribes to incorporate resource protection measures to avoid adverse effects.

Create a New Pedestrian Promenade

The existing paved surfaces that would be used to create a new promenade are not individual historic properties but may be contributing features of the HDTCCL (see *Cultural Landscapes* section for additional analysis).

Create a New Trailhead

Portions of the area proposed for the new trailhead are currently paved and developed with small-scale improvements such as benches, bike racks, and water-filling stations. Installation of additional small-scale improvements would be in keeping with the current use. The walkways are currently sparsely signed. The installation of interpretive opportunities and small-scale improvements would not alter the characteristics of the YVHD and would be consistent with the Yosemite Design Guidelines (NPS 2012). With park standard protection measures in place, it is assumed that all potential adverse effects can be avoided for archeological sites. Therefore, the new trailhead would have no adverse effect to historic properties.

Any ground disturbance, vegetation clearing, and revegetation associated with the new trailhead adjacent to the new footbridge may adversely affect archeological and ethnographic historic properties and would need to be reviewed by the park archeologist and affiliated Tribes to incorporate resource protection measures into the design to avoid adverse effects.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

Development and implementation of a signage and messaging plan throughout the Happy Isles area and Mist Trail Corridor would have a long-term beneficial impact to historic properties as long as installation of signage avoids ground disturbance and other potential effects to historic properties. Inclusion of ethnographic and historic significance of the trail system (in consultation with the park cultural resources staff and affiliated Tribes) may increase public awareness for the cultural significance of the historic properties. The current wayfinding and interpretive signs are non-contributing resources within the YVHD. Per the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b), the proposed improvements would be reversible. Effects of the action would be minimized by using existing sign locations for new signage when possible and reducing the number of signs through strategic placement in high traffic locations, and would be consistent with the Yosemite Design Guidelines (NPS 2012). With park standard protection measures in place, alternatives B and C implementation of a signage and messaging plan would have no adverse effect on historic properties with potential added beneficial effects from interpretation and education about the cultural significance of the area.

Provide Trip-planning and Wayfinding Resources

Providing additional trip-planning and wayfinding resources to improve visitor experience would not adversely affect the integrity of any known historic properties and would have added beneficial effects from interpretation and education. Any ground disturbance and vegetation clearing associated with the installation of trip resources, such as kiosks, may adversely affect

archeological resources and would need to be reviewed by the park archeologist and affiliated Tribes to incorporate resource protection measures into the design to avoid adverse effects. With park standard protection measures in place, it is assumed that all potential adverse effects can be avoided for archeological sites. Effects of the installation of kiosks would be minimized by reducing the number of kiosk locations through strategic placement in high traffic locations, and would be consistent with the Yosemite Design Guidelines (NPS 2012). With park standard protection measures in place, alternatives B and C implementation of trip-planning and wayfinding resources would have no adverse effect to historic properties with added beneficial effects from interpretation and education.

Clearly Delineate Pedestrian Access to Happy Isles

The improvements to Happy Isles Loop Road would result in alterations to the road and vehicle bridge. The Happy Isles vehicle bridge is an NRHP-listed historic property as part of the Yosemite Valley Bridges listing. Proposed improvements would occur within the existing roadway, additional signage for wayfinding and safety, plus installation of elevated curbs or would all be reversible according to *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 2017b) and would be consistent with the Yosemite Design Guidelines (NPS 2012) and, therefore, would not constitute an adverse effect to the Happy Isles vehicle bridge. Whereas these installments would slightly affect the Happy Isles vehicle bridge's integrity of setting, materials and feeling, they would not affect the overall location, design, function and association of the vehicle bridge.

Improve Happy Isles Shuttle Stop

The Happy Isles Shuttle Stop shelter is a non-contributing resource of the YVHD. The proposed shuttle stop improvements would be constructed within a previously disturbed area that is currently used for arriving visitors. All work would be consistent with the Yosemite Design Guidelines (NPS 2012). Construction of new infrastructure at the Happy Isles Shuttle Stop would not adversely affect historic properties.

Rehabilitate Happy Isles Restroom Facilities

The Happy Isles restroom facility is a non-contributing resource within the YVHD. Changes to the interior and exterior of the building would not have an adverse effect on historic properties as long as the changes are consistent with the Yosemite Design Guidelines (NPS 2012). Although the improvements would occur within previously disturbed areas, any new ground disturbance and vegetation clearing associated with the rehabilitation of the restroom facilities may adversely affect known and unknown archeological and ethnographic resources and would need to be reviewed by the park archeologist and affiliated Tribes to incorporate resource protection measures into the design to avoid adverse effects.

