

John Muir National Historic Site

National Park Service
U.S. Department of the Interior



Strentzel-Muir Gravesite Environmental Assessment

June 2016

EXECUTIVE SUMMARY

The Strentzel-Muir Gravesite is the final resting place of John Muir, his wife Louie, her parents John and Louisiana Strentzel, and Muir's daughter and son-in law, Wanda and Tom Hanna. This family plot is located on a 1.27-acre parcel, a small fragment of the original Strentzel-Muir ranch that once extended over 2,300 acres of the Alhambra Valley and surrounding hills in Martinez, California.

The John Muir National Historic Site was established in 1964 and at that time, was comprised of the Muir House, the Martinez Adobe, and their surrounding grounds. According to its founding legislation, John Muir National Historic Site was established as a public memorial honoring the memory and legacy of John Muir for his contributions to the nation in land conservation and for his crusading efforts in advancing the cause of national parks. In 1988, Congress passed legislation to add the Strentzel-Muir gravesite parcel to the John Muir National Historic Site. Twelve years later, in 2000, the National Park Service purchased the gravesite and has been managing the parcel without the guidance of a comprehensive plan ever since. There has been uncertainty regarding appropriate levels of visitor use and appropriate resource management strategies since the gravesite was set aside sixteen years ago.

The purpose of the Strentzel-Muir Gravesite Plan is to identify appropriate management strategies for the gravesite, John Muir's final resting place and a fundamental part of the National Historic Site. In addition to supporting the legislated mission of John Muir National Historic Site, the purpose of this plan is to fulfill the broader NPS mission of managing natural and cultural resources while providing visitor access in a manner that considers surrounding landowners who live in close proximity to the gravesite, as well as the desires of the Muir family and the public.

This document presents environmental analysis of four alternatives that the NPS is currently considering for public input and review in accordance with the National Environmental Policy Act of 1969. It describes the alternatives, existing conditions in the gravesite area, and analyzes the effects of each alternative on various aspects of the environment. Alternative 1 is the No Action Alternative. Alternative 2 would provide for preservation of the historic resources while allowing access for visitors via NPS shuttle, walking, or cycling only. Once on site, visitors would experience the rural, quiet, contemplative setting that has historically characterized the gravesite. A wheelchair accessible footpath leading to the grave markers would be installed, but for the most part development would be minimal. Alternative 3 would also prioritize the preservation of historic resources, but would allow visitors to park at the site (up to two vehicles at a time) in addition to offering NPS shuttle service and pedestrian and cycling access. Alternative 4 was developed in response to neighbors' concerns that neither Alternative 2 nor 3 were protective enough of the desire for privacy of the surrounding landowners. Alternative 4 is the preferred alternative and would provide visitor access by NPS led tours as well as by foot or bicycle on Mondays through Fridays from 10:30-4:30. Entry to the site would be by NPS shuttle bus, by foot or bicycle, no personal vehicles. There would be a locked, no more than 8-foot tall fence surrounding the parcel (similar in height as the fence surrounding the Muir House), physically prohibiting access to the site. In terms of facilities and resource management, Alternative 4 is similar to Alternative 2. In all alternatives, preservation of the site's historic features and quiet, contemplative site character is of paramount importance. In order to ensure this, each alternative also incorporates an adaptive management strategy promoting flexible decision-making that can be adjusted based on the outcomes of implementing a particular management action. Careful monitoring of outcomes allows for adjustments in management as part of an iterative process.

There will be an official 30-day public comment period following the release of this document. Please refer to the project website for the comment review periods: www.nps.gov/jomu

Submitting comments:

- **Electronically:** access the Planning, Environment, and Public Comments (PEPC) website: <http://www.parkplanning.gov/jomu> (click on the “Open for Comment” link and select the Strentzel-Muir Gravesite Plan.
- **Email:** rori_superintendent@nps.gov
- **In writing:**
 - Superintendent, John Muir National Historic Site
 - ATTN: Gravesite Plan
 - 4202 Alhambra Ave.
 - Martinez CA 94553

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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

John Muir National Historic Site is comprised of remnants of the 2,300-plus acre ranch where John Muir lived, raised a family, farmed, wrote, advocated for environmental conservation, and was buried. Established in 1964 and expanded through subsequent legislation, the park today consists of the 9-acre Strentzel-Muir house estate, the 330-acre open space lands of Mt. Wanda and the 1.27-acre Strentzel-Muir family gravesite where Muir is buried.

The park was created due in large part to the work of Henry and Faire Sax and the John Muir Memorial Association, who along with other stakeholders, were accustomed to paying tribute to Muir by visiting his gravesite. Through the work of these groups and the National Park Service, the Strentzel-Muir house was listed as a National Historic Landmark in 1962 and became a national park in 1964.

The Strentzel-Muir gravesite parcel was added to the National Historic Site in 2000, and is located 1.5-miles south of the house site, adjacent to Alhambra Creek. The 1.27-acre parcel is a small fragment of the original Strentzel-Muir ranch, and is now surrounded by post World War II-era single-family residences to the north, west and south, and bounded by the creek to the southeast. The gravesite is the resting place of John Muir, his wife Louie, her parents Dr. John Strentzel and Louisiana Strentzel, and Muir's daughter and son-in law, Wanda and Tom Hanna. Additionally, there are grave markers for John and Louisiana Strentzel's children Johnnie and Lottie and John's brother Henry, but it is not known if they are actually buried at this site. The parcel also contains a remnant of original, historic pear orchards that once extended throughout Alhambra Valley. Adding to the setting are other historic trees dating back to the Muir time period.



Figure 1. Strentzel-Muir family plot.

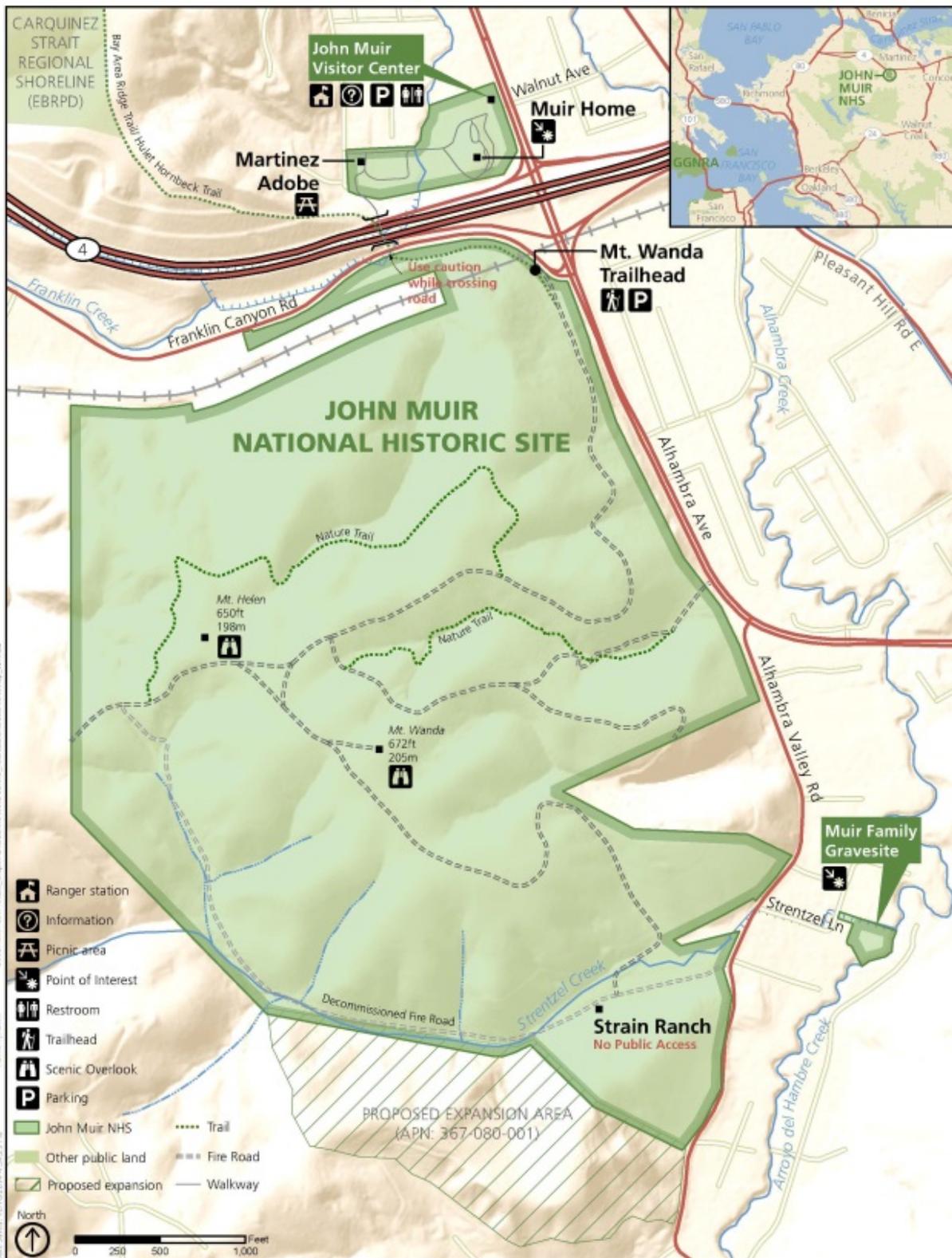


Figure 2. John Muir National Historic Site, gravesite location map.

Purpose of the Plan

According to its founding legislation, John Muir National Historic Site was established as a public memorial honoring the memory and legacy of John Muir for his contributions to the nation in land conservation and for his crusading efforts in advancing the cause of national parks. The purpose of the Strentzel-Muir Gravesite Plan is to meet this legislative charge by identifying appropriate management strategies for the gravesite, John Muir's final resting place and a fundamental part of the National Historic Site. In addition to supporting the legislated mission of John Muir National Historic Site, the purpose of this plan is to fulfill the broader NPS mission of managing natural and cultural resources while providing visitor use in a manner that considers surrounding landowners who live in close proximity to the gravesite, as well as the desires of the Muir family and the public.

Need for the Plan

The original John Muir National Historic Site was established in 1964 and was comprised of the Muir House, the Martinez Adobe, and their surrounding grounds. In 1980, the National Park Service conducted a study to assess the feasibility of adding the gravesite to the John Muir National Historic Site, finding that the addition would in fact be feasible. At that time the 1.27-acre parcel was owned by the Muir-Hanna Family Trust. In 1988, Congress passed legislation to add the Strentzel-Muir gravesite parcel to John Muir National Historic Site. Though the parcel remained in private ownership, in 1991 the National Park Service completed a General Management Plan for the entire National Historic Site that included a conceptual strategy for managing the gravesite parcel for when it would come into NPS ownership. In 1993, the American Land Conservancy purchased the property from the Muir-Hanna Family Trust with the intent of transferring it to the National Park Service when funds became available. The National Park Service purchased the gravesite property from the American Land Conservancy in 2000.

The NPS has been managing the gravesite without the guidance of a comprehensive plan since acquiring the parcel. There has been uncertainty regarding appropriate levels of visitor use and appropriate resource management strategies since the gravesite was set aside. This planning effort will set park direction for management of resources and visitor use, removing the uncertainty.

SCOPE OF ENVIRONMENTAL ASSESSMENT

This EA analyzes three Action Alternatives and the No Action Alternative. It describes the alternatives, existing conditions in the plan area, and analyzes the effects of each alternative on the human and natural environment.

RELATED LAWS, LEGISLATION AND MANAGEMENT GUIDELINES

The following is a summary of relevant guidance documents and regulations and a description of their relationship to the Strentzel-Muir Gravesite EA.

National Park Service Organic Act, 1916 (39 Stat. 535)

The NPS Organic Act directed the U.S. Department of the Interior and the NPS to manage units of the national park system “to conserve the scenery and natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” (16 United States Code [USC] § 1 et seq.). The Organic Act provides overall guidance for the management of John Muir National Historic Site, including the gravesite.

The Organic Act establishes the management responsibilities of the NPS. Although Congress has given the NPS management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that park resources and values be left unimpaired, unless a particular law directly and

specifically provides otherwise. This cornerstone of the Organic Act establishes the primary responsibility of the NPS and ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The National Historic Preservation Act, 1966, Section 106 (54 U.S.C. 306101 et seq)

Section 106 of the National Historic Preservation Act (NHPA) directs federal agencies to consider the effects of their actions on properties that are eligible for, or included in, the National Register of Historic Places. NHPA requires that these assessments of effects be provided for review and comment to the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (where applicable), the Advisory Council on Historic Preservation, interested parties and the public. For the undertaking proposed in this EA (the preferred alternative), the public is being included in the Section 106 review process via the National Environmental Policy Act review process. More information about how Section 106 review is being carried out for this EA and planning process can be found in the “Consultation and Coordination” chapter of this document.

National Environmental Policy Act, 1969 (42 U.S.C. 4341 et seq.)

The National Environmental Policy Act (NEPA) requires the identification and documentation of the environmental consequences of federal actions. Regulations implementing NEPA are set by the President’s Council on Environmental Quality (CEQ). CEQ regulations establish the requirements and process for agencies to fulfill their obligations under the act.

1970 National Park Service General Authorities Act (As Amended in 1978—Redwood Amendment)

The Redwood Amendment (National Park Expansion Act of 1978) mandates that the NPS conduct its actions in a manner that will ensure no “*derogation of the values and purposes for which these various areas have been well-known, except as may have been or shall be directly and specifically provided by Congress*”. This act prohibits the NPS from allowing any activities that would cause derogation (impairment) of the values and purposes for which the parks have been established (except as directly and specifically provided by Congress in the enabling legislation for the parks). Therefore, all units are to be managed as national parks, based on their enabling legislation and without regard for their individual titles.

National Park Service Management Policies (2006)

The 2006 NPS Management Policies include direction for preserving and protecting cultural resources, natural resources, processes, systems, and values, and for providing opportunities for visitor enjoyment.

John Muir National Historic Site Enabling Legislation (1964 and 1988)

The act of August 31, 1964 (78 Stat. 753), authorized the Secretary of the Interior to acquire the Muir House, Martinez Adobe, and surrounding grounds, for purposes of designating “*the John Muir National Historic Site, to be set aside as a public national memorial to John Muir in recognition of his efforts as a conservationist and a crusader for national parks and reservations. The Secretary of the Interior shall administer, protect, and develop such national historic site in accordance with the provisions of the [Organic] Act entitled ‘An Act to establish a National Park Service, and for other purposes,’ approved August 25, 1916 (39 Stat. 535), as amended and supplemented, and the Act entitled ‘An Act to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes,’ approved August 21, 1935 (49 Stat. 666), as amended.*”

The act of October 31, 1988 (102 Stat. 2830; 54 U.S.C. 320101) authorized the Secretary of the Interior to add the gravesite parcel to the National Historic site. *The Secretary of Interior shall acquire only such interests in the John Muir grave site as may be necessary to preserve the site in its present undeveloped condition. . . The lands and interests in lands . . . shall be administered as part of the John Muir National Historic Site.*

John Muir National Historic Site General Management Plan (1991)

The John Muir National Historic Site General Management Plan (GMP) includes guidance for the gravesite, which at that time, in 1991, was not yet in NPS ownership. The plan stated that the area would be managed as an historic area, with emphasis on preservation of the existing scene. Minor improvements would include a single hardened parking space at the entrance of the tract for exclusive use by NPS staff. A low, movable barrier would be used to block public access to this parking spot. A small rustic wooden sign would be placed at the entrance. No signs would be placed on Alhambra Valley Road. A foot trail would be developed across the tract to the grave markers. Although suggested by members of the public, providing visitor parking for the gravesite at nearby John Swett Elementary School was deemed infeasible. The GMP committed John Muir National Historic Site staff to monitor use levels at the gravesite, and if neighborhood problems pertaining to visitor use were to arise, a shuttle program was to be instituted (NPS 1991).

John Muir National Historic Site Foundation Document (2015)

To effectively manage a national park and plan for its future, a basic understanding of a park's resources, values, and history is needed - a foundation for planning and management. A foundation document for John Muir National Historic Site was completed in 2015 and provided the following purpose and significance statements:

Purpose. John Muir National Historic Site preserves and protects the home and portions of the Alhambra Valley agricultural estate where John Muir lived, worked, and is buried, to memorialize and connect people with Muir's global legacy as an influential naturalist, writer, and champion for protecting national parks and wild lands.

*Significance**. Several significance statements have been established for John Muir NHS; the following significance statement specifically pertains to the gravesite:

John Muir National Historic Site includes the final resting place of John Muir in the Strentzel-Muir family gravesite, which as a pilgrimage site served as a catalyst for the designation of the park.

(*The definition of "significance" for the Foundation Document is not the same as the NEPA definition of significance.)

ISSUES AND CONCERNS ADDRESSED IN THIS DOCUMENT

From March 6 to June 30, 2013, public scoping was conducted by the NPS as part of the early development of the Strentzel-Muir Gravesite Plan. From April 20 to June 1, 2015, public review was conducted on the first iteration (2015) of the Environmental Assessment, which was rescinded in June of 2015. Letters from both review periods were received from members of the Muir family, gravesite neighbors, park partners, local non-profit organizations, university professors, and individual members of the public. The following table summarizes public comments that were received in the planning process and were addressed in this document.

Table 1. Issues and Concerns Addressed in This Document

<p>Importance of Gravesite</p>	<ul style="list-style-type: none"> ▪ Important, unique experience of John Muir National Historic Site visitors, unable to have anywhere else. ▪ Muir’s gravesite is as important to the public as those of major leaders of government and civil rights leaders. ▪ “No one in the history of the National Parks of the United States of America has a greater claim to being honored in this manner [at Muir’s gravesite] by the agency he helped to foster.” ▪ Gravesite is sacred land for all Americans.
<p>Desired Visitor Experience</p>	<ul style="list-style-type: none"> ▪ It is an emotional, educational experience to pay respects to Muir in historic setting. ▪ “Pedagogical and philosophical advantages associated with the experience of standing at the spot where one of history’s first and greatest environmental activists lies at rest.” ▪ “For those to whom the man’s beliefs, writings and achievements are a source of profound ethical and philosophical meaning and sustenance in their work and lives nothing quite compares with the revelation of being at Muir’s grave, listening to the sound of the wind in the branches of eucalyptus ..., reading the simple inscription “Born in Dunbar, Scotland” carved in that plain slab of Sierra granite, and feeling the nearness of spirit that changed American and all human history in ways that still comfort and challenge us today.” ▪ Memorable and moving experience, renewing. ▪ NPS should not allow “school children to run around screaming” ▪ NPS should provide a contemplative atmosphere, a place of reflection on the life and legacy of John Muir.
<p>Public Access: Not Allowed</p>	<ul style="list-style-type: none"> ▪ NPS should completely close site to public visitation. ▪ Create a replica of John Muir gravesite at the house site or move actual grave markers to house site, instead of providing public access at gravesite. ▪ NPS should not increase visitation because “it could destroy this natural area.” ▪ Don’t allow access at gravesite, but increase opportunities to commemorate Muir at other local sites such as the house site, Mt. Wanda, and the City of Martinez John Muir Memorial at the Alhambra Valley Road, Alhambra Avenue intersection.
<p>Public Access: Increased</p>	<ul style="list-style-type: none"> ▪ NPS should provide more open access for the public to visit the site. ▪ Gravesite should be easily accessible for more people to visit. ▪ NPS should provide fairly unrestricted access to the public.
<p>Public Access: Increased with Restrictions</p>	<ul style="list-style-type: none"> ▪ NPS should control visitation with scheduled tours. ▪ NPS should always accompany visitors and should not allow un-chaperoned, open visitation. ▪ NPS should restrict visitation to small groups. ▪ NPS should provide tours 1-3 days/week. ▪ NPS should allow pedestrian access only. ▪ NPS should limit group size to less than 15 people. ▪ NPS should allow the Muir family to hold a private annual commemoration gathering at the gravesite.
<p>Level of Development</p>	<ul style="list-style-type: none"> ▪ The NPS should not add restrooms or picnic tables. ▪ NPS should maintain the “present undeveloped condition” per the enabling legislation. ▪ Public parking should be available on site. ▪ Public parking should not be available on site. ▪ No parking on site at all except for one maintenance vehicle. ▪ NPS should add an entry sign that emphasizes need for respect and reverence. ▪ NPS should install split rail fence to delineate property boundary between gravesite and property to the southwest. ▪ NPS should provide tall perimeter fence to prevent unauthorized use (same as at Muir house site) ▪ NPS should provide way-finding sign on Sheridan Lane/Strentzel Lane intersection so public will know how to access site. ▪ NPS should provide 1-2 benches for quiet contemplation.

Table 1. Issues and Concerns Addressed in This Document

Historic Preservation	<ul style="list-style-type: none"> ▪ Preserve historic orchard, don't allow parking in orchard. ▪ Leave vegetation as is. ▪ Protect grave markers by not allowing visitors inside iron fence. ▪ "Maintain a preservation perspective for the historic significant gravesite."
Neighbors' Concerns with public visitation	<ul style="list-style-type: none"> ▪ Less privacy, trespassers on private land. ▪ Increased traffic, speeding vehicles. ▪ Less safe, potential for dangerous people in neighborhood. ▪ Lower property values.
Off-site NPS Policies and Programs pertaining to Gravesite	<ul style="list-style-type: none"> ▪ NPS <i>should not</i> inform public of the gravesite's location. ▪ NPS <i>should</i> inform public of the gravesite's location and rules of access. ▪ A brochure and map to the gravesite should be provided at the visitor center. ▪ NPS should show a movie pertaining to the gravesite at the Visitor Center.
Maintenance	<ul style="list-style-type: none"> ▪ NPS maintain property following visits.
Alhambra Creek Bank Stability	<ul style="list-style-type: none"> ▪ Protect creek bank from erosion by not allowing visitors access to creek bank. ▪ NPS needs to be careful when stabilizing creek to ensure stabilization efforts don't negatively impact neighbors' creek banks. ▪ NPS needs to stabilize creek bank and control erosion to ensure gravesite doesn't erode.
Riparian Habitat and Natural Resources	<ul style="list-style-type: none"> ▪ Evaluate the environmental impacts to Alhambra Creek from increased visitor use and from potential construction of new facilities on site. ▪ Enhance riparian habitat by eliminating invasive vegetation and by planting native vegetation.
Safety	<ul style="list-style-type: none"> ▪ Consider providing signs to warn visitors of the dangers of creek and eucalyptus' falling limbs.
Planning Process	<ul style="list-style-type: none"> ▪ NPS should minimize environmental impacts and implement mitigation measures and best management practices. ▪ NPS should not begin planning for visitor access until after the creek bank is stabilized. ▪ NPS should be fiscally and morally responsible. ▪ The NPS should not ignore adjacent stakeholders [neighbors]. ▪ NPS should hire a contractor, a third-party, to do the environmental assessment, and not prepare the plan in-house. ▪ Include "No Action" as one of the planning alternatives.

ISSUES AND CONCERNS BEYOND THE SCOPE OF THIS PLANNING EFFORT

The following issues and concerns were considered out of scope of this project because the issue or suggestion does not directly address the purpose and need for the plan. These ideas are valid and the NPS will continue to be willing partners with the City of Martinez, Contra Costa County, and the neighboring landowners on matters of mutual interest.