Increase Trail Pullouts

Trail pullouts would be consistent with the Yosemite Design Guidelines (NPS 2012). Proposed ground disturbance from construction of pullouts and vegetation clearing has the potential to adversely affect archeological resources and other historic properties. However, with review by the park archeologist and Tribes, implementation of the *Secretary of the Interior's Standards for*

the Treatment of Historic Properties (NPS 2017b) and other park standard protection measures, the proposed action would avoid adverse effects to historic properties.

Restore Scenic Vistas

Selective vegetation clearing has the potential to adversely affect archeological and ethnographic resources. However, with review by the park archeologist and Tribes, implementation of the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and other park standard protection measures, the proposed action would avoid adverse effects to historic properties.

VISUAL RESOURCES

Affected Environment

The NPS is responsible for preserving important natural, cultural, and historic views for current and future generations. The park is renowned for its many iconic scenic views and dramatic scenery. The Mist Trail Corridor, including Vernal and Nevada Falls, is visible from numerous vantage points throughout Yosemite Valley. The 2016 Yosemite National Park Foundation Statement details dramatic and inspirational scenery as one of the fundamental resources and values of the park (NPS 2016).

As described in the *Water Resources* section, the Merced River is a designated WSR and runs through the project area. One of its stated outstanding remarkable values includes its scenic resources and importance. The following section describes the visual characteristics present within the project area, as well as important views along the Mist Trail Corridor.

Happy Isles

The built environment in the Happy Isles area primarily includes the Happy Isles Shuttle Stop and infrastructure (water-filling stations, bike parking, seating, and a shade structure), restroom facilities, the Happy Isles vehicle bridge, and the Art and Nature Center. The Yosemite Design Guidelines (NPS 2012) describes the natural landscape as the primary character-defining element within the Happy Isles area. Happy Isles provides one of the best opportunities to observe the dynamic geology of Yosemite Valley, which includes the downed trees and scree (a collection of broken rock fragments at the base of a cliff) resulting from the 1996 rockfall (NPS 2012). The visual character of the developed area can be described as rustic with dispersed small-scale structures along an asphalt paved pedestrian route from the Happy Isles Shuttle Stop to the Art and Nature Center. The Art and Nature Center, which serves as an interpretive hub, was originally constructed as a Fish Hatchery in 1927. The Yosemite Design Guidelines (NPS 2012) states that new designs should be compatible with the architectural character of the historic Art and Nature Center building.

The nearby Merced River is a defining feature of the Happy Isles area where the rapids and waterfalls along the Mist Trail Corridor subside to become the peaceful and meandering flow through Yosemite Valley. At the Happy Isle Area, visitors get filtered views of the granite cliffs in the background that were formed by glacial erosion.

Mist Trail Corridor

The visible elements along the Mist Trail Corridor include a variety of trails, footbridges, waterways, and riparian habitat. The JMT between Happy Isles and the Vernal Fall Footbridge climbs 400 feet in 0.8 miles and offers visitors views of the surrounding landscape with dense vegetation with the trail in the foreground and granite cliffs and rock formations in the background. A notable scenic vista of Vernal Fall exists at the Vernal Fall Footbridge, a common gathering location and area to rest along the trail, which spans the Merced River. As previously described, the Merced River is a defining feature of the Yosemite Valley, and after its transition point in the Happy Isles area, the granite walls of the valley begin to close-in as visitors move up the Lower Mist Trail Corridor; as the width of the valley narrows, visitors begin to experience the valley as a canyon. There is one vista point of Yosemite Falls along the portion of the JMT below Vernal Fall Footbridge. There are a handful of additional locations with the potential for views of multiple waterfalls (of Illilouette Creek), but vegetation currently obstructs those views.

The views along the Stock Trail differ from those along the JMT. The Stock Trail is comparatively more densely vegetated and has a footprint as narrow as three feet compared to the six-foot-wide JMT. The Stock Trail also has fewer signs as compared to the JMT. In general, as the Stock Trail transverses dense forest, it has limiting expansive views of Yosemite Valley. The Stock Trail crosses Illilouette Creek, offering a close-up view of the creek and alluvial fan, but a majority of the viewshed is blocked by dense forest.