- NPS should add gates on public roads in City of Martinez or Contra Costa County jurisdiction such as Sheridan Lane, Wanda Way, and Jose Lane to restrict vehicular access to gravesite to address neighbors' concerns.
- NPS should establish a gated "John Muir Heritage Neighborhood" overlaying Sheridan Lane, Strentzel Lane, Jose Lane and Wanda Way to increase property values for home-owners, mitigating effects of increased visitation at the gravesite.
- NPS should provide pedestrian linkages from Mt. Wanda to Briones Regional Park by building a pedestrian bridge across Alhambra Creek at Sequoia and Deodora Way.
- NPS should provide parking at the City of Martinez John Muir Memorial Park, allowing people to walk to gravesite only (not drive)

CHAPTER 2: ALTERNATIVES

INTRODUCTION

The NPS has used input from public scoping and review, public and internal workshops, and data provided by the plan's interdisciplinary team to develop a range of reasonable and feasible action alternatives that meet the plan's purpose and need. The action alternatives are consistent with the legal requirements, established standards and guidelines for the management of natural and historic resources in accordance with the mission of the NPS. A comparison of the No Action and three Action Alternatives is provided in Table 6 towards the end of this chapter.

ALTERNATIVE 1: NO ACTION ALTERNATIVE

Under this alternative, the gravesite parcel would not be altered except through the continued preservation of historic resources such as the grave markers, the historic orchard, and other historic vegetation. Periodic mowing, litter and/or graffiti removal would also occur as needed. The Alhambra Creek stream profile would be regularly monitored and if changes to the creek profile indicated a threat to the gravesite, appropriate action to protect the gravesite would be undertaken (following required environmental analysis, permitting, and review).

In terms of visitor use of the gravesite, the NPS would not disclose the location of the gravesite in any form (website, printed media, or verbally). Nor would the NPS attempt to control other groups or websites who reveal the gravesite location. Although university, local groups and organizations, and Muir-Hanna family field trips would likely occur, they would not be managed by the NPS in any way, nor would public NPS tours to the gravesite occur with the rare exception of site visits with dignitaries led by park management. Because no information would be provided by the NPS, there would be a lack of clarity regarding whether visitors are allowed on site and a lack of clarity regarding how to get to the site and where to park. Also due to lack of management, the gravesite would appear to the average visitor to be open all the time, 24-hours a day, 7 days a week.

It is anticipated that the location of the gravesite would become better known through unaffiliated websites, through release of this EA, and by word-of-mouth; all of which could contribute to increased visitation over time. Under the No Action Alternative, the NPS would not control, monitor, or limit neighbors or the general public from visiting the site except during times of official park closure (after sunset-before sunrise). In regards to law enforcement, the NPS has proprietary jurisdiction, which extends jurisdiction of the City of Martinez Police Department and the Contra Costa County Sheriff's Department onto John Muir National Historic Site property. If there is a law enforcement issue during daylight hours, or prohibited use of the gravesite during nighttime hours, city or county law enforcement would be called by neighbors or the NPS to respond. Currently visitors drive and park along Sheridan Lane, Wanda Way, and Strentzel Lane searching for the gravesite and asking the gravesite's neighbors for directions. It is anticipated that this practice would increase over time as the general location of the gravesite becomes better known.

All existing rights of way and utility easements would remain in the No Action Alternative. The NPS would continue working with the property owners of the 40-foot wide gravesite entrance right of way on Strentzel Lane, to ensure that the width of the road remains accessible and navigable to all park, fire, and utility vehicles. The gravesite property would remain fenced and delineated on the north boundary only, and the NPS would continue working with the neighbors to the north on appropriate screening vegetation. There would be no boundary delineation along the creek, or between the gravesite parcel and the property to the south and west. This results in pedestrian access from Strentzel Lane, across Alhambra Creek, to Wanda Way. It would also allow unconstrained physical access from neighboring properties onto the gravesite property.

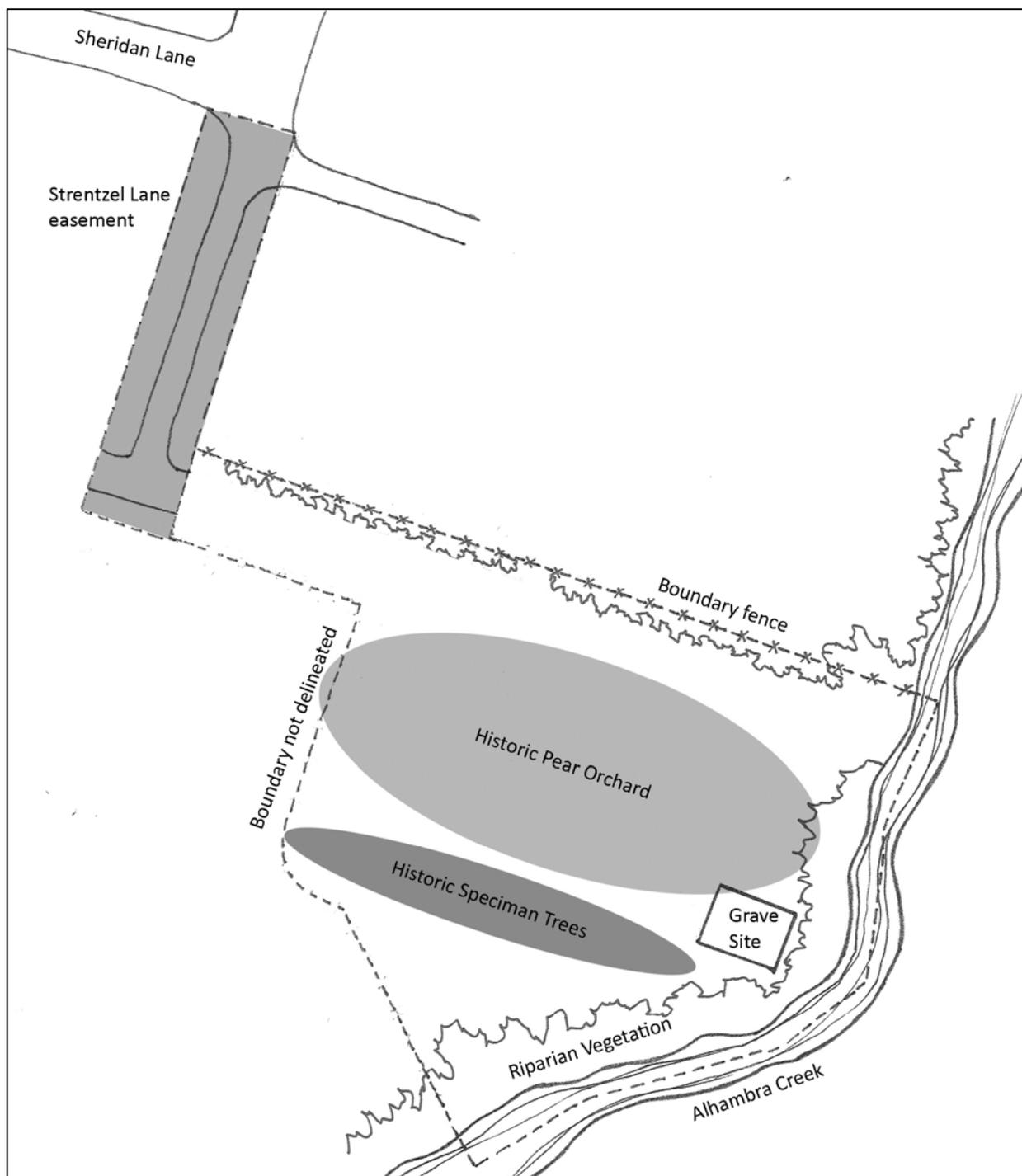


Figure 3. Alternative 1: No Action Alternative.

FEATURES COMMON TO ALL ACTION ALTERNATIVES

Preservation of Historic Resources

The gravesite's historic setting and features that contribute to the significance of John Muir National Historic Site, such as the grave markers, historic orchard, and specimen trees would be preserved in all Action Alternatives. All facilities added to the site would be designed and sited in a manner that is

compatible with the historic landscape. Non-contributing, incompatible vegetation and other elements would be removed, ensuring that the existing rural character is retained.

Visitor Experience—Access

All action alternatives would encourage a sense of reverence for Muir’s life and legacy as the primary desired visitor experience at the gravesite, which would be ensured through the preservation of the historic landscape and through limiting group sizes and duration of stay. In all action alternatives, the NPS would actively manage visitor use at the gravesite by providing information via the park website, at the visitor center, and by providing a set number of ranger-led shuttles to the site (number varies across alternatives). Rules regarding how to access the site, when the site is open, and details regarding the gravesite’s constraints within a quiet single-family residential neighborhood would be readily available. Pedestrians and cyclists would have access during a specified time frame in each action alternative, but through regulatory and interpretive signage, they too would be encouraged to respect the solemn, reverential character of the site. Special tours with universities, non-profit organizations, and other groups would be allowed on a case by case basis. In all action alternatives, the Muir family would continue to have open access, and would also have the right to hold an annual, private, family commemoration at the gravesite—closed to the general public. Individuals or groups could request special use permits for activities at the gravesite. These special requests would be managed on a case by case basis, as they currently are for the rest of John Muir National Historic Site, and would be accepted if determined appropriate to the site and protective of the resources and site character. A few NPS-hosted special events could occur at the gravesite each year: for the annual Birthday/Earth Day celebration in April, the NPS could provide continual shuttle service from the house site to the gravesite and back, throughout the day; the NPS could also host a commemoration event at the gravesite for the public in December, marking Muir’s passing.

Visitor Experience—Facilities

In all Action Alternatives, a limited set of amenities would be installed at the gravesite to ensure that visitor access is managed in a way that protects resources and neighbors’ privacy and property while providing the desired visitor experience. All action alternatives include a short driveway and parking area (varying in size across Alternatives). The surface of the driveway would be compressed gravel, stabilized decomposed granite or like material—compatible with the historic setting. The accessible parking space(s) would be surfaced in a material compatible with the cultural landscape, while meeting the “firm and stable” requirements defined in the Architectural Barriers Act Accessibility Standards, 2004 as amended (ABAAS). All action alternatives include the installation of universally accessible footpaths leading from the parking area to the gravesite that would follow the Accessibility Guidelines for Outdoor Developed Areas, 2013 (AGODA). These footpaths would be 5-foot wide, and would be surfaced in compressed, stabilized decomposed granite or like material, compatible with the historic setting. The length of footpath varies between the action alternatives. Other amenities such as an entry-welcome sign and a regulatory sign with hours of operation and rules of behavior, would also be installed. Small informational signs that label historic vegetation could also be added if needed. All action alternatives include the installation of boundary fencing along the southwest border, in collaboration with the adjacent landowner, although the type of fencing varies between the three action alternatives. The contemporary wrought iron fence surrounding the grave markers would be maintained, and visitors (with the exception of the Muir family) would not have access to the interior of the wrought iron fence. Boundary screening vegetation would be replaced and/or maintained in all action alternatives along the northern boundary, in collaboration with adjacent homeowners, to ensure compatibility with the historic landscape. No restrooms, picnic tables, or other amenities that encourage long lengths of stay would be installed. All of the above amenities would be designed to be compatible with the historic landscape, ensuring that the historic setting is preserved, and a reverential, quiet visitor experience is encouraged.

Natural Resources Management

Invasive exotic plant species such as English ivy and periwinkle would continue to be controlled and native vegetation would be restored along the creek bank (in the riparian zone) in all action alternatives. The Action Alternatives would also provide for continued, regular monitoring for potential changes to the stream profile and bank stability of Alhambra Creek along the gravesite.

Human Health and Safety

Historic trees would be periodically pruned and footpaths would be routed away from the fall zone of dangerous limbs. Visitors would likewise be routed away from the creek bank and native poison-oak; poison-oak could be identified in the field with a small sign to further ensure visitors do not come in contact with it. The gravesite would be closed to visitation after sunset until sunrise; hours would be posted on a regulatory sign at the gravesite entrance. If people access the site after hours, neighbors and/or the NPS could contact the Martinez Police Department or Contra Costa County Sheriff's Department to handle the disturbance.

Land Use

The 1.27-acre gravesite parcel is located in Alhambra Valley just outside and southeast of the City of Martinez. Although the city has proposed annexing Alhambra Valley, at the time of publication this area remains in unincorporated Contra Costa County. Land uses in the Alhambra Valley consist of single-family residential homes. Lots range in size from one-half acre to several acres. Residential roads are generally narrow, country lanes without sidewalks. Contra Costa County adopted the Alhambra Valley Specific Plan (1992), which directs the development densities and type of development within the valley. As specified in the plan, Alhambra Valley should remain a rural residential area which supports a low-density housing pattern and encourages the retention of existing agricultural activities and scenic attributes. All action alternatives in the Strentzel-Muir Gravesite Plan are compatible with the county's specific plan (the No Action alternative is also compatible with the specific plan).

Rights of Way and Easements

To access the gravesite, the National Park Service obtained a legal easement along the adjacent neighbor's driveway (part of Strentzel Lane). The easement is defined as 40-foot wide and 170-foot long. Currently there are young olive trees and other vegetation within the 40-foot wide easement, narrowing the navigable area to approximately 14-foot wide. In addition to the legal easement for visitor and staff access to the site, there are utility easements that pass through the gravesite parcel. These include a Contra Costa County storm drain easement that drains into Alhambra Creek, a Contra Costa County sewer main easement that parallels the storm drain then passes under Alhambra Creek, and a Pacific Gas and Electric above-ground power line easement that parallels the sewer and storm drain along the northern boundary of the gravesite. Several neighboring homeowners also have access easements to their property along the same utility easement at the north edge of the property. All existing rights of way and easements would remain in the action alternatives as well as the no action. The NPS would continue working with the property owners of the 40-foot wide, 170-foot long gravesite entrance right of way on Strentzel Lane to ensure that the width of the road is accessible and navigable to all park, fire, and utility vehicles. All utility easements and access easements passing through the gravesite parcel would also remain.

Applying Adaptive Management

The park would use an adaptive management strategy to manage and operate access to the Strentzel-Muir gravesite under all action alternatives. Adaptive management promotes flexible decision-making that can be adjusted based on the outcomes of implementing a particular management action. Careful monitoring of outcomes will help the park adjust its operations as part of an iterative process. It is not a trial and error process, but rather emphasizes learning while doing. This iterative feedback loop would be used throughout the life of the plan, so that each successive set of improved strategies would be refined based on lessons learned from earlier phases. The park will monitor key aspects of the implemented alternative and develop

desired conditions against which these data are evaluated. The park would use a set of established indicators and standards to both evaluate the success of access and facility changes to the gravesite, and to make decisions as to when additional changes can be made.

Steps for Adaptive Management include: identifying desired conditions for resources and visitors, identifying indicators (aspects to monitor for determining whether the desired conditions are being met), identifying standards (condition limits) for the indicators, monitoring indicators, and taking appropriate management actions to ensure desired condition standards are met. The following table provides a description of the desired conditions, a list of indicators and standards that will be monitored at the gravesite, and offers potential management actions.

Table 2. Desired Conditions, Indicators, Standards, and Potential Management Actions

VISITOR AND NEIGHBOR EXPERIENCE	
<p>Desired Conditions: <i>Visitors would be able to visit the gravesite at a time convenient to them, and enjoy a serene, contemplative setting representative of the gravesite’s historic landscape. Neighbors and their property would be safe. Neighbors would be able to park and navigate their vehicles on the Strentzel and Sheridan cul de sacs, and they would not be disturbed by vandals or late night trespassers to the gravesite.</i></p>	
Traffic and Circulation	
<p>Indicator: Parked cars on Sheridan and Strentzel Lanes. Standard: No more than 75% of public parking spaces on Sheridan and Strentzel Lanes (9 of 12 total) will be occupied by park visitors at any given time. Monitoring: Monitor once per week for a year (52 days total) stratified across time of day, day of week, and seasons.</p>	<p>Potential Management Action: (For Alternatives 2 and 4—those that include a pedestrian gate): if there are no incidents of park visitors occupying 75% or more parking spaces on Sheridan/Strentzel Lanes after the gravesite is opened to visitation, then the NPS could consider opening the pedestrian gate more often.</p> <p>If there is one incident or more per week of park visitors occupying 75% or more parking spaces on Sheridan and Strentzel lanes then the NPS would keep the pedestrian gate locked a greater portion of the time to achieve standard. Additionally, the NPS would take action to increase awareness of tour, walking, and biking options.</p>
Visitor access, mode and amount	
<p>Indicator: Documented number of visitors who couldn’t visit when they wanted. Standard: The majority of visitors are able to visit within the timeframe they want. Monitoring: The Interpretation Division, for a period of one year, will log when notified that visitors are unable to visit when they want. Additionally, a counter will be installed at the pedestrian gate.</p>	<p>Potential Management Action: Increase education explaining why the site is often closed (through website, visitor center, signs).</p> <p>For Alts 2 and 4—those that include a pedestrian gate, if other indicators warrant it, and if the visitor demand is high, the site’s pedestrian gate could be opened more often and more tours could be planned, as long as all desired conditions and standards are being met.</p>
Neighborhood Safety and Privacy	
<p>Indicator: Frequency of off-hours visitation, unauthorized gatherings, vandalism at the gravesite. Standard: No more than two documented instances of illegal disturbances at the gravesite per year. Monitoring: Police and sheriff reports regarding illegal gravesite activities, NPS observation of vandalism.</p>	<p>Potential Management Action: NPS would ask law enforcement to patrol site (Sherriff and Martinez police); Increase NPS patrol of site.</p> <p>NPS would consider altering the perimeter fence design to physically prevent or minimize off hours visitation.</p> <p>Adjust messaging through signs and education.</p>

RESOURCES	
<p>Desired Conditions: <i>Preservation treatment recommendations from the Cultural Landscape Report would be undertaken within an appropriate timeframe resulting in net improvement in cultural resource condition and integrity over time. The desired conditions for natural resources would be a healthy, native riparian vegetation with virtually no invasive exotics. Additionally, the creek geomorphology adjacent to the site would change in an appropriate manner due to natural processes, and it would remain relatively stable over time—not posing an imminent threat to important cultural and natural resources at the gravesite.</i></p>	
Natural Resources	
<p>Indicator: Riparian Vegetation Condition. Standard: The species composition along the creek bank is predominantly native and no social trails damage the vegetation. Monitoring: Regular monitoring by NPS staff using standard vegetation monitoring methodologies.</p>	<p>Potential Management Action: Physically block access to riparian vegetation with fencing. Adapt messaging through signs and other educational methods.</p>
<p>Indicator: Creek Bank Stability, erosion. Standard: Natural creek processes will be allowed to prevail to the greatest extent possible and the grave markers will remain safe from creek bank erosion. Monitoring: Regular monitoring of stream profile using existing data collection points and photography.</p>	<p>Potential Management Action: Physically block access to creek bank with fencing. If the grave plot becomes in danger of eroding, then appropriate creek bank stabilization would occur with further environmental compliance and permitting as required.</p>
Cultural Resources	
<p>Indicator: Historic resources condition. Standard: No adverse effects to cultural resources due to visitor access to gravesite. Monitoring: Regular monitoring and condition assessments of historic resources in the course of operating the site.</p>	<p>Management Actions: For Alternatives 2 and 4—those that include pedestrian gate: the NPS would consider prohibiting access through the pedestrian gate a greater portion of the time to ensure protection of the site’s historic resources. Additionally, the NPS would increase education on importance of cultural resources; identify cultural resources in the field (through tours and potentially small signs) and ask for visitors’ help in protecting cultural resources.</p>
FACILITIES	
<p>Desired Conditions: <i>Facilities, through thoughtful design, will be as visually unobtrusive as possible in order to ensure the historic setting retains its character and the historic landscape is not adversely affected. Facilities would play a supporting role at the gravesite, providing necessary aid for visitors to access and experience the site, while still letting the historic scene stand out.</i></p>	
<p>Indicator: Cost effectiveness of facility materials. Standard: Replacement and repair of materials would occur on a typical life cycle regimen, and would very seldom need to occur more frequently due to excessive wear and tear or vandalism. Monitoring: Facilities staff and interpretive staff would monitor facilities each time they go to the site, totaling several times per week depending on alternative</p>	<p>Potential Management Action: Materials used for fencing, trail and driveway surfaces, and site furnishings would be replaced with different materials that have longer life-cycles and require less maintenance. All replacement materials would be required to meet compatibility requirements for the cultural landscape.</p>

ALTERNATIVE 2

Under Alternative 2, visitors would be able to access the site by walking and cycling seven days per week from 10:30am-4:30pm, or by accessible park shuttle during designated times (see below). This proposed schedule is subject to change pending results of the monitoring program outlined in the *Application of Adaptive Management Strategies* within the *Features Common to All Action Alternatives* above. No privately-owned vehicles would be allowed, with the exception of private vehicles for visitors who are unable to safely use the park shuttle—in this instance private vehicles would park in the shuttle turnaround area. Under the park’s current and foreseeable funding and staffing, John Muir National Historic Site would be able to accommodate up to two tours during the work week (Monday through Friday) and two tours on weekends using the existing accessible park shuttle fleet (fleet ranging in capacity from 4 visitors to 25 visitors). It is anticipated that this would result in tours being offered to 24-50 visitors per week, pending visitor demand (refer to Table 3). In the event that John Muir National Historic Site receives additional funding to bolster staffing and, if warranted by visitor demand, tours could be increased to one per day, resulting in tours being taken by a maximum of 175 visitors per week. The anticipated NPS tour visitation per week in Alternative 2 is 24-50 individuals.

Table 3. Alternative 2, Anticipated number of visitors per week versus maximum allowable

	Monday – Friday	Weekend	Total Visitors / Week
<i>Anticipated Visitors on Tours</i>	2 tours/M-F <u>2-10 visitors/tour</u> = 4-20 visitors/M-F	2 tours/weekend <u>10-15 visitors/tour</u> = 20-30 visitors/weekend	4 tours/week 24-50 visitors/week
<i>Maximum Allowable Visitors on Tours</i>	1tour/day <u>Average 25 visitors/tour</u> = 125 visitors/M-F	1tour/day <u>Average 25 visitors/tour</u> = 50 visitors/weekend	7 tours/week 175 visitors/week
<i>Pedestrians & Cyclists</i>	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy
<i>Visitors from private vehicles</i>	0	0	0
			ANTICIPATED = 24-50 MAXIMUM = 175

In terms of visitor facilities, in addition to those mentioned above in *Features Common to All Action Alternatives*, this alternative would have an entry gate with locking mechanism that would prohibit private vehicles from accessing the site, with an adjacent pedestrian gate that would allow pedestrians and cyclists to pass through during open hours only (it would be locked when site is closed). This alternative would also include one informational kiosk at the beginning of the accessible footpath. The footpath in Alternative 2 would be a “there-back”, stabilized, natural-surfaced trail measuring 5-feet wide and approximately 260-feet long. The fence to be installed along the southwest border would be a low-profile style compatible with the historic landscape to minimize contemporary additions to the landscape while still providing clear delineation between John Muir National Historic Site land and private land. Unlike Alternative 4, this fence would not be tall enough to physically block people from entering the site.

Alternative 2 would apply an adaptive management strategy as described above in *Features Common to All Action Alternatives*. This strategy could result in the NPS changing the amounts and types of facilities and visitor access if such action is warranted according to established indicators and standards.

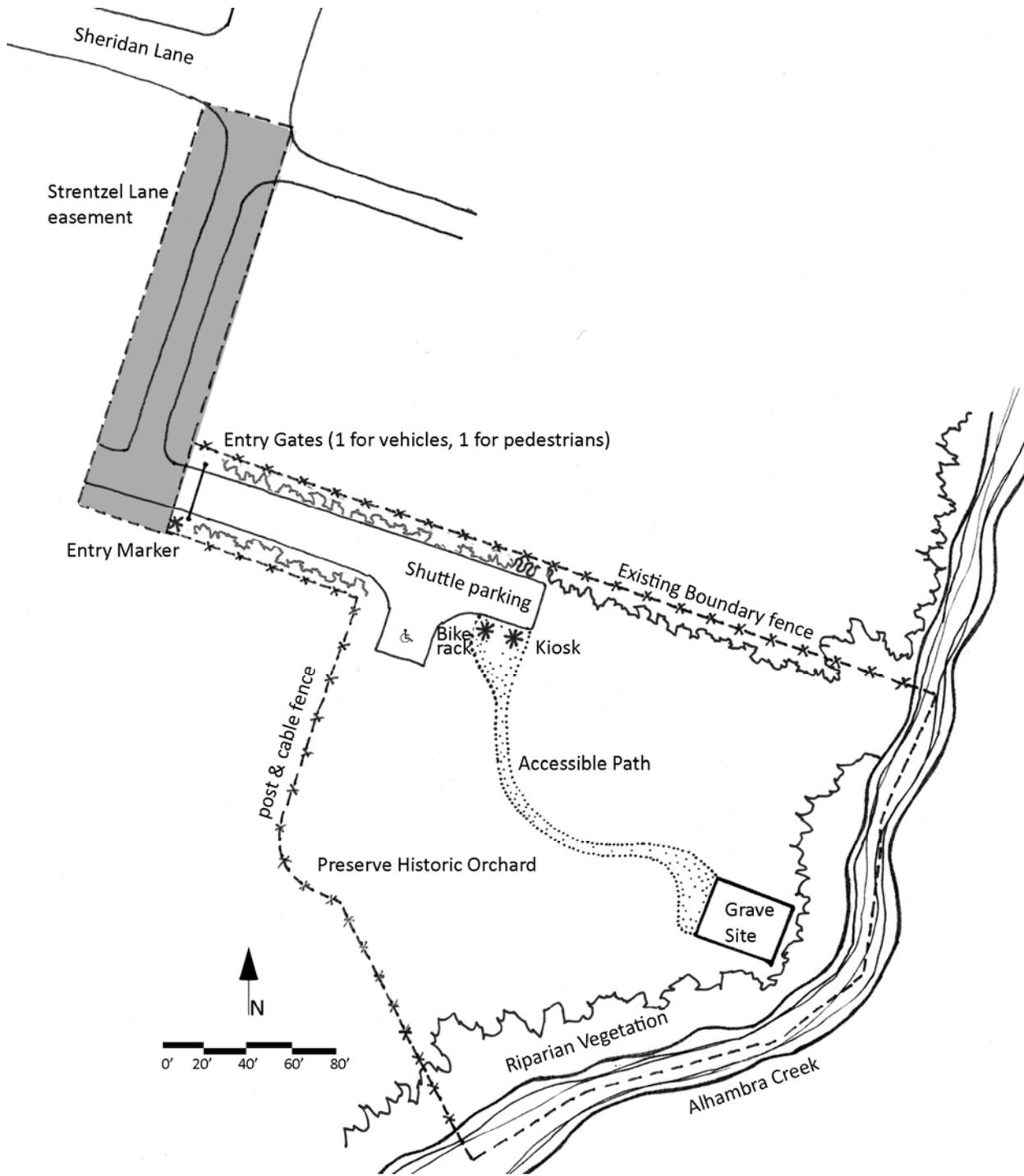


Figure 4. Alternative 2.

ALTERNATIVE 3

The primary difference between Alternative 2 and Alternative 3 is in visitation to the gravesite, including modes of access, numbers of tours, and variation in facilities provided at the gravesite. Under Alternative 3, visitors would be able to access the site by walking and cycling, by private vehicle and by an accessible park shuttle. Two private vehicle parking spaces would be installed, one of which would be van accessible. It is anticipated that on average, five vehicles containing three people would visit the gravesite each day, totaling approximately 105 visitors per week. Additionally, under the park's current and foreseeable funding and staffing, John Muir National Historic Site would choose to accommodate up to two tours on weekends using the existing accessible park shuttle fleet (fleet ranging in capacity from 4 visitors to 25 visitors). It is anticipated that this would result in tours being offered to 20-30 visitors per week, pending visitor demand (refer to Table 4). In the event that John Muir National Historic Site receives additional funding to bolster staffing and, if warranted by visitor demand, tours could be increased to one per day, resulting in tours being taken by a maximum of 175 visitors per week. The anticipated combined private vehicle and NPS tour visitation per week is 125-135 individuals.

Table 4. Alternative 3, Anticipated number visitors per week versus maximum allowable

	Monday - Friday	Weekend	Total Visitors / Week
<i>Anticipated Visitors on Tours</i>	0	2 tours/weekend <u>Average 10-15 visitors/tour</u> = 20-30 visitors/weekend	2 tours/week 20-30 visitors/week
<i>Maximum Allowable Visitors on Tours</i>	1 tour/day <u>Average 25 visitors/tour</u> = 125 visitors/M-F	1 tour/day <u>Average 25 visitors/tour</u> = 50 visitors/weekend	7 tours/week 175 visitors/week
<i>Pedestrians & Cyclists</i>	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy
<i>Visitors from private vehicles</i>	5 private vehicles per day <u>3 visitors per car</u> = 75 visitors/M-F	5 private vehicles per day <u>3 visitors per car</u> = 30 visitors/weekend	105 visitors/week
			ANTICIPATED = 125-135 MAXIMUM = 280

In addition to the facilities mentioned above in *Features Common to All Action Alternatives*, this alternative includes the addition of two interpretive wayside exhibits, two benches, and a raccoon-proof trash can. The footpath in Alternative 3 would be a loop, natural-surfaced trail measuring 5-feet wide and approximately 550-feet long. A mid-height, wooden fence would be installed along the southwest border to provide visual and physical boundaries between the National Historic Site property and private land. In addition, a low-profile style fence, compatible with the historic landscape, would be installed to further inhibit visitors from accessing the creek and impacting riparian vegetation. Unlike Alternative 4, this fence would not be tall enough to physically block people from entering the site.

Alternative 3 would apply an adaptive management strategy as described above in *Features Common to All Action Alternatives*. This strategy could result in the NPS changing the amounts and types of facilities and visitor access if such action is warranted according to established indicators and standards.

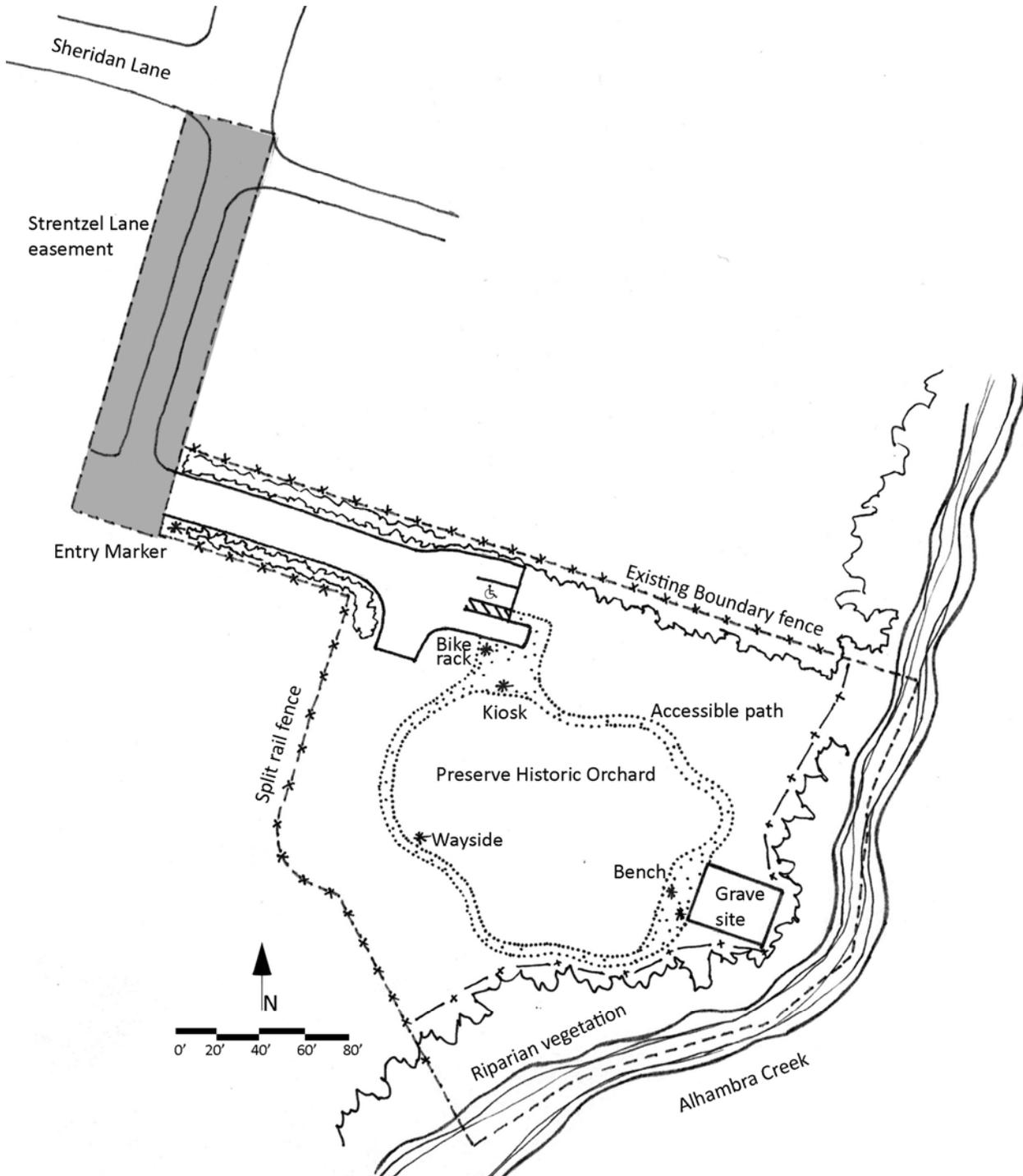


Figure 5. Alternative 3.

ALTERNATIVE 4

Under Alternative 4, preferred alternative, the entire 1.27-acre parcel would be fenced, greatly minimizing the ability for people to access the site when closed. Visitors would be able to access the site by walking and cycling (entering through a pedestrian gate) Monday-Friday (not weekends), from 10:30am-4:30pm, or by accessible park shuttle during designated times (see below). This proposed schedule is subject to change pending results of the monitoring program outlined in the *Application of Adaptive Management Strategies* within the *Features Common to All Action Alternatives* above. Unlike Alternative 3, no privately-owned vehicles would be allowed, with the exception of private vehicles for visitors who are unable to use the park shuttle—in this instance private vehicles would park in the shuttle turnaround area at the gravesite. Under the park’s current and foreseeable funding and staffing, John Muir National Historic Site would be able to accommodate up to two tours during the work week (Monday through Friday) and two tours on weekends using the existing accessible park shuttle fleet (fleet ranging in capacity from 4 visitors to 25 visitors). It is anticipated that this would result in tours being offered to 24-50 visitors per week, pending visitor demand (refer to Table 5). In the event that John Muir National Historic Site receives additional funding to bolster staffing and, if warranted by visitor demand, tours could be increased to one per day, resulting in tours being taken by a maximum of 175 visitors per week. The anticipated NPS tour visitation per week in Alternative 4 is 24-50 individuals. In addition to weekly tours, the NPS would accommodate up to twelve “Open Days” per year. On these days, the NPS shuttle would continuously run between the visitor center and the gravesite, allowing visitors to experience the gravesite without needing an advanced tour reservation. On these days, a ranger would be staffed at the gravesite, ensuring that the area is always supervised.

Table 5. Alternative 4, Anticipated number of visitors per week versus maximum allowable

	Monday – Friday	Weekend	Total Visitors / Week
<i>Anticipated Visitors on Tours</i>	2 tours/M-F <u>2-10 visitors/tour</u> = 4-20 visitors/M-F	2 tours/weekend <u>10-15 visitors/tour</u> = 20-30 visitors/weekend	4 tours/week 24-50 visitors/week
<i>Maximum Allowable Visitors on Tours</i>	1 tour/day <u>Average 25 visitors/tour</u> = 125 visitors/M-F	1 tour/day <u>Average 25 visitors/tour</u> = 50 visitors/weekend	7 tours/week 175 visitors/week
<i>Pedestrians & Cyclists</i>	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy	To be monitored, see adaptive management strategy
<i>Visitors from private vehicles</i>	0	0	0
			ANTICIPATED = 24-50 MAXIMUM = 175

Anticipated Visitors on “Open Days”: Up to 50 visitors per Open Day = Up to 600 visitors per year

In terms of visitor facilities, in addition to those mentioned above in *Features Common to All Action Alternatives*, this alternative would have an entry gate with locking mechanism that would prohibit private vehicles from accessing the site. A pedestrian/cyclist gate would be installed next to the vehicle gate—bike racks would be provided. The footpath in Alternative 4 would be a “there-back”, stabilized natural-surfaced trail measuring 5-foot wide and approximately 260-foot long. The fence to be installed along the western,

southern, and eastern borders would be no more than 8-feet tall and would be welded-wire mesh, designed to be as compatible with the historic landscape as possible, while greatly minimizing the ability to physically access the site while closed. The fence would be set-back (uphill) 4-5 feet from the creekbank to prevent impacts to the bank. This perimeter fence would serve to minimize unauthorized visitation. In addition to the fence and trail, a bench and a wayside exhibit would be installed near the grave markers.

Alternative 4 would apply an adaptive management strategy as described above in *Features Common to All Action Alternatives*. This strategy could result in the NPS changing the amounts and types of visitor access if such action is warranted according to the established indicators and standards.

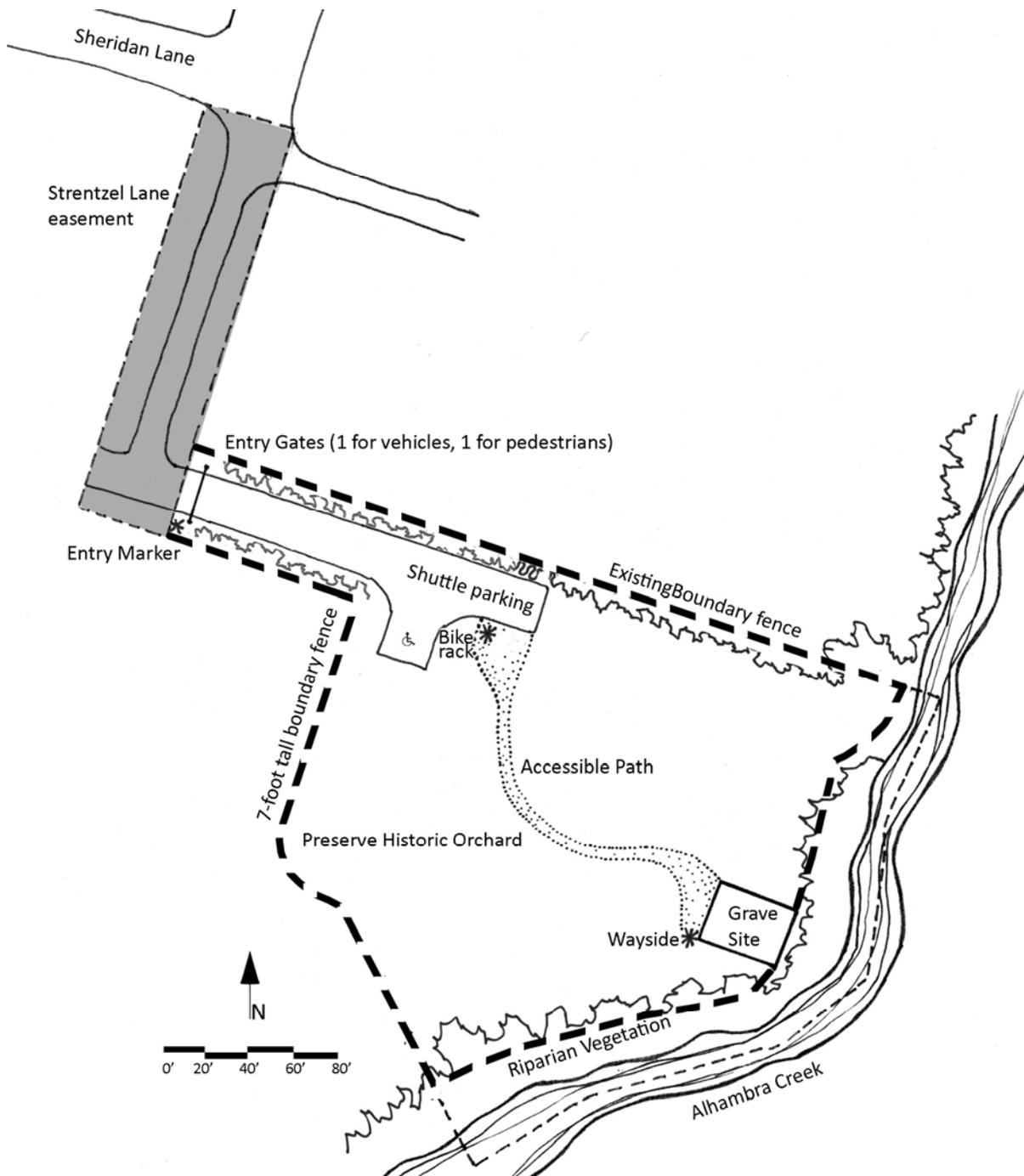


Figure 6. Alternative 4: Preferred Alternative.

POTENTIAL OPTIONS CONSIDERED BUT DISMISSED

Relocate Burials and Grave Markers to House Site or Add Replica Grave Markers to House Site

During the course of public scoping, the suggestion to relocate the grave markers to the house site or to create replica grave markers at the house site was made. The cited benefit would be to provide the NPS the opportunity to close the actual gravesite to visitation, thereby entirely eliminating the possibility for neighbor/visitor conflicts. The NPS rejected the idea of relocating the burials and historic grave markers because the action would have an adverse effect on the historic property as defined in Section 106 of the National Historic Preservation Act. The action would permanently negatively impact one of the park's fundamental resources, and would be prohibited given our legislative charge to "*preserve the site in its present undeveloped condition.*" (PL 102 Stat. 2830; 54 U.S.C. 320101). The idea of adding replica grave markers to the house site, while preserving the actual gravesite, is also infeasible because installing non-historic features to the John Muir National Historic Landmark would have an unacceptable adverse effect on the historic property.

Protect Gravesite by not Allowing any Visitation

A related concept was also offered during scoping meetings: a proposal to fence the entire gravesite parcel in order to prevent all public visitation. This concept was rejected because it would contradict the intent of the Muir-Hanna Family Trust, the American Land Conservancy, and the NPS when they came together to transfer the gravesite parcel to the NPS in 2000. Records indicate as early as 1971 that the Muir-Hanna Family Trust approached the NPS to add the gravesite parcel to John Muir National Historic Site in order for the NPS to provide "perpetual care and develop a suitable small park area in keeping with the restoration of the John Muir National Historic Site." (Letter from Sherry Hanna to park Superintendent, 9/18/74). Providing visitation to the gravesite was one of the reasons why the NPS was chosen as the beneficiary of this land. Additionally the NPS Organic Act, cited in the John Muir National Historic Site enabling legislation of 1964, mandates that national parks, publicly-owned lands, are set aside in part for the enjoyment of future generations (the public who owns them)—therefore making the proposal to permanently close the gravesite to visitor access infeasible.

COMPARISON OF ALTERNATIVES

Table 6. Comparison of Alternatives

	Alternative 1: No Action	Alternative 2	Alternative 3	Alternative 4 (Preferred)
Visitor Facilities	<ul style="list-style-type: none"> Short unpaved driveway delineated with low fence and “Do Not Block” sign; 1-2 vehicles could park Maintain compatible wrought iron fence around grave markers 	<ul style="list-style-type: none"> 1 gate with locking mechanism at entrance preventing public vehicle access Pedestrian/Cyclist gate adjacent to vehicle gate (open 10:30-4:30, seven days per week) 1 natural surfaced driveway 1 accessible shuttle parking space 1 shuttle turnaround space (to be used for accessible companion vehicles as needed) 0 public vehicle parking spaces No directional signage on Sheridan & Strentzel Lanes No trash can No benches 1,300 sf decomposed granite footpath (there/back) 280 lf low fencing No split rail fence 1 informational kiosk 1 entry sign 1 regulatory sign 0 interpretive waysides 1-5 vegetation ID signs Maintain compatible wrought iron fence around grave markers 	<ul style="list-style-type: none"> No entry gate (open access) 1 natural surfaced driveway 1 accessible shuttle parking space 1 shuttle turnaround space 2 public vehicle parking spaces (1 of which is van accessible) Directional signage on Sheridan & Strentzel Lanes 1 raccoon-proof trash can 2 benches 2,750 sf decomposed granite footpath (loop path) 280 lf low fencing 280 lf split rail fence (or similar along creek) 1 informational kiosk 1 entry sign 1 regulatory sign 2 interpretive waysides 1-5 vegetation ID signs Maintain compatible wrought iron fence around grave markers 	<ul style="list-style-type: none"> 1 gate with locking mechanism at entrance preventing public vehicle access Pedestrian/Cyclist gate adjacent to vehicle gate (open 10:30-4:30, M-F) 1 natural surfaced driveway 1 accessible shuttle parking space 1 shuttle turnaround space (to be used for accessible companion vehicles as needed) 0 public vehicle parking spaces No directional signage on Sheridan & Strentzel Lanes No trash can 1 bench 1,300 sf decomposed granite footpath (there/back) 560 lf no more than 9-foot tall welded-wire mesh fencing around site perimeter, blocking pedestrian access No informational kiosk 1 entry sign 1 regulatory sign 1 interpretive wayside at (grave markers) 1-5 vegetation ID signs Maintain compatible wrought iron fence around grave markers
Visitor Access	<ul style="list-style-type: none"> No tours Number of pedestrian/cyclist visitors is unknown, no hours of operation posted—therefore gravesite appears to be open 24 hours a day Number of private cars visiting per week is unmanaged and unknown No NPS special events No special park use requests are approved for gravesite Group field trips to gravesite are not managed by NPS, nor are they monitored 	<ul style="list-style-type: none"> 4 anticipated tours per week 24-50 anticipated tour visitors per week 7 maximum tours per week 175 maximum tour visitors/week Number of pedestrian/cyclist visitors to be monitored 0 private cars visiting/week TOTAL ANTICIPATED VISITORS PER WEEK (not including peds or cyclists) = 24-50 NPS special events, few times/year No Open Day Special park use requests considered University and other group field trip requests considered Gravesite hours of operation- during daylight hours only 	<ul style="list-style-type: none"> 2 anticipated tours per week 20-30 anticipated tour visitors per week 7 maximum tours per week 175 maximum tour visitors/week Number of pedestrian/cyclist visitors to be monitored 35 private cars visiting/week 105 visitors per week TOTAL ANTICIPATED VISITORS PER WEEK (not including peds or cyclists) = 125-135 NPS special events, few times/year No Open Day Special park use requests considered University and other group field trip requests considered Gravesite hours of operation- during daylight hours only 	<ul style="list-style-type: none"> 4 anticipated tours per week 24-50 anticipated tour visitors per week 7 maximum tours per week 175 maximum tour visitors/week Number of pedestrian/cyclist visitors to be monitored 0 private cars visiting/week TOTAL ANTICIPATED VISITORS PER WEEK (not including peds or cyclists) = 24-50 NPS special events, few times/year “Open Day”, 12 days/year. Providing shuttle service throughout the day from VC to gravesite, gravesite would be staffed with ranger Special park use requests considered University and other group field trip requests considered Gravesite hours of operation- during daylight hours only
Cultural Resources	<ul style="list-style-type: none"> Retention of non-contributing vegetation Retention of existing screening vegetation on north boundary Preservation and maintenance of cultural landscape features Access to grave markers (within wrought iron fence) for Muir/ Hanna family and NPS staff only 	<ul style="list-style-type: none"> Removal of non-contributing vegetation Addition of compatible screening vegetation on north boundary Preservation and maintenance of cultural landscape features Access to grave markers (within wrought iron fence) given to Muir/Hanna family and NPS staff only 		