As described in Table 1-1, the Mist Trail contains important landmarks and popular scenic viewpoints, such as the Mist Trail steps section at the base of Vernal Fall, the brink of Vernal Fall, Emerald Pool, Silver Apron Footbridge, Clark Point, Nevada Fall (including the falls, footbridge, and approach), and the Upper JMT-Mist Trail Junction. The two existing trail loops above the Vernal Fall Footbridge offer trail users with a wide range of views of the scenic landscape. Infrastructure, visitor services, and signage decrease as the Mist Trail continues upward in elevation, and naturally stepped granite slabs act as gathering places for visitors. There are currently two visible barriers in this portion of the trail—one on the northeast side of the Nevada Fall Footbridge and one at the edge of the precipice area. The precipice area barriers are old and have several gaps; however, the area itself is considered a dramatic overlook of Nevada Fall. Shortly after the Nevada Fall Footbridge, visitors enter Yosemite Wilderness and approach the Upper JMT-Mist Trail Junction.

Environmental Consequences

Impact Analysis Methodology

To evaluate the impacts of each alternative on visual resources, the NPS assessed actions that could alter the visual character of the project area. The analysis focused on actions of sufficient scale or mass to be observable at a distance and that could affect visual quality within the project area, including new signage throughout the Mist Trail Corridor, improvements to the Stock Trail, and construction of a new pedestrian footbridge over the Merced River. Given the limited scale of the proposed improvements within an already developed setting, impacts were

evaluated using existing park planning documents, including the MRP and Yosemite Design Guidelines (NPS 2012), along with professional expertise. The analysis focuses on whether or not proposed changes would alter the visual character, key views, or landscape integrity within the project area.

Alternative B: Use Existing Vehicle Bridge for Pedestrian Access with Associated Promenade and Trailhead

Use the Existing Happy Isles Vehicle Bridge for Pedestrian Access and Create New Pedestrian Promenade Over the Happy Isles Vehicle Bridge

Proposed vehicle bridge improvements would result in a localized adverse effect by introducing new visual elements to the existing bridge; however, the features would be low-profile, visually compatible, and largely screened from key viewpoints. As a result, the project would not alter the overall visual character or scenic quality of the trail corridor. The proposed improvements would be designed in accordance with the Yosemite Design Guidelines (2012), including the use of appropriate materials, scale, and reversible features, thereby minimizing visual contrast with the historic and natural landscape.

Construction activities associated with vehicle bridge improvements would result in a temporary increased presence of vehicles and construction equipment, causing short-term adverse impacts to the viewshed. However, these disruptions would not be permanent and would cease after construction is complete. Visitors wishing to enjoy the natural scenic vista of the Merced River from the vehicle bridge would ultimately experience a long-term benefit of an established shared-use lane on the vehicle bridge to enjoy views of the Merced River.

Enhance the Existing Trailhead

Enhancements to the existing trailhead would establish a new element on the landscape as compared to current conditions resulting in a slight change to the visual character. The existing trailhead is located adjacent to the historic vehicle bridge but offset so as to not affect any significant views of the vehicle bridge or other parts of the YVHD. The proposed enhancements would be designed consistent with the park setting and design guidelines (Yosemite Design Guidelines [NPS 2012]) and other NPS standards, such as the NPS Visual Resources Program Visual Quality Best Practices, for the Happy Isles area. Furthermore, the existing trailhead enhancements would offer interpretive opportunities to learn about the natural, cultural, and historic landscapes at Happy Isles.

Formalize Stock Trail Loop

Post-pilot program Stock Trail improvements, such as widening the trail and adding railings or barriers to accommodate increased visitor use on the Stock Trail, would make the trail more pronounced on the landscape, though relatively less as compared to the existing JMT below Vernal Fall Footbridge. Some visitors may view newly installed signs, railings, or barriers as visual clutter affecting the visual quality in comparison to today's more secluded, rustic experience. Barriers and railings would be comprised of native cobbles, boulders, and other park-sourced materials, such as cedar, to maintain the rustic character of the project area (NPS

2012). Selective minor vegetation clearing associated with trail widening would give the trail a slightly more open appearance when compared to today's condition.