	Alternative 1: No Action	Alternative 2	Alternative 3	Alternative 4 (Preferred)
Natural Resources	<ul style="list-style-type: none"> ▪ Minimal management of non-historic invasive and native veg. ▪ Creek regularly monitored 	<ul style="list-style-type: none"> ▪ Invasive vegetation removed ▪ Native vegetation planted in riparian zone ▪ Creek regularly monitored 		
Human Health and Safety	<ul style="list-style-type: none"> ▪ Public discouraged from visiting ▪ Visitors can access Alhambra Creek along riprapped bank ▪ Storm drain culvert outfall accessible by pedestrians ▪ Historic trees would be maintained to minimize falling limbs ▪ Native poison-oak along creekbank would be encountered by visitors ▪ Infrequent after-hours parties, excessive noise, and littering ▪ Contra Costa County and City of Martinez would provide law enforcement and fire protection 	<ul style="list-style-type: none"> ▪ Visitors would have safety information and rules of behavior available on website, at visitor center, and at gravesite ▪ Riparian vegetation would be planted to naturally fence off creek bank and storm drain culvert from pedestrian access ▪ Historic trees would be maintained to minimize falling limbs; visitor facilities would be sited away from dangerous overhanging limbs ▪ Native poison-oak could be identified with small sign ▪ Entry gate with locking mechanism and more prevalent information regarding hours of operation and rules would lessen after hours' parties, noise and littering. NPS would have a 4 day/week presence, litter cleanup would occur more frequently ▪ Contra Costa County and City of Martinez would provide law enforcement and fire protection 	<ul style="list-style-type: none"> ▪ Visitors would have safety information and rules of behavior available on website, at visitor center, and at gravesite ▪ Riparian vegetation and post and cable fence would be installed to fence off creek and storm drain culvert from pedestrian access ▪ Historic trees would be maintained to minimize falling limbs; visitor facilities would be sited away from dangerous overhanging limbs ▪ Native poison-oak could be identified with small sign ▪ More prevalent information regarding hours of operation and rules would lessen after hours' parties, noise and littering. NPS would have a 2 day/week presence, litter cleanup would occur more frequently ▪ Contra Costa County and City of Martinez would provide law enforcement and fire protection 	<ul style="list-style-type: none"> ▪ Visitors would have safety information and rules of behavior available on website, at visitor center, and at gravesite ▪ Riparian vegetation and no more than 8-foot tall wire mesh fencing would be installed to fence off creek bank and storm drain culvert from pedestrian access ▪ Historic trees would be maintained to minimize falling limbs; visitor facilities would be sited away from dangerous overhanging limbs ▪ Native poison-oak could be identified with small sign ▪ Entry gate with locking mechanism, no more than 8-foot tall fence along the parcel boundary, as well as more prevalent information regarding hours of operation and rules would preclude after hours' parties, noise and littering. NPS would have a 4 day/week presence, litter cleanup would occur more frequently ▪ Contra Costa County and City of Martinez would provide law enforcement and fire protection

IMPACT SUMMARY

Table 7. Impact Summary

Impact Topic	Alternative 1: No Action	Alternative 2:	Alternative 3	Alternative 4 (Preferred)
Cultural Resources				
Cultural Resources (includes cultural landscape and archeology)	<p>The No Action Alternative would have a local, long-term minor, beneficial impact on cultural resources.</p> <p>Under this alternative there would be no plans to introduce new, non-historic features into the area, and there would be modest plans for preserving the site.</p>	<p>Alternative 2 would have a local, long-term, moderate, beneficial impact on cultural resources.</p> <p>Under this alternative a modest degree of historically-compatible improvements would be made to accommodate visitation together with a robust preservation program.</p> <p>Applying adaptive management, which could reduce visitation and replace certain facilities, would not change the impact finding.</p>	<p>Alternative 3 would have a local, long-term, minor, beneficial impact on cultural resources.</p> <p>Under this alternative a moderate degree of historically-compatible improvements would be made to accommodate visitation together with a robust preservation program.</p> <p>Applying adaptive management, which could reduce visitation and replace certain facilities, would not change the impact finding.</p>	<p>Alternative 4 would have a local, long-term, minor, beneficial impact on cultural resources.</p> <p>Under this alternative a modest degree of historically-compatible improvements would be made (including a surrounding fence that would secure the site) to accommodate visitation together with a robust preservation program.</p> <p>Applying adaptive management, which could reduce visitation and replace certain facilities, would not change the impact finding.</p>
Natural Resources				
Physical Resources	<p>The No Action Alternative would have direct, local, long-term, negligible, beneficial, impacts on physical resources</p> <p>There would be no new impacts to soils. Continued monitoring of the stream channel would occur.</p>	<p>Alternatives 2, 3 and 4 would have a direct, local, long-term, minor beneficial impact on physical resources.</p> <p>Construction of an accessible path, shuttle parking area, and boundary fence would cause some further disturbance over the short term. Restoration of native perennial vegetation with strong, deep roots would enhance soil stability around the riparian area providing protection of the creek bank. Installation of an accessible path would concentrate foot traffic, minimizing soil compaction throughout the site. Adaptive management process would not have additional impacts.</p>		
Biological Resources	<p>Alternative 1 would have a direct, local, long-term minor adverse impact on biological resources.</p> <p>Current invasive plant removal efforts would be insufficient for reducing and containing invasive plant species, impacting the integrity of wildlife habitat and other ecological functions.</p>	<p>Alternatives 2 or 3 would have a local, long-term minor beneficial impact to biological resources.</p> <p>Alternatives 2 and 3 would increase efforts to remove invasive plants and restore native vegetation, particularly along the riparian corridor, which would enhance wildlife habitat and other ecological benefits.</p>	<p>Alternative 4 would have local, long-term moderate beneficial impact to biological resources.</p> <p>As in Alternative 2 and 3, Alternative 4 would increase efforts to remove invasive plants and restore native vegetation, particularly along the riparian corridor, which would enhance wildlife habitat and other ecological benefits. This alternative would have additional beneficial impacts because the perimeter fence would provide greater long-term protection to the riparian habitat.</p>	

Social Resources				
<p>Visitor Experience and Access</p>	<p>The No Action Alternative would result in a direct, moderate, long-term, negative impact on visitor access and experience. There would be no change to visitor management in Alternative 1. Existing impacts to visitor experience would continue, including NPS actively avoiding providing visitors with information regarding location and access to the gravesite, lack of clarity regarding whether visitors are allowed on site; lack of management resulting in the site essentially being open 24/7, lack of accessibility for visitors with disabilities; and inconvenience to neighbors due to visitors arriving who request information from neighbors because the NPS does not provide information. Because the NPS would continue to not manage visitation, Alternative 1 would not provide an avenue for limiting visitation, which could result in visitation numbers that exceed desired limits. Under the No Action Alternative the visitor experience, once on site, for visitors would remain high quality: the historic setting among the pear orchard along Alhambra Creek would continue to be maintained—providing a peaceful, contemplative backdrop to reflect on John Muir, his life and his legacy. There would be no facilities such as interpretive wayside panels or benches, which could compromise the experience for some visitors.</p>	<p>Under Alternative 2, there would be a direct, long-term, minor to moderate, beneficial impact to visitor experience and access due to the addition of ranger led tours, self-guided tours, and a wheelchair accessible, natural-surfaced path from the shuttle drop-off area to the grave markers. The experience would also be slightly improved with the addition of an informational entrance kiosk that is compatible with the historic setting. Although visitors would have to plan ahead to visit the site via NPS shuttle, the quality of the visit would be high. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence.</p> <p>Establishing regular shuttle access (up to 7 times per week), and by allowing unlimited pedestrian and cyclist access during daylight hours, visitor access would be improved. A gate with locking mechanism would be installed at the entrance to the gravesite, ensuring that only authorized vehicles can enter the site. Once the gravesite access has been established and advertised to the public, it is anticipated that neighbors would no longer be contacted by visitors to provide clarifying access and location information.</p> <p>Applying adaptive management could result in either a reduction or an increase in visitor access, yielding a commensurate positive or negative impact on visitors.</p>	<p>Under Alternative 3 there would be a direct, long-term, major beneficial impact to visitor experience and access when compared to the No Action Alternative. This is due to the addition of two parking spaces (available to the public during daylight hours) and the addition of regular NPS shuttle access to the site from the John Muir visitor center (up to 7 times per week). Once the gravesite access has been established and advertised, it is anticipated that inconvenience to neighbors would stay the same as the no action alternative due to the ability for visitors to park at the site without an NPS escort—potentially contributing to the continuation of visitors driving around the narrow cul de sac seeking directions. Addition of directional signage on Sheridan and Strentzel Lane should help mitigate this.</p> <p>The visitor experience would be improved due to the addition of ranger led tours and a wheelchair accessible, natural-surfaced loop path from the shuttle drop-off to the grave markers. The experience would also be slightly improved with the addition of up to two interpretive wayside exhibits and up to two benches that are compatible with the historic setting. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence.</p> <p>Applying adaptive management could result in a reduction in visitor access, yielding a commensurate negative impact on visitors.</p>	<p>Under Alternative 4, there would be a direct, long-term, minor, beneficial impact to visitor experience and access due to the addition of ranger led tours, self-guided tours, and a wheelchair accessible, natural-surfaced path from the shuttle drop-off area to the grave markers. The experience would also be slightly improved with the addition of one wayside identifying the grave markers. Although visitors would have to plan ahead if they wanted to visit the site via NPS shuttle, the quality of the visit would be high. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence. However it is anticipated that the proposed no more than 8-foot tall perimeter fence would detract from the historic scene, and could be construed as an unwelcoming feature by visitors.</p> <p>Establishing regular shuttle access (up to 7 times per week), and by allowing unlimited pedestrian and cyclist access from 10:30-4:30 Monday through Friday, visitor access would be substantially improved. A gate with locking mechanism would be installed at the entrance to the gravesite, ensuring that only authorized vehicles could enter the site. A no more than 8-foot tall boundary fence would greatly minimize unauthorized visitation when the site is closed. Once the gravesite access has been established and advertised to the public, it is anticipated that neighbors would no longer be contacted by visitors to provide clarifying access and location information.</p> <p>Applying adaptive management could result in either a reduction or an increase in visitor access, yielding a commensurate positive or negative impact on visitors.</p>
<p>Traffic / Circulation</p>	<p>The No Action Alternative would result in a direct, long-term, minor, negative impact to traffic and circulation within the neighborhood. Traffic and circulation on Strentzel and Sheridan Lanes would remain the same: infrequent gravesite visitors driving to the gravesite would continue to be confused due to lack of directional signage. Drivers would continue relying on neighbors help direct them to the gravesite. Because the NPS would continue not managing visitation to the gravesite, there is the potential for visitation and traffic to increase over time.</p>	<p>Implementation of Alternative 2 would have a direct, long-term, minor, negative impact to neighborhood traffic. By virtue of opening the gravesite to public visitation, it is anticipated that there will be an increase in neighborhood traffic and use of street parking. However by notifying the public that there is no onsite parking, and by encouraging visitors to walk, bike, or use the park shuttle instead of driving personal vehicles, it is anticipated that the additional vehicle traffic on Strentzel and Sheridan Lanes would be partially mitigated.</p> <p>Applying adaptive management could result in either a reduction or an increase in visitor access, yielding a commensurate positive or negative impact to traffic and circulation.</p>	<p>Implementation of Alternative 3 would likely have a direct, long-term, negligible, negative impact on traffic and circulation when compared to the No Action Alternative. This alternative provides parking for two privately-owned vehicles (one van accessible); therefore visitors would continue driving on Strentzel and Sheridan Lanes. There could be reduced confusion and fewer “circling” drivers in the neighborhood due to the installation of directional signs.</p> <p>Applying adaptive management could result in either a reduction or an increase in visitor access, yielding a commensurate positive or negative impact to traffic and circulation.</p>	<p>Implementation of Alternative 4 would have a direct long-term, minor negative, impact to neighborhood traffic. By notifying the public that there is no onsite parking, and by prohibiting access to the site on weekends (due to the locked gate and boundary fence) it is anticipated that privately-owned vehicle traffic would increase a small amount on weekdays when the site is open to pedestrians (10:30am-4:30pm).</p> <p>Applying adaptive management could result in either a reduction or an increase in visitor access, yielding a commensurate positive or negative impact to traffic and circulation.</p>

<p>Human Health and Safety</p>	<p>Safety issues of uncontrolled access to the site, including access to the steep creek banks and stands of native poison-oak, and threats from falling limbs from the historic trees would continue, resulting in a long-term, negligible, adverse impact to human health and safety.</p>	<p>Implementation of Alternative 2 would result in a direct, long-term, minor, beneficial impact to human health and safety. Increasing riparian vegetation would deter visitors from accessing the creek bank and creek itself and help avoid contact with native poison-oak. Delineation of an accessible trail would encourage visitors to remain outside of the fall zone of the historic trees, away from ticks, and away from the native poison-oak.</p> <p>Applying adaptive management strategies could result in a decreased amount of pedestrian traffic along the creek bank, resulting in negligible to minor beneficial impacts to human health and safety under this alternative.</p>	<p>Implementation of Alternative 3 would result in direct, long-term, minor beneficial impacts to safety. Installation of fencing along the top of the creek bank would minimize existing hazards associated with scrambling down into Alhambra Creek. Installation of plant identification signs at the poison-oak brambles would help unknowing visitors avoid contact with this native plant. Installation of an accessible footpath and parking areas would minimize potential contact with ticks, and would keep visitors away from the historic and ornamental trees subject to limb failure.</p> <p>Applying adaptive management could result in a reduction of pedestrian access to the site, resulting in minor to moderate beneficial impacts to human health and safety under this alternative.</p>	<p>Implementation of Alternative 4 would result in direct, long-term, minor, beneficial impacts to human health and safety. Installation of fencing around the site, guided tours, and an accessible pathway would minimize human exposure to the risks associated with falling limbs from historic trees. Fencing surrounding the site could increase exposure to the steep creek bank and contact with native poison-oak by visitors seeking to view the gravesite during closed periods.</p> <p>Applying adaptive management strategies could result in a decreased amount of pedestrian traffic along the creek bank, resulting in negligible to minor beneficial impacts to human health and safety under this alternative.</p>
<p>Park Operations</p>				
<p>Park Operations</p>	<p>The No Action Alternative would result in a long-term negligible impact to park operations. There would continue to be a lack of interpretive programs and materials at the site. Existing resources (gravesite, fruit trees and surrounding landscape and creekbank) would continue to be maintained on a cyclical basis, and would continue to be managed as funds and staffing allow. No changes would occur to existing administrative costs or workloads.</p>	<p>Alternative 2 would result in direct, long-term, moderate adverse impacts to park operations. Existing interpretive programming would need to shift throughout the park to accommodate interpretation at the gravesite in addition to the opening and closing of the pedestrian gate 7 days/week. Installation of facilities such as footpaths and driveway to accommodate visitation would require additional annual and cyclic maintenance. There could be a slight increase in administrative workload associated with review and oversight of Special Park Uses permit activities. Resource management activities would increase slightly with active invasive plant removal and management. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all park divisions.</p>	<p>Alternative 3 would result in direct, minor to moderate adverse impacts to operations over the long-term. Existing interpretive programming would need to shift throughout the park to accommodate interpretation at the gravesite. Installation of facilities such as waysides, benches, footpaths, driveway, and parking areas to accommodate visitation would require additional annual and cyclic maintenance. There could be a slight increase in administrative workload associated with review and oversight of Special Park Uses permit activities. Resource management activities would increase slightly with active invasive plant removal and management. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all park divisions.</p>	<p>Alternative 4 would result in direct, long-term, moderate adverse impacts to park operations. Existing interpretive programming would need to shift throughout the park to accommodate interpretation at the gravesite in addition to the opening and closing of the pedestrian gate 5 days/week. Installation of facilities such as the no more than 8-foot tall fence, footpaths and driveway to accommodate visitation would require additional annual and cyclic maintenance. There could be a slight increase in administrative workload associated with review and oversight of Special Park Uses permit activities. Resource management activities would increase slightly with active invasive plant removal and management. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all park divisions.</p>

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CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This section of the Strentzel-Muir Gravesite Plan Environmental Assessment describes the existing conditions (affected environment) and the potential impacts (environmental consequences) of each of the four alternatives (including the no action alternative) on each relevant resource topic. It is organized by impact topics, which allows a standardized comparison among alternatives, based on issues.

The resource descriptions provided in this chapter serve as a baseline with which to compare the potential effects of the actions considered in this EA. The Environmental Consequences portion of each impact topic analyzes both beneficial and adverse impacts that could result from implementing the alternatives described in Chapter 2. The analysis includes definitions of impact thresholds (negligible, minor, moderate, and major), methods used to analyze impacts, and the analysis methods used for determining cumulative impacts. A summary of the environmental consequences of each alternative is provided in Table 7 in Chapter 2.

IMPACT TOPICS CONSIDERED IN THIS PLAN

The following impact topics were identified during the public scoping/review process and by staff of John Muir National Historic Site. These topics are described and possible impacts to them are analyzed in this chapter.

- Cultural Resources
- Physical Resources
- Biological Resources
- Visitor Access and Experience
- Traffic and Circulation
- Human Health and Safety
- Park Operations

ENVIRONMENTAL CONSEQUENCES METHODOLOGY

General Methods of Impact Analysis

The NPS based the impact analyses and conclusions on scientific literature; information and insights provided by NPS experts, other agencies, the public, and best professional judgment.

For each impact topic, direct and indirect impacts are defined in terms of thresholds of effect, context, intensity, duration, and timing. Impacts and cumulative effects are discussed in each impact topic. Definitions of intensity levels vary by impact topic. Where it is not specifically stated otherwise under each impact topic, the following definitions apply.

Type: Describes the classification of impacts as:

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

- *Direct Impact:* An effect that is caused by an action and occurs at the same time and place as the action.
- *Indirect Impact:* An effect that is caused by the action and occurs later or farther away, but is still reasonably foreseeable.

Intensity: Describes the degree, level, or strength of an impact as negligible, minor, moderate, or major. Intensity is defined individually for each impact topic.

Duration: Describes the length of time an effect would last, either short-term or long-term.

- *Short-term* impacts are temporary, transitional, or construction-related impacts and the resources generally resume their pre-construction conditions following construction.
- *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period following construction.

Context: Context is the setting within which an impact would occur.

- *Local impacts* would generally occur within the immediate vicinity of the proposed project.
- *Regional impacts* would occur on surrounding lands and/or in adjacent communities.

CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations for implementing NEPA require the assessment of cumulative impacts in the decision-making process for federal actions. A cumulative impact is described in the Council on Environmental Quality, Regulation 1508.7, as, “*the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*”

Cumulative impacts are considered for both the No Action and Action alternatives; they were determined by combining the impacts of the alternative with other past, present, and reasonably foreseeable future actions. The following table lists actions that could result in cumulative impacts.

Table 8. Past, present, and future projects pertaining to gravesite

Action	Description	Resources Potentially Affected
Past Projects		
Alhambra Valley Specific Plan (1992)	Directs the development densities and type of development within the valley.	Visitor Use Traffic and Circulation
Strentzel Lane Flood and Sediment Reduction Project Environmental Assessment, 2002	Granted right-of-way to Contra Costa County to construct storm drain for Strentzel Creek within the 40'-wide utility corridor along the north part of the gravesite parcel—connecting Strentzel Creek to Alhambra Creek. A meandering channel was constructed upstream in Strentzel Meadow, and a storm drain was constructed downstream (passing through the gravesite). The storm drain continues to be maintained by the County, while the upstream channel is maintained by John Muir National Historic Site.	Physical Resources Park Operations Visitor Use

Environmental Assessment For a Right-of-Way Application for the Sewer Line Installation at the John Muir Gravesite, 2007	Granted right-of-way to Central Contra Costa Sanitary District (CCCSD) to construct a sewer line within the 40'-wide utility corridor along the north part of the gravesite parcel. The sewer line was constructed and continues to be maintained and accessed by CCCSD.	Biological Resources Physical Resources Park Operations Visitor Use
Present Projects		
Strentzel Meadow Native Plant Restoration	Replanting native vegetation and removing invasive plants in Strentzel Meadow	Biological Resources Physical Resources
Future Projects		
Strain Ranch/Mt. Wanda Comprehensive Management Plan	Comprehensive planning effort to identify watershed, vegetation, and visitor use management strategies for Strain Ranch, land adjacent to Mt. Wanda, expected to become part of John Muir National Historic Site in 2016.	Biological Resources Physical Resources Visitor Use Cultural Resources
Mt. Wanda Vegetation Management Strategy	Long-term strategy establishing desired conditions of natural and culturally significant vegetation. The strategy would also provide management guidelines, practices and tools to be used in vegetation management.	Biological Resources Physical Resources
Update of Long Range Interpretive Plan	Plan that outlines interpretive themes and interpretive programming for entire park.	Visitor Use
Alhambra Valley Road Scenic Corridor Improvement Plan	Contra Costa County and the City of Martinez have committed to producing a plan that dictates how the road supports bicycles, vehicles, and pedestrians while maintaining the scenic, historic, and agricultural character of Alhambra Valley.	Visitor Use Traffic and Circulation

CULTURAL RESOURCES

Affected Environment

Overall Historic Character of the Strentzel-Muir Gravesite

Although the 1.27 acres comprising today's Strentzel-Muir Gravesite were held successively by Karkin Ohlone Indians, Spanish colonial missions, and the family of Don Ignacio Martinez prior to the Strentzel-Muir family, there are no historic features today that carry associations with these earlier land holders. In contrast, the gravesite area includes many features that carry associations with the ownership of the land by the Strentzel-Muir family. Identification of the existing features, and determinations about what features are historic and thus contribute to the historic character of the Strentzel-Muir Gravesite and the larger National Historic Site including the Muir Home Site and Mt. Wanda, are documented in two reports, the *John Muir National Historic Site Cultural Landscape Inventory* (2004) and the *John Muir National Historic Site Cultural Landscape Report* (2005). According to these reports, the Strentzel-Muir Gravesite, though now encompassed within a suburban neighborhood, maintains a rural, serene feel in its creek-side setting, much like it did historically. Though historic garden plantings are gone, the relic pear orchard, specimen trees, and family burial plot still make the site a rare vestige of the Alhambra Valley of the 1800s. The Strentzel-Muir Gravesite parcel in its entirety is a contributing historic locale within the John Muir National Historic Site. The following is a compilation of all the existing features at the gravesite with an indication of whether they contribute to the significance of the historic property.

Cultural Landscape Resources

Circulation (roads, trails, paths)



Figure 7. Parking area and entrance: non-contributing – The parking area and entrance that form the end of Strentzel Lane as it joins the gravesite area were not present during the historic period (1849-1914) and are not historic. Historically, this area was planted and maintained as orchard land by Strentzel and Muir. Strentzel Lane was laid out in the 1960s when the orchard lands were subdivided and sold.

Vegetation



Figure 8. Remnant pear orchard: contributing – The gravesite area was the southern-most portion of a 12-acre parcel that Dr. John Strentzel purchased in 1853 and planted to pears not long after. John Muir assumed responsibility for these trees in 1881, at the point when he became ranch manager. Today, the orchard is comprised of a mixture of historic pears, the most accessible historic-period trees in the park, and replacement pear trees that have been planted in such a manner as to restore a remnant of the historic planting arrangement.



Figure 9. Eucalyptus: contributing – In addition to planting pears, Strentzel also planted eucalyptus and incense-cedars in the gravesite area. Muir referred to a eucalyptus tree, probably this one, as a guardian angel watching over the family graves. In 1914, Muir’s funeral service was held under the tree’s broad branches.



Figure 10. Incense-cedar, Blue Gum eucalyptus, and California Bay-Laurel: treated as contributing for this planning effort – Together with the eucalyptus described above, these trees form a row that may have served as the marker of the southern boundary of the 12-acre pear orchard.



Figure 11. Riparian Vegetation: non-contributing – Strentzel and Muir family diaries indicate that John Muir and family maintained and attempted to enhance native riparian vegetation, burning brush along the creek, and planting buckeyes, elderberry and willow. Today, the riparian corridor is a mixture of native and non-native vegetation.



Figure 12. Non-native vegetation near grave markers (Ponderosa pine, eucalyptus, hawthorn, incense-cedar, coast redwood, periwinkle): non-contributing – Plantings around the grave markers appear to have been garden-like during the period of significance, including rambling roses, bulbs, a variety of other plants and grass around the graves. The current mix of non-native vegetation in this area does not appear to bear resemblance to the historic plantings, and is considered non-contributing.



Figure 13. North and West Boundary Vegetation: non-contributing – Vegetation appearing at the north and west boundaries of the gravesite area appears to have been planted ca. 1960, around the time when the orchard lands were sub-divided. It is non-contributing and incompatible with the historic scene.

Structures



Figure 14. Strentzel Family Monument (John, Louisiana and John Henry Strentzel): contributing – The family gravesite was formally set out in 1890, at the death of Dr. John Strentzel, although it may have been established as early as 1857, when the Strentzels' only son, John Erwin, died. The family monument is an obelisk that sits upon a two-tiered base, all in granite. On it are inscribed the names of Strentzel, his wife Louisiana, and their son, John Erwin.



Figure 15. Strentzel Family Grave Markers (Johnnie, Lottie, Uncle Henry): contributing – Three Raymond granite (quarry from the Sierra foothills near Yosemite) headstones carry the names Johnnie (John Erwin), Lottie (the Strentzels’ daughter and sister of Louie, Muir’s wife), and Uncle Henry (brother of Dr. John Strentzel).



Figure 16. Granite cope (enclosure): contributing – Of Raymond granite, the cope surrounds the family burial ground and is interrupted by a four-foot wide, stepped entry way on the west side.



Figure 17. John and Louie Strentzel Muir Grave Markers: contributing – Black Academy granite (quarry from the Sierra foothills near Fresno) sit upon Raymond granite bases and mark the burial places of the pair.



Figure 18. Hanna Family Grave Markers (Wanda Muir Hanna and Tom Hanna): contributing – Two granite markers indicate the burial place of Wanda Muir Hanna, the Muirs' oldest daughter and her husband, Tom Hanna.

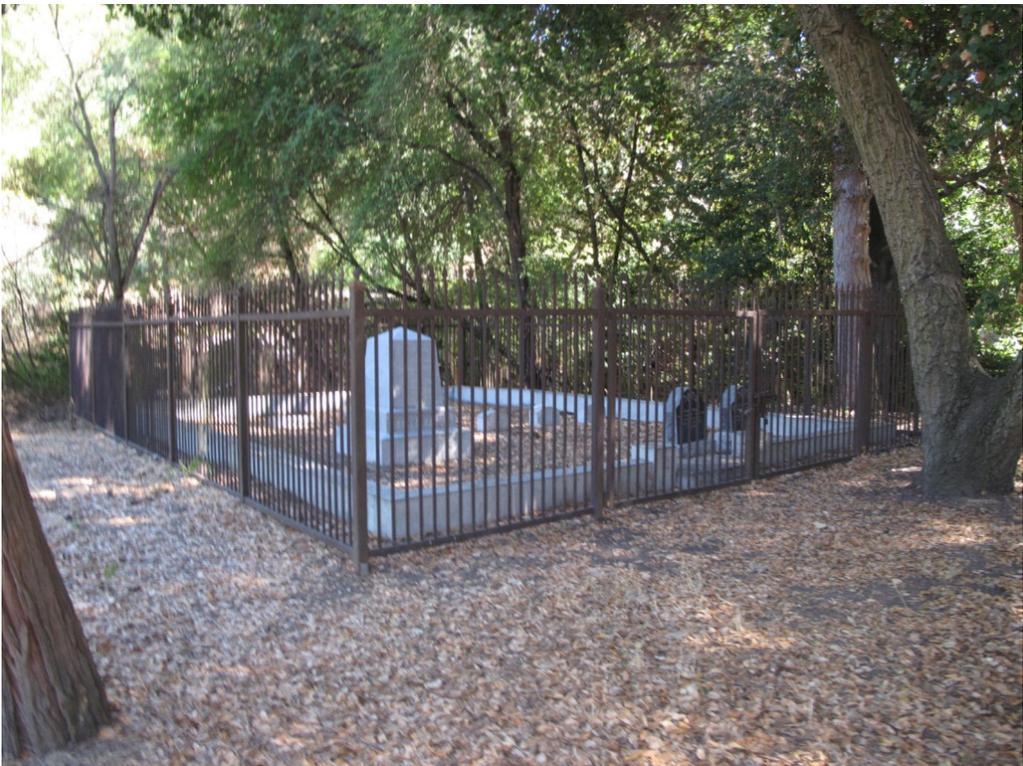


Figure 19. Picket fence and gate: non-contributing – John Hanna, son of Wanda and Tom Hanna, constructed a cyclone fence around the family burial plot in the 1960s to protect the site from vandalism. That fence was replaced sometime after 1993 with this iron picket fence, constructed by the American Land Conservancy.

Archeological Resources

As stated earlier, no above-ground features carrying associations with any of the earlier land holders (Karkin Ohlone, Spanish colonials and Martinez family) exist at the site today. Before drawing the conclusion that there are no historic properties or cultural resources associated with these past land holders at the Strentzel-Muir Gravesite, however, the NPS had to consider if archeological properties existed at the site that were associated with any of them.

In order to do this the NPS undertook three tasks. One, we submitted an information request to the California Historical Resources Information System, Northwest Office, the state’s official repository of historic property records, learning from that Office that there are no archeological sites of any kind at the site. Two, we submitted an information request to the California Native American Heritage Commission, learning from that Office that there are no Native American sacred sites. Three, NPS archeologists undertook an archeological surface survey of the Strentzel-Muir Gravesite, walking the area in 10-meter transects, carefully examining the entire ground surface in the process. This field survey revealed no archeological sites or objects on the ground surface related to the early land holders of the gravesite area.

As a result of these efforts, we have concluded that there are no archeological sites at the Strentzel-Muir Gravesite associated with Karkin Ohlone, Spanish colonial and Martinez family ownership of the area. There is the possibility that archeological deposits associated with these land owners exist beneath the ground surface, but we determined that sub-surface investigation was not warranted by the documentary and field information available.

As already demonstrated, the Strentzel-Muir Gravesite embodies rich associations with the Strentzel-Muir period of land ownership. Despite these associations, our archeological research efforts also yielded no evidence of Strentzel-Muir archeological deposits in the area.

Cultural Resources Environmental Consequences

Methodology. The tables below define the range of potential NEPA impact findings and the methodology for arriving at those impact findings for cultural resources. The NEPA impact findings presented below for the four alternatives were arrived at by employing the methodology described in these tables.

Table 9. Cultural Landscape Methodology

Context	Negligible	Minor	Moderate	Major	Duration
<p>Local impacts - Would generally occur within the immediate vicinity of the proposed project.</p> <p>Regional impacts - Would occur on surrounding lands and/or</p>	<p>Impact(s) is at the lowest levels of detection – barely perceptible and not measurable.</p>	<p>Adverse impact – Impact(s) would not affect the character defining patterns and features of a National Register of Historic Places eligible or listed cultural landscape (i.e. historic landscape).</p> <p>Beneficial impact – Preservation of</p>	<p>Adverse impact – Impact(s) would alter a character defining pattern(s) or feature(s) of the cultural landscape but would not diminish the integrity of the landscape to the extent that its National Register eligibility is jeopardized.</p>	<p>Adverse impact - Disturbance of a site(s) diminishes the significance and integrity of the site(s) to the extent that it is no longer eligible to be listed in the National Register.</p> <p>Beneficial impact - Active intervention to preserve an</p>	<p>Short-term – Effects lasting less than one year .</p> <p>Long-term – Effects lasting greater than one year or permanent.</p>

Chapter 3: Affected Environment and Environmental Consequences

in adjacent communities.		character defining patterns and features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes</i> .	Beneficial impact – Rehabilitation of a landscape or its patterns and features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes</i> .	endangered site(s) or enhance the character of a site through restoration activities.	
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Table 10. Archeological Resources Methodology

Context	Negligible	Minor	Moderate	Major	Duration
Local impacts - Would generally occur within the immediate vicinity of the proposed project.	Impact is at the lowest levels of detection - barely measurable with no perceptible consequences, either adverse or beneficial, to archeological resources.	Adverse impact - Disturbance of a site(s) results in little, if any, loss of significance or integrity and the National Register eligibility of the site(s) is unaffected.	Adverse impact - Disturbance of a site(s), but not to the extent that its National Register eligibility is jeopardized.	Adverse impact - Disturbance of a site(s) diminishes the significance and integrity of the site(s) to the extent that it is no longer eligible to be listed in the National Register.	Short-term - Effects lasting less than one year. Long-Term - Effects lasting greater than one year or permanent.
Regional impacts - Would occur on surrounding lands and/or in adjacent communities.		Beneficial impact - Maintenance and preservation of site(s).	Beneficial impact - Stabilization of site(s).	Beneficial impact - Active intervention to preserve endangered site(s).	

The following sections describe and document the environmental consequences that the four alternatives under consideration would have upon the cultural resources at the Strentzel-Muir Gravesite.

As previously stated, determinations about what features are historic and thus contribute to the historic character of the Strentzel-Muir Gravesite were documented in two reports, the *John Muir National Historic Site Cultural Landscape Inventory* (2004) and the *John Muir National Historic Site Cultural Landscape Report* (2005). In 2004, the California State Historic Preservation Office (SHPO) concurred with the NPS *Cultural Landscape Inventory* findings concerning what features are historic and thus contribute to the significance of the National Historic Site. These are the properties that comprise the cultural resources Affected Environment. In addition to further documenting the historic landscape, the *Cultural Landscape Report* established recommendations for the treatment of the landscape throughout the park, including at the gravesite. In 2005 the SHPO reviewed these recommended treatments and concurred with the NPS

conclusion that implementation of the treatments would not adversely affect John Muir National Historic Site.

The following actions summarize the major recommended treatments for the Strentzel-Muir Gravesite described in the *Cultural Landscape Report*:

- Overall, maintain the serenity and rural feel of the area.
- If the site is opened to visitation, then the informal access and parking area that spurs off of Strentzel Lane should be improved in a compatible way.
- A survey should be conducted to establish the boundary of the Strentzel-Muir Gravesite area, and a compatible fence delineating the boundary should be installed.
- Existing historic vegetation should be preserved, and missing historic vegetation should be re-introduced to enhance the historic appearance of the area.
- The remnant pear orchard should be preserved and the grid pattern of the historic orchard should be restored through the replanting of new pear trees matching the historic trees.
- Eucalyptus and other historic specimen trees should be preserved.
- Gravesite headstones should be preserved.
- Alhambra Creek should be monitored and kept stable, and the riparian zone should be maintained and enhanced as a native vegetation area.
- If constructed with materials that are compatible with the historic scene, an access trail from the parking area to the burial ground, though not preferred, would be acceptable.

These recommendations have been included in this part of the EA to serve as a set of benchmarks to assist in measuring the impacts of the various actions being proposed.

Environmental Consequences – Alternative 1, No Action Alternative

Cultural Landscape

Circulation – During its period of historic significance (1849-1914), the Strentzel-Muir Gravesite did not include any circulation features—roads, trails or paths. The site today remains free of circulation features except for an informal, unpaved road spur and parking area that connects Strentzel Lane with the pear orchard and burial plot that comprise the gravesite. This road spur and parking area is not historic and thus does not contribute to the historic character of the area. In fact, as a visual intrusion on the edge of the historic scene, it detracts a small measure of the area’s vegetated character. Under the no action alternative, which would continue the practice of not allowing visitation to the Strentzel-Muir Gravesite, the road spur and parking area would remain as is and serve solely as an area for NPS service vehicle parking. While the NPS did not construct this non-historic feature, its deliberate decision to leave the road spur and parking area in place under the No Action Alternative would have a small negative effect on the gravesite area. In NEPA terms, the impact would be direct, local, minor, adverse and long-term.

Vegetation – The treatment of vegetation under the no action alternative would be largely consistent with the 2005 *Cultural Landscape Report* recommendations. Consistent with these recommendations, historic vegetation would be maintained and preserved. This would include preservation and enhancement of the pear orchard and preservation of specimen trees. Also consistent with the recommendations, select non-historic vegetation would be removed, riparian vegetation would be maintained and enhanced, and missing historic vegetation would be replaced in kind, but not to the extent in this alternative when compared to the other two alternatives. The impacts would be direct, local, minor, beneficial and long-term.

Structures – The historic grave markers would be maintained and preserved under this alternative. Additionally, the non-historic fence enclosure around the burial ground, which was deemed compatible with the historic scene in the *Cultural Landscape Report*, would be maintained and preserved. These treatments are consistent with the 2005 recommendations. The impacts would be direct, local, moderate, beneficial and long-term.

Introduction of non-historic features to the gravesite area – Under this alternative there are no plans to introduce new, non-historic features into the area, therefore there would be no impact.

Archeology

As described in the Affected Environment section, research and field investigations have revealed no archeological resources at the Strentzel-Muir Gravesite. Ground-disturbing activities under this alternative would be minimal, and when they occur would be overseen by an archeological monitor. The NEPA finding is no impact to archeological resources.

Overall Environmental Consequences for the No Action Alternative

Overall, the No Action Alternative would affect the Strentzel-Muir Gravesite cultural landscape and archeological resources through a number of actions that the NPS would implement at the site. Considered together, the overall effect of these actions would be direct, local, minor, beneficial and long-term.

Cumulative Impacts for the No Action Alternative

When the impact of the No Action Alternative on cultural resources is considered together with the present and potential impacts of the nearby projects listed in Table 8 in this chapter, the impact finding is unchanged. The projects listed in Table 8 have had (or would have) negligible impact on cultural resources. Therefore, the cumulative impacts on cultural resources at the gravesite due to the No Action Alternative in combination with the projects listed in Table 8 would be direct, local, minor, beneficial, and long-term.

Environmental Consequences – Alternative 2

Cultural Landscape

Circulation – Under this alternative, which would allow pedestrian, bicycle and NPS shuttle-led visitation, the non-contributing informal road spur and parking area would be redesigned as a compatible park entrance at this small, serene location. In order to accommodate one NPS service vehicle parking space and one NPS visitor shuttle parking space and turn-around area, the road spur would be lengthened and reconfigured. Its surface would be upgraded from compacted earth to decomposed granite or some similar natural material. In addition to this redesigned road spur and parking area, a new 5-foot wide accessible trail, also of natural material, would run out and back through the historic orchard, joining the parking area and the Muir family burial plot. This improved road spur, parking area and trail would detract from the historic scene by converting the ground that it covers from a weedy, annual grass mix to a paved surface. In assessing the environmental consequence of these circulation changes on the historic landscape it is important to recall that the 2005 *Cultural Landscape Report* recommendations called for these types of improvements, although it should be noted that a trail was deemed acceptable but not preferred in the report. Further, the majority of the area that would be converted from grass cover to natural paving is currently a compacted-earth utility corridor, the character of which is more weedy and disturbed than meadow-like. Accordingly, as the visitor arrival area improvements would be mitigated by the use of natural, compatible materials as well as the development of an overall design that would enhance the vegetated appearance and feel of the rural landscape, the impacts on historic circulation would be direct, local, minor, adverse and long-term.

Vegetation – The treatment of vegetation under this alternative would be consistent with the 2005 *Cultural Landscape Report* recommendations. In line with these recommendations, historic

vegetation would be maintained and preserved. This would include preservation and enhancement of the pear orchard and preservation of specimen trees. Also consistent with the recommendations, select non-historic vegetation would be removed, riparian vegetation would be maintained and enhanced, and missing historic vegetation would be replaced in kind. Under this alternative, non-historic border screening vegetation would be replaced with vegetation that is more compatible with the character of the area, with the promise of enhancing the historic appearance and feel of the area. The impacts on historic vegetation would be direct, local, moderate, beneficial and long-term.

Structures – Environmental consequences are the same for this alternative as they are for the No Action Alternative.

Introduction of non-historic features to the gravesite area – As discussed in the Circulation section, in order to accommodate pedestrian, bicycle and NPS shuttle-led visitation, this alternative would improve the existing road spur and parking area and introduce a trail that would connect the parking area with the family burial plot. In addition to the circulation changes, this alternative also would introduce a minimum level of amenities and furnishings to the site. Where the improved road spur and Strentzel Lane join, an NPS gate with locking mechanism would replace the current post/chain gate to prohibit unauthorized vehicle entry. Near this location, bike parking would be accommodated through installation of a bike rack. Adjacent to the parking area, a kiosk would welcome visitors to the site and provide park information. Fences, compatibly designed and low-profile, would demarcate the boundaries between NPS and neighbor properties and prohibit visitors from entering sensitive native habitat areas. Because they are minimal in number, would be designed to be compatible with the site and would be balanced by design measures that would enhance the historic character of the area, the impacts to the cultural landscape would be direct, local, minor, adverse and long-term.

Archeology

Environmental consequences are the same for this alternative as they are for the No Action Alternative. There would be no impact to archeological resources.

Overall Environmental Consequences for Alternative 2

Overall, as described above, Alternative 2 would affect the Strentzel-Muir Gravesite cultural landscape and archeological resources through a number of actions that the NPS would implement at the site. Considered together the overall effect of these actions on cultural resources would be direct, local, moderate, beneficial and long-term.

Adaptive Management Environmental Consequences for Alternative 2

If pedestrian access for six hours every day causes a documented adverse effect (i.e., vandalism) to cultural resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. Also, if through monitoring, it is found that the perimeter fence material and design (or other site furnishings) are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials which could intrude more on the historic setting than less robust furnishings. Overall, even with these adaptive management strategies, Alternative 2 would have a direct, local, minor, beneficial and long-term impact.

Cumulative Impact for Alternative 2

When the impact of Alternative 2 on cultural resources is considered together with the present and potential impacts of the nearby projects listed in Table 8 in this chapter, the impact findings are unchanged. The projects listed in Table 8 have had (or would have) negligible impact on cultural resources. Therefore, the cumulative impacts on cultural resources at the gravesite due to Alternative 2 in combination with the projects listed in Table 8 would be direct, local, moderate, beneficial, and long-term in NEPA terms.

Environmental Consequences – Alternative 3

Cultural Landscape

Circulation – Under this alternative, where pedestrian, bicycle, private vehicle and NPS-led shuttle visitation would be allowed, the non-contributing informal road spur and parking area would be redesigned as a compatible park entrance at this small, serene location. In order to accommodate one standard visitor parking space, one van-accessible visitor parking space and one NPS visitor shuttle parking space and turn-around area, the road spur would be lengthened and reconfigured, with its footprint being slightly larger than in Alternative 2. Its surface would again be upgraded from compacted earth to decomposed granite or similar natural material. In addition to this redesigned road spur and parking area, a new 5-foot wide accessible trail, also of natural material, would connect the parking area and the Strentzel-Muir burial plot. The trail in this alternative would be a loop, not an out and back. As with Alternative 2, this alternative would detract from the vegetated character of the area, intruding just a little bit more into the historic scene and converting the ground that it covers from a weedy, annual grass mix to a paved surface. In assessing the environmental consequence of these circulation changes on the historic landscape it is again important to recall that the 2005 *Cultural Landscape Report* recommendations called for these types of improvements, although it should be noted that a trail was deemed acceptable but not preferred in the report. Further, the majority of the area that would be converted from grass cover to natural paving is currently a compacted-earth utility corridor, the character of which is more weedy and disturbed than meadow-like. Accordingly, as their introduction into the area would be mitigated by the use of natural, compatible materials as well as the development of an overall design that would enhance the vegetated appearance and feel of the rural landscape, the impacts to historic circulation would be direct local, minor, adverse and long-term.

Vegetation – The treatment of vegetation under this alternative would be consistent with the 2005 *Cultural Landscape Report* recommendations. Historic vegetation would be maintained and preserved including preservation and enhancement of the pear orchard and preservation of specimen trees. Also consistent with the recommendations, select non-historic vegetation would be removed, riparian vegetation would be maintained and enhanced, and missing historic vegetation would be replaced in kind. Under this alternative, non-historic border screening vegetation would be replaced with vegetation that is more compatible with the character of the area, with the promise of enhancing the historic appearance and feel of the area. Impacts on historic vegetation would be direct, local, moderate, beneficial and long-term.

Structures – Environmental consequences are the same for this alternative as they are for the No Action Alternative.

Introduction of non-historic features to the gravesite area – As discussed in the Circulation section, in order to accommodate pedestrian, bicycle, private vehicle and NPS shuttle-led visitation, this alternative would improve the existing road spur and parking area and introduce a trail that would connect the parking area with the family burial plot. In addition to the circulation changes, this alternative would introduce a fuller program of amenities and furnishings than Alternative 2. As in Alternative 2 bike parking would be provided and a kiosk would welcome visitors to the site and provide park information. This alternative would also add two benches and a trash container to provide greater visitor service. Fences, compatibly designed but with less concern with profile in this alternative vs. Alternative 2, would demarcate the boundaries between NPS and neighbor properties and prohibit visitors from entering sensitive native habitat areas. Additionally, the loop trail in this alternative would be furnished with a small number of interpretive waysides where the trail in Alternative 2 had none. These non-historic features introduced into the landscape would again be designed to be compatible with the site and would be balanced by design measures that would

enhance the historic character of the area. Impacts to the cultural landscape would be direct, local, minor, adverse and long-term.

Archeology

Environmental consequences are the same for this alternative as they are for the No Action Alternative. There would be no impact to archeological resources.

Overall Environmental Consequences for Alternative 3

Overall, as described above, Alternative 3 would affect the Strentzel-Muir Gravesite cultural landscape and archeological resources through a number of actions that the NPS would implement at the site. Considered together, the overall effect of these actions on cultural resources would be direct, local, minor, beneficial and long-term. The difference between this finding and the environmental consequences for Alternative 2 (direct, local, moderate, beneficial and long-term) is due to the increased number of visitor amenities that would be installed at the site under this alternative.

Adaptive Management Environmental Consequences for Alternative 3

If vehicle and pedestrian access every day of the week causes a documented adverse effect (i.e., vandalism) to cultural resources due to increased public access, then management action (such as a reduction in open access hours) could be taken to mitigate the impact. Also, if through monitoring, it is found that the perimeter fence material and design (or other site furnishings) are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials which could intrude more on the historic setting than less robust furnishings. Overall, even with these adaptive management strategies, Alternative 3 would have a direct, local, minor, beneficial and long-term impact.

Cumulative Impact for Alternative 3

When the impact of Alternative 3 on cultural resources is considered together with the present and potential impacts of the nearby projects listed in Table 8 in this chapter, the impact findings are unchanged. The projects listed in Table 8 have had (or would have) negligible impact on cultural resources. Therefore, the cumulative impacts on cultural resources at the gravesite due to Alternative 3 in combination with the projects listed in Table 8 would be direct, local, minor, beneficial, and long-term.