Potential new culverts and upgrades to the causeway through the Illilouette Creek delta area would result in added infrastructure on the landscape and, thus, would have minor changes to the visual quality and viewshed. However, the infrastructure would be designed to be light on the landscape and consistent with other park trail infrastructure. Furthermore, the potential repairing of damaged trail surfaces would provide a more visually appealing trail from some users' perspectives and, although not part of this project, relocation of utilities to be placed underground in conjunction with the Stock Trail upgrades would improve the visual quality along the trail.

Construction activities associated with the proposed post-pilot program trail improvements would be expected to have short-term adverse impacts to the visual quality of the area because of increased human presence and construction equipment detracting from the otherwise natural setting along park trails. To minimize the temporary adverse impacts of construction, equipment would be contained within designated staging areas offset or shielded from trails to allow hikers continued passage while minimizing equipment visibility.

Alternative C: Construct New Pedestrian Footbridge with Associated Promenade and Trailhead (Proposed Action)

Construct a New Pedestrian Footbridge at the Historic Location of the Happy Isles Footbridge

Construction of a new footbridge would result in a noticeable change to the existing viewshed. Located upstream of the historic Happy Isles vehicle bridge and adjacent to the existing USGS gaging station, the footbridge would introduce a modest new visual element to the landscape that reflects both historic circulation patterns and contemporary visitor use. The Happy Isles area is heavily wooded and characterized by large boulders adjacent to and upstream of the former footbridge alignment (see Chapter 2 for additional detail). As described in the *Water Resources* section, this reach of the Merced River is designated as a recreational segment of a WSR and includes existing infrastructure typical of a heavily visited destination (NPS 2014a).

Visitor perceptions of the visual change would vary. Some visitors may perceive an adverse effect due to the introduction of new infrastructure within a largely natural viewshed, while others may perceive the new footbridge as visually compatible on the landscape given a footbridge existing in this location in the past. The new footbridge would provide visitors with additional opportunities to view the river and the historic Happy Isles vehicle bridge downstream. To minimize visual contrast, the footbridge would be designed to limit mass and scale and to confine construction and grading disturbance to the smallest practicable area. The design would be consistent with other park bridges and with the design character of the Happy Isles area as outlined in the Yosemite Design Guidelines (NPS 2012) and other NPS standards, such as the NPS Visual Resources Program Visual Quality Best Practices. Overall, Alternative C would result in a long-term visual change to the viewshed at Happy Isles.

Create a New Pedestrian Promenade

Development of a pedestrian promenade would result in a long-term beneficial impact to visual resources. Clearer signage, more intuitive routes, and other thoughtfully integrated services, such as interpretive signs for resources in the area, informational and wayfinding signs for trip planning, and infrastructure providing updated trail conditions and weather forecasts, would reduce visual clutter associated with confusion and backtracking and would enhance the overall visitor experience.

Short-term adverse impacts to the viewshed would occur during construction due to the presence of construction equipment, vehicles, and temporary disturbances. These impacts would be temporary and limited to the construction period. Detours would be provided as necessary to maintain continuous visitor access to the Mist Trail Corridor and other facilities and services, and designated staging areas would be used to minimize disruptions to visitor circulation and visual quality during construction.

Create a New Trailhead

Development of a new trailhead would introduce a new element to the landscape compared to current conditions. The new trailhead and associated improvements would be designed to be consistent with the park setting and the design character of the Happy Isles area, in accordance with the Yosemite Design Guidelines (NPS 2012) and other NPS standards, such as the NPS Visual Resources Program Visual Quality Best Practices. As a result, visual impacts associated with installation of new visitor infrastructure at the new trailhead location (i.e., adjacent to the proposed footbridge) would be small in scale and have minor impacts on the visual quality of the landscape. Furthermore, new trailhead infrastructure would be designed and arranged to recognize and maximize views to existing scenic resources, such as the Merced River (NPS 2012).

Revegetation of the existing trailhead area under Alternative C would likely result in a long-term beneficial visual impact, as visitors generally prefer naturalistic scenery over the currently disturbed setting.

Actions Common to Alternatives B and C

Revise Visitor Messaging and Signage

Overall, strategic placement and design of new signage would improve the viewer experience by enhancing the visual quality of signage on the landscape and providing expanded interpretive opportunities related to the natural, cultural, and historic features of the Mist Trail Corridor.

As described in the *Historic Properties* section, signage and messaging upgrades would not diminish the integrity of the YVHD or views to other historic properties. New signage and messaging would be carefully sited to avoid impacts to notable scenic vistas, as described in the *Visual Resources, Affected Environment* section.

Installation of new signs has the potential to introduce visual clutter, which could detract from scenic vistas and the more rustic and solitary character of the Mist Trail Corridor. To minimize

this potential adverse effect, new signage would be limited primarily to replacement of existing signs and strategically placed in locations with high visitor visibility and outside of scenic vistas, to the extent practicable. All new or replacement signage would be designed in accordance with Yosemite Design Guidelines (NPS 2012) to maintain visual consistency throughout the park.

Provide Trip-planning and Wayfinding Resources

Installation of physical trip-planning and wayfinding services, such as kiosks, at Happy Isles and along the Mist Trail Corridor would have similar visual impacts to those described for installation of signs, under the *Revise Visitor Messaging and Signage* section.

Clearly Delineate Pedestrian Access to Happy Isles

The visual character of the arrival route into Happy Isles would be largely unchanged, as improvements to Happy Isles Loop Road traffic patterns would still result in a mix of existing traffic including vehicles, pedestrians, and bicyclists. Temporary lane closures and equipment during construction activities would cause short-term adverse visual impacts from added visual elements to surrounding landscapes. However, designated staging areas would be used to minimize disruptions to visitor passage and visual experience during construction.

Improve Happy Isles Shuttle Stop

Happy Isles Shuttle Stop improvements would lead to a long-term change in the visual aesthetics of visitor arrival into Happy Isles. These small-scale features would have little to no effect on the visual quality of the area because the proposed improvements are consistent with existing infrastructure and would not detract from the larger setting and scenery of the Happy Isles area.

Rehabilitate Happy Isles Restroom Facilities

Rehabilitation of the Happy Isles restroom facilities could impact the visual character of the existing structure and viewshed. Changes to the building interior and exterior would be designed consistent with the existing setting and in accordance with the Yosemite Design Guidelines (NPS 2012) and other NPS standards, such as the NPS Visual Resources Program Visual Quality Best Practices, to maintain the visual quality of the Happy Isles area. Temporary facility closures and equipment usage during construction activities would cause short-term adverse visual impacts from added visual elements to surrounding landscapes. However, it is anticipated that rehabilitation of the restroom facilities would not have a long-term impact on the viewshed in the context of the larger setting and scenery of the Happy Isles area.

Increase Trail Pullouts

Installation of additional trail pullouts would add new visual elements to the landscape. The pullouts would be designed consistent with the existing setting to avoid impacts to notable scenic vistas and in accordance with Yosemite Design Guidelines (NPS 2012) to maintain the visual quality of the Mist Trail Corridor. Log benches, boulders, or downfall logs would be used for seating elements, as practicable (NPS 2012). As a result, no long-term adverse impacts to visual resources are anticipated.

Restore Scenic Vistas

Small-scale, selective vegetation removal to restore scenic vistas would result in minor changes to the visual landscape. Tree clearing would be conducted in strategic locations and to blend with adjacent natural vegetation patterns to open views to waterfalls and other prominent landscape features, resulting in a long-term beneficial impact to the viewshed. Where necessary, barriers would be installed along the Mist Trail Corridor to discourage visitors from traveling off trail following vegetation removal. These barriers would introduce a small-scale element to the landscape but would not have a measurable adverse effect on visual quality and would be offset by the enhanced scenic views.

CHAPTER 4: CONSULTATION AND COORDINATION

The NPS provided opportunities for the public to comment on the proposed project during the early project planning phase. The NPS also conducted consultation and coordination activities with federal and California agencies, American Indian Tribes, and other interested parties. This chapter provides a summary of the public involvement and agency consultation and coordination that occurred during project planning to inform the project and the EA.

PUBLIC INVOLVEMENT

Civic Engagement

The NPS held a 30-day civic engagement period from October 24, 2024 to November 23, 2024. The NPS provided information to the public in the following forms: 1) electronic newsletter; 2) press release; 3) project details posted to the NPS Planning, Environment, and Public Comment (PEPC) website; and 4) virtual public meeting.

The public was encouraged to provide the NPS with their feedback during this early stage of planning. Specifically, the NPS requested input on the following:

- *Could you share your experiences and challenges related to safely accessing and navigating the Mist Trail Corridor?*
- *What improvements could enhance the visitor experience along the Mist Trail Corridor?*
- *Share what resources you value in this area and what you think the park needs to preserve and protect.*

A summary of public feedback related to improvements visitors feel would enhance the visitor experience along the Mist Trail Corridor is provided in Appendix M—*Mist Trail Corridor Project Civic Engagement Comment Summary Report*.