Environmental Consequences – Alternative 4

Cultural Landscape

Circulation – Environmental consequences under this alternative are the same as Alternative 2.

Vegetation – Environmental consequences under this alternative are the same as Alternative 2.

Structures – Environmental consequences under this alternative are the same as under the No Action Alternative.

Introduction of non-historic features to the gravesite area – Actions under this alternative are the same as under Alternative 2, with one exception. The exception concerns fencing. Under this alternative, the entire gravesite area would be surrounded by a fence that would be no more than 8-feet tall and of welded-wire mesh, designed to be see-through and compatible with the rural historic character of the landscape while greatly minimizing the ability to access the site while closed. This perimeter fence would serve to minimize unauthorized visitation. Due to the construction of the surrounding fence under alternative 4, the impacts to the cultural landscape would be direct, local, moderate, adverse and long-term (vs. direct, local, minor, adverse and long-term for Alternative 2).

Archeology

Environmental consequences are the same for this alternative as they are for the No Action Alternative. There would be no impact to archeological resources.

Overall Environmental Consequences for Alternative 4

Overall, as described above, Alternative 4 would affect the Strentzel-Muir Gravesite cultural landscape and archeological resources through a number of actions that the NPS would implement at the site. Considered together the overall effect of these actions on cultural resources would be direct, local, minor, beneficial and long-term.

Adaptive Management Environmental Consequences for Alternative 4

If pedestrian access for six hours every weekday causes a documented adverse effect (i.e., vandalism) to cultural resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. Also, if through monitoring, it is found that the perimeter fence material and design (or other site furnishings) are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials which could intrude more on the historic setting than less robust furnishings. Overall, with these adaptive management strategies, Alternative 4 would have a direct, local, minor, beneficial and long-term impact.

Cumulative Impact for Alternative 4

When the impact of Alternative 4 on cultural resources is considered together with the present and potential impacts of the nearby projects listed in Table 8 in this chapter, the impact findings are unchanged. The projects listed in Table 8 have had (or would have) negligible impact on cultural resources. Therefore, the cumulative impacts on cultural resources at the gravesite due to Alternative 4 in combination with the projects listed in Table 8 would be direct, local, minor, beneficial, and long-term in NEPA terms.

PHYSICAL RESOURCES

Affected Environment

The physical resources at the gravesite include the geology, soils, water, and soundscape. The bedrock geology of the gravesite consists of marine and near shore sediments. The soil found at the Strentzel-Muir Gravesite is Botella series clay loam, which is commonly found in alluvial fans and floodplains. Permeability and drainage of this soil is moderate to good, and plant roots can penetrate more than 60 inches. Under normal circumstances and with the slopes found at the grave site, this soil's runoff potential is slow and its vulnerability to erosion is none to slight (Welch 1977). The Strentzel-Muir family gravesite is located within the 27-square kilometer Alhambra Creek Watershed. Alhambra Creek delineates the southeastern border of the gravesite, and then continues north into the Carquinez Strait. The creek flows seasonally from December to April, with sharply higher flows during and immediately following significant rainstorms. Although some down-cutting (incision) of the creek bank at the gravesite appears to have occurred historically, current data shows that within the last ten years the creek bank has not experienced erosion, and may in fact have slightly aggraded in certain locations (Denn and Villalba, 2013). Strentzel Creek drains from the headwaters near the summit of Mt. Wanda and eventually into Alhambra Creek via a storm drain and culvert that runs under the north portion of the gravesite. The alluvial fan (lower segment) of Strentzel Creek, which historically included the area where the gravesite now lies, likely functioned as a floodplain. Development adjacent to and surrounding the gravesite has altered this functionality. The final reach of Strentzel Creek is contained in a county-owned underground culvert passing through the gravesite and connecting to (via culvert outfall) Alhambra Creek at the gravesite boundary.



Figure 20. Alhambra Creek during a rainstorm; image shows dense non-native vegetation (English ivy and periwinkle) and native vegetation (California blackberry, poison-oak).

Physical Resources Environmental Consequences

Methodology

Physical resource analysis was based on a qualitative assessment of generalized physical resource types and typical effects of the type of impact described.

Types of Impacts:

Activities that result in adverse physical resource impacts include the construction of structures, parking areas, and accessible paths that alter soil conditions, drainage patterns and levels of sediment in run-off. Beneficial impacts would protect physical resources from erosion and/or restore natural physical conditions.

Alternative 1 (No Action):

Under Alternative 1 (No Action) there would be no new impacts to soils. Continued monitoring of the creek would document changes, if any, over time. Very little ground disturbance would occur at the site. The No Action Alternative would have direct, local, long-term, negligible, beneficial impacts on physical resources.

Cumulative Impacts

Cumulative effects on physical resources are based on analysis of past, present and reasonably foreseeable future actions within the project area in combination with the potential effects of this alternative. Past actions that would impact physical resources include the *Strentzel Lane Flood and Sediment Reduction Project* in 2002 and the *Environmental Assessment for a Right-of-Way Application for the Sewer Line Installation at the John Muir Gravesite* in 2007. Both of these actions addressed issues of erosion and flooding in the lower portion of the Strentzel Creek watershed. The only action in the reasonably foreseeable future that could impact physical resources is implementation of aspects of the Strain Ranch/Mt. Wanda Comprehensive Management Plan. However, specifics of this plan are yet to be developed. Past, present and reasonably foreseeable future actions within the project area in combination with the potential effects of the No Action Alternative would result in direct, local, long-term, minor, beneficial impacts to physical resources.

Alternatives 2, 3, and 4:

Under Alternatives 2, 3, or 4 minimal levels of ground disturbance would continue in the long-term. Construction of an accessible path, shuttle parking area, and boundary fence would cause some short-term disturbance. Restoration of native perennial vegetation with strong, deep roots would enhance soil stability around the riparian area providing protection of the creek bank. Installation of an accessible path would focus foot traffic to a single route, minimizing soil compaction in the rest of the site. Visitor access with private vehicles would be limited, as would permitted special use events. Therefore, Alternatives 2, 3, and 4 would have a direct, local, long-term, minor beneficial impact on physical resources.

Cumulative Impacts

Past, present and reasonably foreseeable future actions within the project area would result in regional, long-term, minor, beneficial impacts to physical resources while implementation of Alternatives 2, 3, or 4 would have long-term, local, minor, beneficial impacts. Thus, the cumulative actions in combination with Alternatives 2, 3, or 4 would result in a direct, local, long-term, beneficial impact to physical resources.

BIOLOGICAL RESOURCES

Affected Environment

John Muir National Historic Site supports an ecologically rich diversity of biological species and is comprised of hills and valleys in the coastal ranges of California, where the vegetation-growing season fluctuates between 200 to 300 days. The Strentzel-Muir Gravesite hosts dense riparian vegetation, with a canopy of evergreen and deciduous trees such as California buckeye, willow, and oaks, and an understory of native poison-oak and California blackberry, and several invasive non-native plants including periwinkle, English ivy, and Himalayan blackberry. Although covering a small area, John Muir National Historic Site supports diverse wildlife species, especially along this riparian corridor, typical of the San Francisco Bay Area wildland-urban interface. Mule deer pass through the gravesite area occasionally, and bobcat and mountain lion sightings have been reported nearby on Mt. Wanda. Other common, midsized to large vertebrate species include coyote, striped skunk, raccoon, and gray fox (Fellers, et. al. 2004), although the residential development adjacent to the gravesite likely reduces the presence of the more reclusive species.

Biological Resources Environmental Consequences

Methodology: Impact analysis on biological resources was based on a qualitative assessment of the gravesite and the effects anticipated as a result of changes to site maintenance, re-vegetation, invasive species control, existence of wildlife habitat, and visitor use.

Types of Impact: Activities that disrupt the natural ecology and integrity of native plant communities, ground disturbance that can disrupt native plant communities and inhibit control of invasive species, and construction activities and human visitation promoting importation of non-native seeds, trampling of vegetation and/or directly removing, relocating or affecting wildlife by altering wildlife foraging, mating and nesting behavior or wildlife habitat are considered adverse impacts. Mitigation measures including minimizing ground disturbance, revegetation using native species, mulch, or other stabilizing materials and monitoring the site for new invasive plant infestations minimizes such adverse impacts. Actions that preserve and/or restore vegetation continuity, native plant integrity, and wildlife habitat constitute beneficial impacts.

Alternative 1- No Action

Under the No Action Alternative, there would continue to be insufficient staff to reduce and contain invasive plants and promote native vegetation at the site, particularly along the riparian area and some of the site perimeter. This would lead to a gradual spread of invasive plants and the suppression of native vegetation over time. A small amount of trampling would continue to occur from visitors, due to the lack of designated footpaths, boundary markers and NPS presence on site. Introduction of new, non-native plant species would continue to occur, impacting the integrity of wildlife habitat. Alternative 1 would have a direct, local, long-term minor adverse impact on biological resources.

Cumulative Impacts

Cumulative effects to biological resources are based on analysis of past, present and reasonably foreseeable future actions within the project area in combination with the potential effects of this Alternative. A past action that impacted biological resources is the *Right-of-Way Application for the Sewer Line Installation at the John Muir Gravesite in 2007*, while present actions include the Strentzel Meadow native plant re-vegetation efforts and Mt. Wanda invasive plant removal, and reasonably foreseeable future actions may include the Strain Ranch/Mt. Wanda Comprehensive Management Plan and the Mt. Wanda Vegetation Management Strategy, with improved native plant continuity and wildlife habitat. These past, present and reasonably foreseeable future actions within the project area would result in a direct, regional, long-term minor beneficial impact. The cumulative actions in combination with Alternative 1 would result in a direct, local, long-term, negligible beneficial impact to biological resources.

Alternatives 2 and 3

Alternatives 2 and 3 call for an increased effort to reduce and contain invasive plants and restore native vegetation, particularly along the riparian corridor and site perimeter. This would include monitoring native and invasive species populations, and active management to promote the spread of native plants and the re-establishment of other native species that are appropriate to the site. Such efforts would enhance ecosystem function. Both of these action alternatives would increase human presence at the gravesite which could further favor human-tolerant animals and discourage species sensitive to the presence of people. Both of these action alternatives would establish designated footpaths which would reduce the likelihood of vegetation trampling by visitors. Restoration of native vegetation along the riparian corridor would improve the overall condition of wildlife habitat at the gravesite. Therefore, Alternatives 2 or 3 would have a local, long-term, minor beneficial impact to biological resources.

Cumulative Impacts

Past, present and reasonably foreseeable future actions within the gravesite area would result in direct, local, long-term, minor adverse impacts to biological resources while implementation of Alternatives 2 or 3 would have local, long-term, minor beneficial impacts. The cumulative actions in combination with Alternatives 2 or 3 would result in a direct, local, long-term, minor beneficial cumulative impact to biological resources.

Alternative 4

Alternative 4 calls for a similar level of restoration of riparian habitat as in Alternatives 2 and 3, which would enhance wildlife habitat and other ecological benefits. Additionally, Alternative 4 would allow greater, long-term protection to the riparian habitat with physical barriers, if determined to be necessary to maintain healthy riparian habitat. Therefore, Alternative 4 would have local, long-term, moderate beneficial impact to biological resources.

Cumulative Impacts

Past, present and reasonably foreseeable future actions within the gravesite area would result in direct, local, long-term, minor adverse impacts to biological resources while implementation of Alternative 4 would have local, long-term, minor beneficial impacts. The cumulative actions in combination with Alternative 4 would result in a direct, local, long-term, minor beneficial cumulative impact to biological resources.

VISITOR EXPERIENCE AND ACCESS

Visitor access and experience at John Muir National Historic Site is guided by the park's purpose which calls for memorializing and connecting people with John Muir's legacy. The ability for visitors to connect with Muir's legacy is dependent on a number of factors, including the availability of a range of recreational and interpretive opportunities throughout the park as well as the ability for a diverse array of visitors to access these opportunities.

Affected Environment

Visitor Experience

John Muir National Historic Site offers visitors a broad spectrum of education and recreation opportunities while exploring Muir's historic home and remnants of his ranch. Visitors are able to enjoy the house and grounds, through guided or self-guided tours. A short film is provided at the visitor center, and the grounds offer educational wayside exhibits and opportunities for picnicking within the orchards. Mt. Wanda provides opportunities for hiking, photography, birdwatching, and other forms of nature study. The park's Interpretation, Outreach, and Education Division provides a wide array of programs throughout the house site and Mt. Wanda, including daily public tours, curriculum-based school programs, nature and wildflower hikes, family campfire programs, full moon walks, and large special events. Every individual visitor to John Muir National Historic Site brings unique expectations, physical abilities, and backgrounds, and therefore has a unique experience.

Currently no interpretive programs occur at the gravesite; only drop in visitors come to the site, typically in small groups. Visitors drive into and park in the unpaved driveway, walk, or bicycle to the gravesite. Although the site is naturally flat, located on the broad alluvial fan of Strentzel Creek, there are no paths or parking areas that are accessible to visitors with disabilities.

The small parcel has retained its rural, historic character providing an ideal backdrop for the desired contemplative visitor experience. This experience, fitting of a gravesite, fosters reverence and opportunities to quietly reflect on Muir's life and legacy. Because the gravesite still contains remnants of the original pear orchard and large trees such as the eucalyptus, oak, incense-cedar, and riparian vegetation that were present during Muir's time period, visitors are able to immerse themselves in a past era and begin to imagine the Alhambra Valley at a time when it was covered in orchards instead of residential neighborhoods.

Although the historic scene beyond the gravesite has been altered over the decades with the addition of homes and ornamental landscaping, there are some borrowed views that continue to contribute to the

original agricultural landscape. Looking eastward across Alhambra Creek visitors see a steeply rising hillside densely covered in oak-woodland vegetation, similar to what was present historically. Views of the neighboring property to the south are also characteristic of what would have been present during Muir's time, including historic pear trees that once connected with Dr. Strentzel's orchard on the gravesite parcel.

The natural soundscape of the John Muir family gravesite is generally peaceful and also contributes to the solemnity of the setting. Throughout the year a variety of ambient natural sounds can be heard from within the gravesite property. Birds calling and wind rustling through the riparian vegetation that lines the creek are common sounds, as is the characteristically gentle whispering sound of wind passing through the historic conifers and eucalyptus. Alhambra Creek can be a formidable source of natural sound during the rainy season.

Visitor Access

Historically large gatherings including members of the Muir family, the Sierra Club, local historians, and the John Muir Memorial Association, came to the gravesite to commemorate Muir. These pilgrimages launched the effort to fight for and achieve recognition of Muir's legacy, culminating in the designation of John Muir National Historic Site as a unit of the national park system in 1964.



Image Courtesy of John Muir NHS, JOMU 4880 H1-99c

Figure 21. Circa 1935 Muir commemoration event.

Today, John Muir National Historic Site is open to the public seven-days per week from 10am-5pm. In terms of visitor access to the gravesite, the NPS does not currently disclose the location of the gravesite in any form (website, printed media, or verbally). On a typical week, one or two visitors at the house site ask park rangers where John Muir is buried; rangers will say "in Martinez," but do not give directions or more specific information. Other websites such as the Sierra Club and the University of the Pacific mention the gravesite but refer inquiries regarding its location to NPS staff. A simple internet search yields multiple websites that provide easy to follow directions to the gravesite. None of these websites are affiliated with the National Park Service.

The NPS does not currently provide interpretive tours at the gravesite. There are very rare visits by special request and approval by the Superintendent, as well as occasional visits by Muir family members. Additionally, there is unmonitored visitation by the public, as noted by neighbors and park staff, but exact numbers of people visiting is unknown. The GMP for John Muir National Historic Site projected that the gravesite would receive 5-10 visitors per day once the NPS acquired it. The GMP projected that by 2020, that figure would double (10-20 visitors per day). However, observations in the field suggest the GMP numbers are significantly higher than reality.

From May 20, 2013 to June 3, 2013 a video camera was aimed at the small parking area in front of the chain “gate” at the gravesite, in an effort to estimate how many people visit the gravesite during a two week period. People who frequented the gravesite or parked in the parking area included visitors, park staff, and utility employees. The data shows that only eight individuals (excluding park and utility staff) came to, or passed through the gravesite property during these two weeks. Among these eight visitors were a number of gravesite neighbors riding bikes or walking through the property but not necessarily visiting the site. More data would need to be gathered to better quantify how many people come to the property expressly for the purpose of visiting the gravesite of John Muir and his family, but the data collected does *not* support the 1991 General Management Plan projections of 5-10 visitors per day.

Neighbors have noted that occasional late-night parties come to the gravesite, typically leaving their trash behind and disturbing the neighborhood. One neighbor noted that these occurrences have diminished since the Strentzel Lane access from Alhambra Valley Road was eliminated by the land-owner a few years ago. Because the gravesite is tucked away at the end of an obscure access-driveway, surrounded by fairly large single-family home parcels, and has no directional signage leading to it, the gravesite is difficult to find even when visitors have a map directing them to the site. Neighbors have remarked that visitors drive and park along Sheridan Lane, Wanda Way, and Strentzel Lane in search of the gravesite, often asking residents for directions, and sometimes trespassing on their private land.

Environmental Consequences

Methodology. This analysis evaluates the quality of visitor experiences in terms of how they might be altered as a result of the action alternatives. Professional judgment was applied to reach reasonable conclusions as to the context, intensity, and duration of potential impacts. Analysis was based on whether there was a complete loss of a recreation opportunity, a change in access to or availability of a recreation opportunity, and a change in the quality of visitor experience or recreational opportunities (for example, visitor crowding). Impacts to visitor experience quality and recreation opportunities were assessed in terms of duration, intensity, and type. In terms of duration, a short-term impact on visitor experiences would be temporary in duration due to construction, restoration, or demolition activities; short-term impacts would occur during the construction period. A long-term impact would have a permanent effect on the visitor experience. Intensity level definitions are provided below.

Types of Impacts. Impacts were evaluated in terms of whether they would be beneficial or adverse to visitor experience. Beneficial impacts would enhance visitor participation, quality of visitor experience, and service level. Adverse impacts would be effects that reduce visitor participation, quality of visitor experience, and service level.

Intensity Level Definitions

- **Negligible:** Negligible impacts would result in little noticeable change in visitor experience.
- **Minor:** Minor impacts would result in changes in desired experiences but without appreciably limiting or enhancing critical characteristics (critical characteristics are those elements of a recreational activity that are most important to those who pursue it).

- **Moderate:** Moderate impacts would change the desired experience appreciably, (that is, changes to one or more critical characteristics or appreciable reduction/increase in the number of participants).
- **Major:** Major impacts would eliminate or greatly enhance multiple critical characteristics or greatly reduce/increase participation.

Alternative 1- No Action

There would be no change to visitor management in Alternative 1. Once on site, visitors would experience the peaceful cultural landscape setting in the historic orchard along Alhambra Creek, but existing impacts to visitor experience would continue. These would include: not providing visitors with information regarding location and access to the gravesite, lack of interpretive opportunities, lack of visitor amenities, lack of accessibility for visitors with disabilities, lack of clarity regarding whether visitors are allowed on site, lack of management resulting in no opening and closing hours, and inconvenience to neighbors due to uninformed visitors who request information from neighbors. Because the NPS would continue to not manage visitation, Alternative 1 would not provide an avenue for limiting visitation, which could result in visitation numbers that exceed desired limits.

The No Action Alternative would result in a direct, moderate, long-term, negative impact on visitor access and experience.

Cumulative Impacts

The Strain Ranch/Mt. Wanda Comprehensive Management Plan, the revised John Muir Long Range Interpretive Plan, and the Alhambra Valley Road Scenic Corridor Plan could contribute to cumulative impacts to visitor experience and access of the gravesite. The Strain Ranch/Mt. Wanda Plan could potentially change the level of John Muir National Historic Site visitation at Mt. Wanda. The Scenic Corridor Plan calls for the addition of a pedestrian/bike path along Alhambra Valley Road. This road is currently unsafe for pedestrians. A new pathway along Alhambra Valley Road would allow visitors from throughout the neighborhood to safely access the gravesite by foot or bicycle. The Long Range Interpretive Plan could also change the type and quantity of interpretive programming throughout the entire John Muir National Historic Site. Because visitor use of the gravesite would remain un-managed in Alternative 1, when combined with these projects, Alternative 1 would result in a moderate, long-term, negative impact to visitor access and experience.

Alternative 2

Under Alternative 2, there would be a direct, long-term, minor to moderate, beneficial impact to visitor experience and access due to the addition of ranger led tours, self-guided tours, and a wheelchair accessible, natural-surfaced path from the shuttle drop-off area to the grave markers. The experience would also be slightly improved with the addition of an informational entrance kiosk that is compatible with the historic setting. Although visitors would have to plan ahead if they wanted to visit the site via NPS shuttle, the quality of the visit would be high. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence.

Establishing regular shuttle access (up to 4 times per week), and by allowing unlimited pedestrian and cyclist access from 10:30-4:30 every day, visitor access would be improved. A gate with locking mechanism would be installed at the entrance to the gravesite, ensuring that only authorized vehicles could enter the site. Once the gravesite access has been established and advertised to the public, it is anticipated that neighbors would no longer be contacted by visitors to provide clarifying access and location information.

Adaptive management impacts: If pedestrian access for six hours every day causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to cultural resources due to increased public access, then management action (such as a

reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it would adversely affect potential visitors, although the experience for those who are able to visit would still be of very high quality. Conversely, if parking remains relatively unchanged from the no action alternative, and if there are no issues with unauthorized/illegal access, and there are no adverse effects to resources due to increased public access, then management action such as increasing open pedestrian access could occur. This increase would result in a positive impact on visitor access and experience. Finally, if through monitoring, it is found that the perimeter fence material and design (or other site furnishings) are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials. This could have a slight negative impact on visitor experience due to the fact that more robust site furnishings (such as a taller, impenetrable fence) would intrude more on the historic setting than less robust furnishings. Overall, with adaptive management strategies, Alternative 2 would have a direct, long-term, and minor to moderate beneficial impact on visitor access and experience.

Cumulative Impacts

The Strain Ranch/Mt. Wanda Comprehensive Management Plan, the revised John Muir Long Range Interpretive Plan, and the Alhambra Valley Road Scenic Corridor Plan could contribute to cumulative impacts to visitor experience and access of the gravesite. The Strain Ranch/Mt. Wanda Plan could potentially change the level of John Muir National Historic Site visitation at Mt. Wanda. The Scenic Corridor Plan calls for the addition of a pedestrian/bike path along Alhambra Valley Road. This road is currently unsafe for pedestrians, and a new pathway would allow visitors from throughout the neighborhood to safely access the gravesite by foot or bicycle. The Long Range Interpretive Plan could also change the type and quantity of interpretive programming throughout the entire John Muir National Historic Site. Because Alternative 2 provides for strict controls on visitor access through NPS management, when combined with these projects, and through the use of adaptive management strategies, Alternative 2 would result in a direct, moderate, long-term, beneficial impact to visitor access and experience.

Alternative 3

Under Alternative 3 there would be a direct, long-term, major beneficial impact to visitor experience and access when compared to the No Action Alternative. This is due to the addition of two parking spaces, one of which would be van-accessible (both would be available to the public during daylight hours) and the addition of regular NPS shuttle access to the site from the John Muir NHS visitor center (up to 2 times per week). Once the gravesite access has been established and advertised, it is anticipated that inconvenience to neighbors would stay the same as the no action alternative due to the ability for visitors to park at the site without an NPS escort—potentially contributing to the continuation of visitors driving around the narrow cul de sac seeking directions. Addition of directional signage on Sheridan and Strentzel Lanes would help mitigate this.