During the civic engagement period, a total of 205 pieces of correspondence were received. Of these, 203 correspondences were received electronically from the public; one correspondence was received via email from The Sierra Club, Yosemite Committee; and one correspondence was documented via meeting notes from co-stewardship meeting with Tribal representatives held on October 18, 2024.

Public Comment on the EA

The EA will be available for formal public and agency review for 30 days. Interested individuals, agencies, and organizations will be notified of its availability. The EA will be available for public review at: https://parkplanning.nps.gov/MistTrailEA.

AGENCY CONSULTATION AND COORDINATION

Section 106 of the National Historic Preservation Act

California State Historic Preservation Officer

Federal agencies are required to consider the effects of their undertakings on historic properties in accordance with Section 106 of the NHPA of 1966 (54 USC 306108) as amended, and its implementing regulations in 36 CFR Part 800. The NPS will share a copy of the final EA and consult with the California State Historic Preservation Officer on the NPS proposed action once site-specific designs are available.

Tribal Nations

As required by Section 106 of the NHPA, the NPS is consulting with seven traditionally associated Tribes. On October 18, 2024, the NPS presented early proposed planning concepts during the park's biweekly co-stewardship meeting held with Tribal representatives from American Indian Council of Mariposa County, Inc. ([AICMC] or Southern Sierra Miwuk Nation) and Mono Lake Kootzaduka'a. Invitations were extended to all associated Tribes of Yosemite National Park: AICMC/Southern Sierra Miwuk Nation, Bishop Paiute Tribe, Bridgeport Indian Colony, Mono Lake Kootzaduka'a Tribe of California and Nevada, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, and Tuolumne Band of Me-Wuk Indians. Feedback received during the co-stewardship meeting was input into the PEPC system as part of the official civic engagement record.

Section 106 consultation with Tribes that are culturally or historically affiliated with the park is ongoing. The NPS completed a CLI as part of the project to document the cultural landscape and archeological resources within the project area, as detailed in Chapter 3. The CLI was completed collaboratively with the Tribes and was used to inform the assessment of effect. Furthermore, if the Tribes provide additional information on ethnographic resources or traditional uses, the NPS will work with concerned parties to resolve any potential impacts associated with the project.

Section 7 of the Endangered Species Act

Section 7(a)(2) of the ESA, as amended (16 USC 1531 et seq.), requires that federal agencies consult with the USFWS to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitat of those species. The park has concluded that the project is not likely to adversely affect the California Red-Legged Frog and that the proposed action falls within the scope of the *Biological Opinion on the Management Activities Related to the California Red-legged Frog Reintroduction Project, Yosemite National Park, California* (2023-0118651-S7-001). Additionally, the park has determined that the project will have no effect on other threatened or endangered species that have the potential to occur with the project area and will not require consultation with the USFWS.

Section 7 of the Wild and Scenic Rivers Act

The preliminary proposed action was presented at a nationwide WSRA Section 7 workshop to identify potential WSR-related concerns; no substantive issues were identified at that time. The Merced River was designated as a WSR in 1987, when the historic Happy Isles Footbridge was

present at this location. The proposed action would reestablish a pedestrian crossing at that historic location using a modern footbridge design that fully spans the bed and banks of the river and avoids in-water work or channel disturbance. The footbridge also has been designed to span beyond the 100-year floodplain and to minimize the potential for debris accumulation during high flow events.

A draft Section 7 determination has been prepared and is included in this EA as Appendix N—*Draft Mist Trail Corridor Project Wild and Scenic Rivers Act Section 7 Determination*. Coordination with the NPS WSR Program has been conducted and will continue, as needed, through final design and permitting to ensure consistency with the WSRA.

Executive Order 11988, Floodplain Management

Executive Order 11988, *Floodplain Management*, and Departmental Manual 520 (520 DM 1 and 2) require the NPS and other federal agencies to evaluate the likely impacts of actions in floodplains. The objective of Executive Order 11988 is to avoid, to the extent possible, the long-term and short-term adverse impacts associated with occupancy, modification, or destruction of floodplains and to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative. The park is in coordination with the NPS Floodplain Management Program to finalize analysis upon schematic design.

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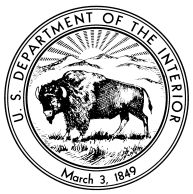

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

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