The visitor experience would be improved due to the addition of ranger led tours and a wheelchair accessible, natural-surfaced loop path from the shuttle drop-off to the grave markers. The experience would also be slightly improved with the addition of up to two interpretive wayside exhibits and up to two benches that are compatible with the historic setting. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence, although the extent of the parking area and driveway would create an impact.

Adaptive management impacts: If open vehicle and pedestrian access causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to cultural resources due to increased public access, then management action (such as adding a lockable entry gate to be locked whenever the site is officially closed) could be taken to mitigate the impact. Such an action would have no impact on sanctioned visitor use or experience. Finally, if through monitoring, it is found that the perimeter fence material and design (or other site furnishings) are not

sufficient to thwart unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials. This could have a slight negative impact on visitor experience due to the fact that more robust site furnishings (such as a taller, impenetrable fence) would intrude more on the historic setting than less robust furnishings. Overall, with adaptive management strategies, Alternative 3 would have a direct, long-term, and moderate beneficial impact on visitor access and experience.

Cumulative Impacts

The Strain Ranch/Mt. Wanda Comprehensive Management Plan, the revised John Muir Long Range Interpretive Plan, and the Alhambra Valley Road Scenic Corridor Plan could contribute to cumulative impacts to visitor experience and access of the gravesite. The Strain Ranch/Mt. Wanda Plan could potentially change the level of John Muir National Historic Site visitation at Mt. Wanda. The Scenic Corridor Plan calls for the addition of a pedestrian/bike path along Alhambra Valley Road. This road is currently unsafe for pedestrians and a new pathway would allow visitors from throughout the neighborhood to safely access the gravesite by foot or bicycle. The Long Range Interpretive Plan could also change the type and quantity of interpretive programming throughout the entire John Muir National Historic Site. In Alternative 3, the potential shift and/or increase in visitation in the Alhambra Valley Road/Strain Ranch area (due to these future projects) could increase the number of vehicles vying for parking at the gravesite. Therefore, when combined with these projects, and through the use of adaptive management strategies, Alternative 3 would result in a direct, moderate, long-term, beneficial impact to visitor access and experience.

Alternative 4 - Preferred Alternative

Under Alternative 4, there would be a direct, long-term, minor, beneficial impact to visitor experience and access due to the addition of ranger led tours, self-guided tours, and a wheelchair accessible, natural-surfaced path from the shuttle drop-off area to the grave markers. The experience would also be slightly improved with the addition of one wayside identifying the grave markers. Although visitors would have to plan ahead if they wanted to visit the site via NPS shuttle, the quality of the visit would be high. Through preservation of the cultural landscape, the NPS would continue to provide a peaceful, contemplative place of reverence. However it is anticipated that the proposed no more than 8-foot tall perimeter fence would detract from the historic scene, and would be interpreted as an unwelcoming feature by some visitors.

Establishing regular shuttle access (up to 7 times per week), and by allowing unlimited pedestrian and cyclist access from 10:30-4:30 Monday through Friday, visitor access would be substantially improved. A gate with locking mechanism would be installed at the entrance to the gravesite, ensuring that only authorized vehicles could enter the site. A no more than 8-foot tall boundary fence would greatly minimize unauthorized visitation when the site is closed. Once the gravesite access has been established and advertised to the public, it is anticipated that neighbors would no longer be contacted by visitors to provide clarifying access and location information.

Adaptive Management impacts: If open pedestrian access for six hours Monday through Friday causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to cultural resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it would adversely affect potential visitors, although the experience for those who are able to visit would still be of high quality. Conversely, if it is found that visitors are unable to visit due to pedestrian gate closure on weekends (and if none of the above access related standards are being compromised) the NPS could take management action such as adding pedestrian gate access on weekends to achieve the desired condition of visitors being able to access the site when they want. Finally, if through monitoring, it is found that the fence material and design (or other site furnishings) are not sufficient to thwart unauthorized visitation, or are repeatedly vandalized, the NPS could consider

replacing with sturdier materials. This could have a slight negative impact on visitor experience due to the fact that more robust site furnishings (such as a taller or more impenetrable fence) would intrude more on the historic setting than less robust furnishings. Overall, with adaptive management strategies, Alternative 4 would have a direct, long-term, and minor beneficial impact on visitor access and experience.

Cumulative Impacts

The Strain Ranch/Mt. Wanda Comprehensive Management Plan, the revised John Muir Long Range Interpretive Plan, and the Alhambra Valley Road Scenic Corridor Plan could contribute to cumulative impacts to visitor experience and access of the gravesite. The Strain Ranch/Mt. Wanda Plan could potentially change the level of John Muir National Historic Site visitation at Mt. Wanda. The Scenic Corridor Plan calls for the addition of a pedestrian/bike path along Alhambra Valley Road. This road is currently unsafe for pedestrians, and a new pathway would allow visitors from throughout the neighborhood to safely access the gravesite by foot or bicycle. The Long Range Interpretive Plan could also change the type and quantity of interpretive programming throughout the entire John Muir National Historic Site. Because Alternative 4 provides for stricter controls on visitor access through NPS management, when combined with these projects, and through the use of adaptive management strategies, Alternative 4 would result in a direct, moderate, long-term, beneficial impact to visitor access and experience.

TRAFFIC AND CIRCULATION

Affected Environment

Neighborhood Traffic and Circulation Patterns

The residential neighborhood surrounding the gravesite (Strentzel Lane, Sheridan Lane, and Wanda Way) consists of narrow cul de sacs with no sidewalks or curbs. The roads are publically owned, and therefore anyone is allowed to legally park roadside, as long as they do not encroach on homeowners' private property. Currently, homeowners and their visitors comprise the majority of drivers on these three streets. The current pattern of low visitation to the gravesite results in a small number of vehicles driving through the neighborhood to park in one of the two parking spots at the gravesite. Because there is no directional signage, many of the gravesite visitors circle around the cul de sacs prior to finding the gravesite.

In addition to driving, other modes of transportation to the site exist, although few currently use these modes due to various physical and logistical barriers. Therefore none of these modes currently impact the neighborhood traffic and circulation, either positively or negatively. These include:

1. **Public Transportation:** Contra Costa County Transit (“County Connection”) provides bus service from Martinez to North Concord BART every 40 minutes. This route includes a stop on Alhambra Avenue in front of the John Muir NHS visitor center. The closest stop to the gravesite is approximately 0.6 mile south of the visitor center at the Alhambra Avenue and Alhambra Valley Road intersection. From here, visitors would need to walk or bike 0.4 mile to the gravesite along Alhambra Valley Road: a narrow, winding, tree-lined road, with narrow shoulders, fast vehicular traffic, and few sidewalks.
2. **Hiking or Mountain Biking over Mt. Wanda:** Pedestrians could—with some degree of confusion—access the gravesite from the John Muir National Historic Site visitor center by a route west past the Martinez Adobe, then south on a rustic footpath over Mt. Wanda towards Strain Ranch. Once visitors reach the Alhambra Valley Road, visitors would walk north to Sheridan Lane to reach the gravesite. This route is approximately 2.3 miles and includes a considerable elevation gain and loss over varied terrain. This route also includes a short section of walking along the busy, winding Alhambra Valley Road in an area with narrow shoulders and no sidewalks. Pedestrian access from the main house site property is further hampered by the fact that the visitor would be unable to re-

enter the property near the Martinez Adobe upon their return because the gate on this side of the park is locked from the outside (visitors would only be able to reenter at the visitor center on Alhambra Avenue). Mountain bikers could access the gravesite by starting at the Mt. Wanda trailhead parking lot at the intersection of Alhambra Avenue and Franklin Canyon Road. This route would follow the fire road over Mt. Wanda and would be approximately 2.0 miles one-way.

3. Biking: Bike access is currently possible from Alhambra Valley Road, to Sheridan Lane, then Strentzel Lane. According to the Contra Costa County 1992 “Alhambra Valley Specific Plan,” the county intends to maintain Alhambra Valley Road as a two lane, scenic road. The plan also calls for “enhancing public access to parks, trails and other public attractions.” The plan further states that Alhambra Valley Road should be limited to one travel lane in each direction while allowing safety features such as turning lanes while providing for separated pedestrian and bicycle trails within the 80-foot road right of way.



Figure 22. Pedestrian, cycling, bus access to gravesite (map not to scale).

Environmental Consequences

Methodology. The impact assessment focuses primarily on the effect of changes to visitor access to the gravesite and related impacts on traffic flow and parking. Transportation impacts are assessed in terms of duration, intensity, and type. In terms of duration, a short-term impact is one that would be created during the implementation phase of an action alternative (for example, temporary disruption of access created

during construction of parking improvements). A long-term impact would be created through a permanent change to traffic generation, as well as changes to circulation patterns, following the implementation phase of an action alternative.

Types of Impacts. Impacts are considered either beneficial or negative on traffic flow and/or traffic safety conditions. Beneficial impacts would improve traffic flow and traffic safety by reducing levels of congestion and occurrences of vehicle/vehicle, vehicle/bicycle, and vehicle/pedestrian conflicts. Negative impacts would alter traffic flow and traffic safety by increasing levels of congestion and occurrences of such conflicts.

Intensity Level Definitions

- **Negligible:** Negligible impacts are effects considered virtually undetectable and would have little discernible effect on traffic flow and/or traffic safety conditions.
- **Minor:** Minor impacts are effects on traffic flow and/or traffic safety conditions that would be slightly detectable, but not expected to have an overall effect on those conditions.
- **Moderate:** Moderate impacts would be clearly detectable and could have an appreciable effect on traffic flow and/or traffic safety conditions.
- **Major:** Major impacts would have a substantial, highly noticeable influence on traffic flow and/or traffic safety conditions and could permanently alter those conditions.

Alternative 1- No Action

Under the No Action Alternative, traffic and circulation on Strentzel and Sheridan Lanes would remain unmonitored by the NPS: gravesite visitors driving to the gravesite would continue to be confused due to lack of directional signage. Drivers would continue contacting neighbors for help directing them to the gravesite. Because the NPS would continue not managing visitation to the gravesite, there is the potential for visitation and traffic to increase over time.

Cumulative Impacts

The Alhambra Valley Road Scenic Corridor Plan could provide a separate pedestrian/bike path which could help alleviate some of the vehicle traffic on this busy road. This project could help diminish some of the adverse impacts to traffic and circulation caused by Alternative 1. The No Action Alternative when combined with the Scenic Corridor Plan would result in long-term, minor, negative impacts to traffic and circulation within the neighborhood.

Alternative 2

Implementation of Alternative 2 would have a direct, long-term, minor, negative impact on neighborhood traffic and circulation. By virtue of opening the gravesite to public visitation, it is anticipated that there will be an increase in neighborhood traffic and use of street parking. However by notifying the public that there is no onsite parking, and by encouraging visitors to walk, bike, or use the park shuttle instead of driving personal vehicles, it is anticipated that the additional vehicle traffic on Strentzel and Sheridan Lanes would be partially alleviated.

Adaptive management impacts: If open pedestrian access for six hours every day causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to cultural resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it could reduce or eliminate the negative impact on traffic and circulation, resulting in no net change to traffic and circulation when compared to the no action alternative.

Cumulative Impacts

The Alhambra Valley Road Scenic Corridor Plan could provide a separate pedestrian/bike path which would help alleviate some of the vehicle traffic on this busy road. Alternative 2, using adaptive management strategies and when combined with the Scenic Corridor Plan would result in either no net change or a direct, long-term, negligible, beneficial to traffic and circulation within the neighborhood.

Alternative 3

Implementation of Alternative 3 would likely have a direct, long-term, negligible, negative impact on traffic and circulation when compared to the No Action Alternative. This alternative provides parking for two privately-owned vehicles (one van accessible); therefore visitors would continue driving on Strentzel and Sheridan Lanes. There could be reduced confusion and fewer “circling” drivers in the neighborhood due to the installation of directional signs.

If open access causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, then management action (such as a reduction in open access) could be taken to mitigate the impact. Additionally if greater than two police reports are filed due to illegal use of the gravesite or if there is a documented adverse effect to cultural resources due to increased public access, actions such as gating the site could be taken by the NPS. This could result in a reduction of off-hours traffic and circulation problems in the neighborhood after the public begins to understand that access to the gravesite is physically blocked. If a reduction in access is the chosen management action, it could reduce or eliminate the negative impact on traffic and circulation in the neighborhood, resulting in no net change to traffic and circulation when compared to the no action alternative.

Cumulative Impacts

The Alhambra Valley Road Scenic Corridor Plan could provide a separate pedestrian/bike path which could help alleviate some of the vehicle traffic on this busy road, and could encourage visitors to walk or bicycle to the gravesite rather than drive their own vehicle. Alternative 3, using adaptive management strategies, and when combined with the Scenic Corridor Plan would result in long-term, negligible, negative impacts to traffic and circulation within the neighborhood.

Alternative 4- Preferred Alternative

Implementation of Alternative 4 would have a direct, long-term, negligible, negative, impact on neighborhood traffic and circulation. By notifying the public that there is no onsite parking, and by prohibiting access to the site on weekends (due to the locked gate and boundary fence) it is anticipated that privately-owned vehicle traffic would increase a small amount on weekdays when the site is open to pedestrians (10:30am-4:30pm).

Adaptive management impacts: If open pedestrian access for six hours Monday through Friday causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to cultural resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it could reduce or eliminate the negative impact on traffic and circulation, resulting in no net change to traffic and circulation when compared to the no action alternative.

Cumulative Impacts

The Alhambra Valley Road Scenic Corridor Plan could provide a separate pedestrian/bike path, which through encouraging would- be drivers to arrive at the site by foot or bicycle, could help alleviate some of the vehicle traffic on this busy road. Alternative 4, using adaptive management strategies, and when

combined with the Scenic Corridor Plan would result in long-term, negligible, beneficial impacts to traffic and circulation within the neighborhood.

HUMAN HEALTH AND SAFETY

Regulatory Framework

NPS Management Policies (Chapter 8.2) state, “The National Park Service would make reasonable efforts to provide for the protection, safety, and security of park visitors, employees, concessionaires, and public and private property and to protect the natural and cultural resources entrusted to its care.”

Affected Environment

Current use of the gravesite primarily consists of staff conducting maintenance and management operations. The terrain throughout the site is fairly flat with minimal tripping hazards, except for the steep bank leading down to Alhambra Creek. The top and sides of the creek bank have dense patches of native poison-oak which pose a health problem for susceptible individuals, and the dense vines of blackberry and periwinkle pose tripping hazards. During the winter, the clay-rich soils of the site become sticky and adhere to shoes, which can create a slipping problem. Also in winter during peak runoff periods after heavy rains, the storm water flows in Alhambra Creek are rapid, leading to potential hazards to anyone visiting the site during this time. The Strentzel Creek outfall into Alhambra Creek creates turbulent flows during these peak events. Despite cyclic pruning, the large ornamental and historic trees are subject to limb failure and wind throw during severe wind storm events. Annual maintenance of the site including mowing minimizes exposure to ticks which are otherwise prevalent in the area.

Environmental Consequences

Methodology

The Human Health and Safety analysis was based on a qualitative assessment of safety issues that exist and could occur in the plan area and the effects anticipated as a result of ongoing maintenance, rehabilitation, construction, and/or changes in visitor access. For the purposes of this analysis, an alternative would have an impact (negative or beneficial) on human health and safety if it:

- Results in direct changes to human health and safety issues
- Causes indirect effects on human health and safety issues

Types of Impacts. The type of impact refers to whether the effect is considered beneficial or adverse. Beneficial impacts would improve human health and safety. Adverse impacts would negatively affect human health and safety.

Intensity Level Definitions:

Impacts to human health and safety were evaluated using the process described at the beginning of Chapter 3. Impact threshold definitions for human health and safety are as follows:

- **Negligible:** Impacts to human health and safety would be largely unnoticed by staff and the visiting public. Existing programs and activities would remain essentially unchanged.
- **Minor:** Human health and safety would be affected, but the impacts would be limited in scope and not generally noticed by visitors.
- **Moderate:** Human health and safety would be measurably affected, and the impacts would be noticeable to some visitors.
- **Major:** Impacts to human health and safety would be widespread and readily apparent to most visitors.

Alternative 1- No Action

Impacts to human health and safety under Alternative 1 would be long-term, negligible, and adverse. Current use of the gravesite would continue, with no change to address safety issues at the site.

Cumulative Impacts

The past, present, and future projects listed in Table 8 at the beginning of this chapter would not add to human health and safety impacts at the gravesite. Therefore, the cumulative impacts of these projects when combined with the No Action Alternative would result in long-term, negligible adverse impacts to human health and safety.

Alternative 2

Under Alternative 2, there would be a long-term, minor, beneficial impact to human health and safety. Planting of additional riparian vegetation would block visitor access to the Alhambra Creek—minimizing existing hazards associated with scrambling down the bank. Installation of plant identification signs at the native poison-oak brambles would help unknowing visitors avoid contact with this native plant. Installation of an accessible footpath and parking areas would minimize potential contact with ticks, and would keep visitors away from the historic and ornamental trees subject to limb failure.

Adaptive management impacts: If pedestrian access for six hours every day causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it would reduce the potential health and safety risks of visitors to the gravesite. If, through monitoring, it is found that the perimeter fence material and design are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials. This could have a negative impact on human health and safety if visitors continued to seek views of the grave markers by walking along the fence at the top of the creek bank, increasing exposure to falling hazards and poison-oak. Overall, with adaptive management strategies, Alternative 2 would have a direct, long-term, and negligible to minor beneficial impact to human health and safety.

Cumulative Impacts

The past, present, and future projects listed in Table 8 at the beginning of this chapter would not add to human health and safety impacts at the gravesite. Therefore, the cumulative impacts of these projects when combined with Alternative 2 and the Adaptive Management Strategies would result in long-term, minor, beneficial impacts to human health and safety.

Alternative 3

(Same as Alternative 2) Under Alternative 3, there would be a direct, long-term, minor, beneficial impact to human health and safety. Installation of fencing along the top of the creek bank would minimize existing hazards associated with scrambling down into Alhambra Creek. Installation of plant identification signs at the native poison-oak brambles would help unknowing visitors avoid contact with this native plant. Installation of an accessible footpath and parking area would minimize potential contact with ticks, and would keep visitors away from the historic and ornamental trees subject to limb failure.

Adaptive management impacts: If open uncontrolled access to the gravesite causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it would reduce the potential health and safety risks of visitors within the gravesite.

Overall, with adaptive management strategies, Alternative 3 would have direct, long-term, and minor to moderate beneficial impacts to human health and safety.

Cumulative Impacts

The past, present, and future projects listed in Table 8 at the beginning of this chapter would not add to human health and safety impacts at the gravesite. Therefore, the cumulative impacts of these projects when combined with Alternative 3 and the Adaptive Management strategies would result in direct, long-term, minor, beneficial impacts to human health and safety.

Alternative 4- Preferred Alternative

Under Alternative 4, there would be a direct, long-term, moderate, beneficial impact to human health and safety. Installation of fencing around the entire gravesite property would eliminate access to the site, removing potential exposure to the steep slopes and stands of poison-oak along Alhambra Creek. Visitors would also not be exposed to potential falling tree limbs and ticks at the site.

Adaptive management impacts: If pedestrian access for six hours every day causes visitor parking along Strentzel and Sheridan Lanes to exceed 75% of total public street parking, or if the number of police reports regarding unauthorized/ illegal access and disturbances exceeds standard, or if there is a documented adverse effect to resources due to increased public access, then management action (such as a reduction in open pedestrian access) could be taken to mitigate the impact. If a reduction in access is the chosen management action, it would reduce the potential health and safety risks of visitors to the gravesite. If, through monitoring, it is found that the perimeter fence material and design are not sufficient to prevent unauthorized visitation, or are repeatedly vandalized, the NPS could consider replacing with sturdier materials. This could have a negative impact on human health and safety if visitors continued to seek views of the grave markers by walking along the fence at the top of the creek bank, increasing exposure to falling hazards and poison-oak. Overall, with adaptive management strategies, Alternative 4 would have a direct, long-term, and negligible to minor beneficial impacts to human health and safety.

Cumulative Impacts

The past, present and future projects listed at the beginning of this chapter would not add to human health and safety impacts at the gravesite. Therefore, the cumulative impacts of these projects when combined with Alternative 4 and the Adaptive Management Strategies would result in direct, long-term, moderate, beneficial impacts to human health and safety.

PARK OPERATIONS

Affected Environment

Interpretation and Education

Current interpretation and educational programming for the gravesite does not exist. Park staff do not disclose the specific location of the gravesite in any form (website, printed media, or verbally), but may mention the presence of Muir’s gravesite in Martinez, if visitors ask. Universities, local groups and organizations, neighbors, and the Muir-Hanna family are known to conduct field trips to the gravesite, but these are not managed by the NPS in any way. No exhibits or signs are present at the gravesite. Currently visitors drive and park along Sheridan Lane, Wanda Way, and Strentzel Lane searching for the gravesite and ask the gravesite’s neighbors for directions, but receive no formal information if they arrive at the gravesite. It is anticipated that this practice would increase over time as the general location of the gravesite becomes better known.

Facilities Management

Facilities management of the gravesite plot includes cyclic maintenance of the granite grave markers and the granite coping stone and the wrought iron fence surrounding the plot. Other routine maintenance inside the grave plot includes hand weeding of annual grasses and seedling trees. Maintaining the tall, historic ornamental trees that line the southern border of the gravesite property is a cyclic task consisting of periodic removal of dead wood and thinning of competing branches.

Orchard maintenance requires routine annual weeding using power equipment and hand pulling. A riding mower is sometimes used to maintain the orchard floor. Mulching around the pear trees takes place on an annual basis, to reduce weed growth around the trees and preserve soil moisture. Watering of the pear trees is a regular ongoing task throughout the dry season using a truck-mounted tank and hose. The new pear trees are pruned for structure and the old trees for disease on a routine basis, as is spraying the trees for pests as the need arises. Gopher trapping occurs regularly and is necessary to prevent irreparable damage to the pear trees.

Resources Management

The Resources Management Division is comprised of a cultural resources branch and a natural resources branch that presently maintain distinct operations at the gravesite.

Cultural Resources – Cultural Resource operations at the gravesite currently encompass cyclic maintenance of the grave markers in coordination with the Maintenance Division, planning activities to implement the recommendations of the *John Muir National Historic Site Cultural Landscape Report* at the site and National Historic Preservation Act Section 106 review duties for activities that may affect the character of the historic property.

Natural Resources - There are very few natural resource management activities currently being conducted at the gravesite. Staff conducts informal, qualitative monitoring of resources, and semi-regular quantitative monitoring of the creek bank using established cross sections.

General Administration

The gravesite at John Muir National Historic Site is managed by the combined staff of the four national parks in Contra Costa County: Eugene O'Neill National Historic Site, John Muir National Historic Site, Port Chicago Naval Magazine National Memorial, and Rosie the Riveter/WWII Home Front National Historic Park. Staffing consists of the superintendent and deputy superintendent, and divisions of Interpretation, Education and Outreach; Planning and Administration; Resources Management; and Facilities Management. The overall operating budget of the four parks is approximately \$3.1M, of which John Muir National Historic Site receives approximately \$1M. In addition to these operating funds, John Muir National Historic Site receives \$100,000-150,000 in project funding per year, primarily through maintenance, recreation, and youth funding sources. A small part of these funds are allocated towards management and maintenance of the gravesite property, primarily focused on upkeep of the cultural landscape and the grave markers and plot, as well as monitoring of the natural resources.

John Muir National Historic Site issues Special Park Use (SPU) Permits on a case by case basis after thorough evaluation of the impacts of the use proposed. Currently, SPU permits have only been issued for the house and Mt. Wanda properties within the National Historic Site. The Superintendent's office occasionally brings dignitaries to the gravesite, but these visits are brief and infrequent. The Superintendent's office also communicates with neighbors regarding complaints and concerns about the unmanaged, infrequent visitation to the gravesite by outside groups.

Environmental Consequences

Methodology

The Park Operations analysis was based on a qualitative assessment of park operations that could occur in the plan area and the effects anticipated as a result of ongoing maintenance, rehabilitation, construction, and/or changes in visitor access. For the purposes of this analysis, an alternative would have an impact (negative or beneficial) on park operations if it:

- Results in direct changes to park operation, facilities, staffing requirements or costs;
- Causes indirect effects on park operations or staffing

Types of Impacts. The type of impact refers to whether the effect is considered beneficial or adverse. Beneficial impacts would improve park operations. Adverse impacts would negatively affect staffing requirements or other park operations services.

Intensity Level Definitions:

Impacts to park operations were evaluated using the process described at the beginning of Chapter 3. Impact threshold definitions for park operations are as follows:

- **Negligible:** Impacts to park operations would be largely unnoticed by staff and the visiting public. Existing programs and activities would remain essentially unchanged.
- **Minor:** Park operations would be affected, but the impacts would be limited in scope and not generally noticed by visitors. Increases or decreases in the park's operating costs and staffing workload would require some realignment of funds, but would not require substantial changes in the park's overall operating budget.
- **Moderate:** Park operations would be measurably affected, and the impacts would be noticeable to some visitors. Increases or decreases in the park's operating costs and/or workload would require realignment of funds and would alter the scope or quality of some programs.
- **Major:** Impacts to park operations would be widespread and readily apparent to most visitors. Increases or decreases in operating costs and/or workload would require substantial changes in funding allocation and would alter the scope and quality of multiple programs or basic operational activities.

Alternative 1- No Action

Alternative 1 would result in no change to current park operations, and would therefore have no impact. There would continue to be a lack of interpretive programs and materials at the site. Existing resources (gravesite, fruit trees and surrounding landscape and creekbank) would continue to be maintained on a cyclical basis, and would continue to be managed as funds and staffing allow. No changes would occur to existing administrative costs or workloads.

Cumulative Impacts

The past, present, and future projects listed at the beginning of this chapter would not add to impacts to park operations. Therefore, the cumulative impacts of these projects, when combined with the No Action Alternative, would result in no impact to park operations.

Alternative 2

Alternative 2 would result in direct, long-term, moderate adverse impacts to operations. Interpretive programming would have to shift to provide staff for the added programs at the gravesite. It is anticipated that John Muir National Historic Site would not receive an increase in funding to accommodate this shift; therefore interpretation elsewhere in the park could suffer a commensurate reduction in programming. In order to accommodate the additional interpretive programming and the additional workload associated with locking and unlocking the pedestrian gate each day, increased staffing would be required in Alternative 2 if the park were to maintain existing interpretive programming throughout the rest of the park. It should

be noted that additional funding to accommodate increased staffing is not anticipated in the reasonably foreseeable future. Applying adaptive management strategies will also create a negligible increase in work for Interpretation Division staff. For example, Interpretation staff would be required to monitor and track visitors' inability to schedule a visit during our designated open hours for a period of one year after the site is opened. For the purposes of this analysis, it is anticipated that existing interpretive programming would need to decrease throughout the park to accommodate gravesite programming to accommodate this shift in workload.

Installation of features to accommodate visitation would require additional annual and cyclic maintenance, in perpetuity. An entry gate with locking mechanism to restrict vehicular access to the site would be installed at Strentzel Lane and would require periodic maintenance and servicing. A surfaced driveway and parking area to accommodate park-operated shuttles would need cyclic maintenance, as would the proposed accessible pathway connecting the parking area and the gravesite, consisting of annual weeding and cyclic sealing or resurfacing. Maintenance upkeep of one informational kiosk at the parking area consists of periodic cleaning and repainting. The perimeter fencing proposed for the southern edge of the property would require periodic repair as well as cyclic maintenance, and would add considerable time to annual mowing and weed whacking operations.

There could be a moderate increase in administrative workload associated with review and oversight of Special Park Uses permit activities at the site. Increased regulated visitation at the site could also increase unregulated visitation by pedestrians and bicyclists, with commensurate complaints and concerns raised by neighbors. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all three action alternatives.

Proposed activities under Alternative 2 would increase natural resource management activities to include active invasive plant removal, native plant re-vegetation, and enhanced inventory and monitoring of aforementioned resources. All of these activities are already being conducted in other areas of the park by natural resource management staff. Therefore, under Alternative 2, the gravesite would simply be incorporated into current operations in a feasible manner. For cultural resources, cyclic maintenance of the grave markers would continue in the same manner as under the No Action Alternative. Planning for the removal of non-historic vegetation and its replacement with compatible vegetation and for replacing missing historic vegetation would represent a slight increase in workload for cultural resources staff, but this could be accomplished at current staffing levels.

Cumulative Impacts

The past, present, and future projects listed at the beginning of this chapter would not add to impacts to park operations. Therefore, the cumulative impacts of these projects when combined with Alternative 2 would result in direct, long-term, moderate adverse impacts to park operations.

Alternative 3

Alternative 3 would result in direct, local, minor to moderate, adverse impacts to park operations over the long-term. Interpretive programming would have to shift to provide staff for the added programs at the gravesite. It is anticipated that John Muir National Historic Site would not receive an increase in funding to accommodate this shift; therefore interpretation elsewhere in the park could suffer a minor reduction in programming. In order to accommodate the additional programming at the gravesite called for in Alternative 3 while maintaining the existing interpretive programming throughout the rest of the park, a slight increase in staffing would be required. It should be noted that additional funding to accommodate increased staffing is not expected in the reasonably foreseeable future. Therefore for the purposes of this analysis, it is anticipated that existing interpretive programming would need to decrease throughout the park to accommodate gravesite programming, although since fewer NPS led tours would occur in

Alternative 3, and since the pedestrian gate would not need to be opened and closed each day as it would in Alternative 2, this decrease would be less severe under Alternative 3 than Alternative 2.

Maintenance of facility features common to those in Alternative 2 (i.e. informational kiosk, paved driveway and accessible footpath) would be similar but require more time and labor considering their increased footprint. The Alternative 3 driveway and parking area would be larger than Alternative 2 and 4, with the installation of two additional parking stalls including one van-accessible stall. Installation of a longer loop path approximately twice as long as that in Alternative 2 and 4 would increase annual and cyclic maintenance needs proportionally, and the construction of two benches along the pathway and at the gravesite would add to cyclic maintenance needs in the form of staining, repainting and repair. Maintenance of kiosk and waysides would be increased over Alternative 2 and 4 due to two waysides proposed for Alternative 3. Installation of a raccoon-proof trash bin near the parking area would require regular attention.

Similar to Alternatives 2 and 4, there would be a moderate increase in administrative workload (when compared to the No Action Alternative) associated with review and oversight of Special Park Uses permit activities at the site. Increased regulated visitation at the site could also increase unregulated visitation by pedestrians and bicyclists, with commensurate complaints and concerns raised by neighbors. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all three action alternatives.

Proposed activities under Alternative 3 would increase natural resource management activities to include active invasive plant removal, native plant re-vegetation, and enhanced inventory and monitoring of aforementioned resources. All of these activities are already being conducted in other areas of the park by natural resource management staff. Therefore, under Alternative 3, the project site would simply be incorporated into current operations in a feasible manner. For cultural resources, cyclic maintenance of the grave markers would continue in the same manner as under the No Action Alternative. Planning for the removal of non-historic vegetation and its replacement with historically compatible vegetation and for replacing missing historic vegetation would represent a slight increase in workload for cultural resources staff, but this could be accomplished at current staffing levels.

Cumulative Impacts

The past, present, and future projects listed at the beginning of this chapter would not add to impacts to park operations. Therefore, the cumulative impacts of these projects when combined with Alternative 3 would result in direct, long-term, minor to moderate adverse impacts to park operations.

Alternative 4- Preferred Alternative

Alternative 4 would result in direct, long-term, moderate adverse impacts to operations. Just as in Alternative 2 and 3, interpretive programming would have to shift to provide staff for the added programs at the gravesite. It is anticipated that John Muir National Historic Site would not receive an increase in funding to accommodate this shift; therefore interpretation elsewhere in the park could suffer a minor reduction in programming. In order to accommodate the additional programming at the gravesite called for in Alternative 4 while maintaining the existing interpretive programming throughout the rest of the park, increased staffing would be required. It should be noted that additional funding to accommodate increased staffing is not anticipated in the reasonably foreseeable future. Therefore for the purposes of this analysis, it is anticipated that existing interpretive programming would need to decrease throughout the park to accommodate gravesite programming. Overall, there would be less of an impact to the Interpretation program than in Alternative 2 because the pedestrian gate would not need to be opened and closed every day.

Installation of features to accommodate visitation would require additional annual and cyclic maintenance, in perpetuity. Just as in Alternative 2, an entry gate with locking mechanism to restrict vehicular access to the site would be installed at Strentzel Lane and would require periodic maintenance and servicing. A surfaced driveway and parking area to accommodate park-operated shuttles would need cyclic maintenance, as would the proposed accessible pathway connecting the parking area and the gravesite, consisting of annual weeding and cyclic sealing or resurfacing. Minimal maintenance would be required for the one wayside exhibit to be installed at the grave markers. The perimeter fencing proposed for the property would require periodic repair and would add considerable labor time to annual mowing and weed whacking operations.

As in Alternatives 2 and 3, there could be a slight increase in administrative workload (when compared to the No Action Alternative) associated with review and oversight of Special Park Uses permit activities at the site. Increased regulated visitation at the site could also increase unregulated visitation by pedestrians and bicyclists, with commensurate complaints and concerns raised by neighbors. Establishing the adaptive management program, and keeping track of the indicators, standards, and monitoring—as well as timing of appropriate management actions—would contribute to the increased workload for all three action alternatives.

Proposed activities under Alternative 4 would increase natural resource management activities to include active invasive plant removal, native plant re-vegetation, and enhanced inventory and monitoring of aforementioned resources. All of these activities are already being conducted in other areas of the park by natural resource management staff. Therefore, under Alternative 4, the gravesite would simply be incorporated into current operations in a feasible manner. For cultural resources, cyclic maintenance of the grave markers would continue in the same manner as under the No Action Alternative. Planning for the removal of non-historic vegetation and its replacement with compatible vegetation and for replacing missing historic vegetation would represent a very slight increase in workload for cultural resources staff, but this could be accomplished at current staffing levels.

Cumulative Impacts

The past, present, and future projects listed at the beginning of this chapter would not add to impacts to park operations. Therefore, the cumulative impacts of these projects when combined with Alternative 4, would result in long-term, moderate adverse impacts to park operations.

CHAPTER 4: CONSULTATION AND COORDINATION

SCOPING AND PUBLIC REVIEW

The park conducted both internal and external scoping with appropriate NPS staff, agencies, and the public to determine the range of issues to be analyzed in the EA. This scoping process was used to define the project purpose and need, identify issues and impact topics, outline reasonable and feasible alternative actions, and to describe and evaluate the relationship of the preferred alternative to other planning efforts in the park.

2013 Internal and Public Scoping

Internal scoping included analysis from NPS subject matter experts including cultural resources specialists, horticulturists, hydrologists, biologists, education specialists, and maintenance staff from John Muir National Historic Site, and the Pacific West Regional Office. One alternatives development workshop was held with park staff.

Members of the public were invited to submit scoping comments during the public scoping period from March 6 to June 30, 2013. Comments were submitted by email, U.S. mail, fax and in-person. The NPS provided information about the plan and the public scoping period through the following means:

1. A press release announcing the beginning of public scoping was published by the Contra Costa Times on May 2, 2013. A press release announcing the end of public scoping was published in the Martinez Gazette on June 16, 2013.
2. The scoping announcement was sent to the John Muir National Historic Site email list serve, reaching approximately 124 subscribers.
3. The scoping period was announced via the park's website.
4. Information regarding the project was disseminated at a public open house held at New Leaf Collaborative School in Martinez on April 9, 2013.
5. Additionally, the NPS hosted a public alternatives development workshop on February 22, 2014 which was attended by 28 individuals comprised of neighbors, Muir family members, university professors, park partners, and other stakeholders. The press release announcing the public workshop was published in the Martinez Gazette on January 30, 2014.

Twenty-one scoping letters were received from the Muir family, gravesite neighbors, park partners, local non-profit organizations, university professors, and individual members of the public. Based on scoping comments received, and federal laws, regulations, and executive orders, the NPS determined that an EA was the appropriate level of compliance for this project.

For a summary of public scoping comments and how they were incorporated into the plan, refer to Chapter 1: Issues and Impact Topics.

2015 Public Review of Environmental Assessment

Members of the public were invited to submit comments during the public review period for the first iteration of the environmental assessment from April 20 to June 1, 2015. Comments were submitted by using the Planning, Environment and Public Comment (PEPC) database, email, U.S. mail, fax and in-person. The NPS provided information about the plan and the public review period through the following means:

1. The announcement was sent to the John Muir National Historic Site email list serve, reaching approximately 124 subscribers.
2. The public review period was announced via the park's website.

3. Information regarding the environmental assessment and its action alternatives was disseminated at a public open house on April 29, 2015 at John Swett Elementary School in Martinez. The open house was attended by 34 individuals comprised of neighbors, Muir family members, university professors, park partners, and other stakeholders.

Thirty-two letters were received from the Muir family, gravesite neighbors, park partners, local non-profit organizations, university professors, and individual members of the public. Based on comments received, and federal laws, regulations, and executive orders, the NPS determined that an additional alternative proposed by commenters was warranted, described in this 2016 document as Alternative 4, the preferred alternative. This 2016 Environmental Assessment supersedes the 2015 Environmental Assessment that was rescinded in June 2015.

REGULATORY COMPLIANCE

National Historic Preservation Act Section 106 Review

The Strentzel-Muir Gravesite has been found eligible for listing in the National Register of Historic Places as a contributing element to John Muir National Historic Site, a National Historic Landmark property. As a result, the National Park Service, because it is a federal agency carrying out a federal undertaking that may affect this historic property, is required to fulfill the provisions of Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800. Accordingly, the NPS has entered into consultation with the California State Historic Preservation Officer for the purpose of determining the level of effect that the proposed undertaking would have upon the historic property, and to consider ways to avoid, minimize or mitigate any adverse effects that may be found. Involvement of the public in this review process is being carried out through the NEPA review process. Consultation was initiated by the NPS by letter dated May 30, 2013 and is ongoing.

CHAPTER 5: LIST OF PREPARERS AND REVIEWERS

PREPARERS

Preparer	Position	Position Affiliation
Sue Fritzke	Deputy Superintendent	John Muir National Historic Site
Jamie Hawk	GIS Specialist	Pacific West Regional Office
James MacDonald	Lead Ranger	John Muir National Historic Site
Desmond Murray	Planning Assistant/Biological Technician	John Muir National Historic Site
Keith Park	Horticulturist	John Muir National Historic Site
Paul Scolari	Chief of Resources	John Muir National Historic Site
Gretchen Stromberg	Chief of Planning & Administration	John Muir National Historic Site
Fernando Villalba	Natural Resource Specialist	John Muir National Historic Site

REVIEWERS

Reviewer	Position	Position Affiliation
Ralph Bell	Chief of Maintenance	John Muir National Historic Site
Kelli English	Chief of Interpretation, Outreach, and Education	John Muir National Historic Site
Sara Hay	Museum Curator	John Muir National Historic Site
Tom Leatherman	Superintendent	John Muir National Historic Site
Isabel Ziegler	Supervisory Museum Curator	John Muir National Historic Site
Martha Crusius	Chief of Planning	Pacific West Regional Office
Vida Germano	Cultural Landscapes Program Lead	Pacific West Regional Office
Dave Kruse	Chief of Facilities	Pacific West Regional Office
Martha Lee	Deputy Regional Director	Pacific West Regional Office
Trung-son Nguyen	Regional Accessibility Coordinator	Pacific West Regional Office
Sarah Raube	Landscape Architect	Pacific West Regional Office
Alan Schmierer	Regional Environmental Coordinator	Pacific West Regional Office

LIST OF RECIPIENTS AND REVIEW OF EA

The following is a list of agencies and organizations that will receive a copy of the environmental assessment (in addition to all interested private parties who have expressed an interest in the proposed plan).

Elected Officials

Official	Position	Position Affiliation
Mark DeSaulnier	District 11 Representative	U.S. Congress
Federal D. Glover	District 5 Supervisor	Board of Supervisors, Contra Costa County
Rob Schroder	Mayor	City of Martinez

State Agencies

Mark Beason	State Historian	Office of Historic Preservation
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Regional, County, and Municipal Agencies

Central Contra Costa County Sanitary District	Contra Costa County Public Works Dept.
City of Martinez Planning Dept.	Pacific Gas and Electric (PG&E)
Contra Costa County Planning Dept.	

Organizations

Alhambra Watershed Council	John Muir Land Trust
Alhambra Valley Creek Coalition	Martinez Historical Society
Alhambra Valley Improvement Association	Martinez Public Library
California Native Plant Society	Muir-Hanna Family Trust
East Bay Regional Park District	New Leaf: Sustainable Living Collaborative
Friends of Alhambra Creek	Sierra Club
John Muir Association	University of the Pacific

There will be a 30-day comment period for the Environmental Assessment. Comments may be submitted in the following ways:

Online: <http://parkplanning.nps.gov/projectHome.cfm?projectID=45021>

Email: rori_superintendent@nps.gov

In writing:

Superintendent, John Muir National Historic Site
ATTN: Gravesite Plan
4202 Alhambra Ave.
Martinez CA 94553

CHAPTER 6: GLOSSARY OF TERMS AND ACRONYMS

Adaptive Management: Adaptive management promotes flexible decision-making that can be adjusted based on the outcomes of implementing a particular management action. Careful monitoring of outcomes allows for adjustments in management as part of an iterative learning process.

Affected environment: Existing natural, cultural, and social conditions of an area that are subject to change, both directly and indirectly, as a result of a proposed human action.

Action alternatives: The alternative in a plan that proposes to make change to current management direction. "Action" means the proposed activity may take place, and the environmental effects resulting from action would be compared with the effects of permitting the proposed activity or the no-action alternative activity to go forward.

Alternatives: Sets of management elements that represent a range of options for how, or whether to proceed with a proposed project. An environmental assessment analyzes the potential environmental and social impacts of the range of alternatives presented, as required under the National Environmental Policy Act (NEPA).

Archeological resources: Historic and prehistoric deposits, sites, features, structure ruins, and anything of a cultural nature found within, or removed from, an archeological site.

Architectural Barriers Act Accessibility Standards (2013):

Federal guidelines established to add scoping and technical requirements in the establishment of camping facilities, picnic facilities, viewing areas, trails, and beach access routes constructed or altered by or on behalf of federal agencies. The final rule ensures that these facilities are readily accessible to and usable by individuals with disabilities.

Area of Potential Effect (APE): The geographic area or areas where a federal undertaking has potential to affect historic properties.

Best Management Practices (BMPs): Effective, feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. BMPs may include schedules for activities, prohibitions, maintenance guidelines, and protective fencing.

Common to all: Common traits among the action alternatives and the no-action alternative identified by the project team, through public scoping and conference.

Compatible: A term used in historic preservation to describe the introduction of new features into a historic environment in a way that is harmonious with that environment.

Contributing: A term used in historic preservation to refer to individual historic features that help make up or contribute to the character of a historic property.

Council on Environmental Quality regulations: The Council on Environmental Quality was established by the National Environmental Policy Act and given the responsibility for developing federal environmental policy and overseeing the implementation of National Environmental Policy Act by federal agencies.

Decomposed granite: Also referred to as “DG”, is a natural granite, compacted surface often used as the surfacing of foot paths.

Desired Conditions: Conditions for resources and visitor experience that management strives to achieve.

Erosion: The process in which wind or water removes soil from one location and deposits it in another location.

Exotic: A plant or animal species found outside of its common geographical range.

Environmental assessment (EA): A public document required under the National Environmental Policy Act (NEPA) that identifies and analyzes activities that might affect the human and natural environment. An environmental assessment is a concise public document which provides sufficient evidence and analysis for determining whether or not the proposed project would incur significant impacts to the human and natural environment.

Facilities: Buildings and infrastructure such as driveways, footpaths, parking areas, benches, gates, fences, utilities and kiosks.

Finding of No Significant Impact (FONSI): The public document describing the decision made on selecting an alternative that is described and analyzed in an environmental assessment.

Historic or Cultural resources: Culturally valued pieces of real property and non-tangible values such as cultural use of the biophysical and built environments, and socio-cultural attributes such as social cohesion, life ways, religious practice and other social institutions. Can also mean properties that are listed in or eligible for the National Register of Historic Places.

Historic property: Under NHPA and NEPA, a prehistoric or historic district, site, building, structure, object, or traditional cultural resource that is listed in, or eligible for listing in, the National Register.

Indicators: Aspects of resources or visitor experience to monitor for determining whether the desired conditions are being met.

Invasive (species): A species that grows or inhabits a geographic range at an abnormally high rate due to the absence of competing species and other ecological factors.

Kiosk: A small structure, often with one or more open sides used to provide or display information.

Native vegetation: Flora endemic to an area over geologic time. Often used in habitat restoration to provide improved ecosystem function and stream bank stabilization.

Natural resources: A broad range of plant, animal, geologic and hydrologic resources that reflect the relationship of people and the environment.

No action alternative: The alternative in an environmental assessment that describes current management direction. "No action" means the proposed activity would not take place, and the environmental effects resulting from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.

Non-contributing: Non-contributing features of a historic landscape are defined as elements of the site that do not contribute to the historical significance of the site.

Non-native species: Species of plants or wildlife that are not native to a particular area and often interfere with natural biological systems.

Orchard: An area of land devoted to the cultivation and production of fruit or nut trees.

Planning: An interdisciplinary process for developing short-term and long-term goals for visitor experience, resource conditions, and facility placement.

Preferred alternative: The preferred alternative is the alternative within the range of alternatives presented in an environmental assessment that the agency believes would best fulfill the purpose and need of the proposed action.

Public scoping: Under the National Environmental Policy Act (NEPA), public scoping assists in the environmental review process, by providing a means to inform the public about activities that involve a federal action and solicit their comments regarding the proposed action.

Restoration: Bringing back to a former condition.

Riparian: Ecosystems located along river banks, streams, creeks or drainages.

Standards: Condition limits or thresholds for the resource and visitor experience indicators identified as part of an adaptive management strategy.”

Visitor experience: The perceptions, feelings, and reactions a park visitor has in relationship with the surrounding environment.

Visitor use: Refers to the types of recreation activities visitors participate in, numbers of people in an area, their behavior, the timing of use, and distribution of use within a given area.

Wayside exhibit: A combination of words and pictures on a two-dimensional outdoor panel providing interpretation, information or orientation to a specific landscape.

ACRONYMS

ABAAS: Architectural Barriers Act Accessibility Standards

AGODA: Accessibility Guidelines for Outdoor Developed Areas

APE: Area of Potential Effect

BMP: Best Management Practice

CCCSO: Central Contra Costa County Sanitary District

CEQ: Council on Environmental Quality

CFR: Code of Federal Regulations

EA: Environmental Assessment

EBRPD: East Bay Regional Park District

FONSI: Finding of No Significant Impact

GMP: General Management Plan

NEPA: National Environmental Policy Act

NHL: National Historic Landmark

NHPA: National Historic Preservation Act

NHS: National Historic Site

NPS: National Park Service

SHPO: State Historic Preservation Officer

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