



# Lassen Volcanic National Park

California

## Mineral Headquarters Utilities Replacement Environmental Assessment



## EXECUTIVE SUMMARY

Lassen Volcanic National Park, located in Mineral, California, has prepared this Environmental Assessment (EA) to analyze the environmental effects of project alternatives to improve the utility infrastructure at the park's Mineral Headquarters.

The purpose of the proposed project is to improve NPS staff and community safety, protect NRHP-listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground powerlines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

Two alternatives were analyzed for meeting the general objectives of the plan's expressed purpose and need for federal action:

**Alternative A, the No Action Alternative.** This alternative would continue use of the existing utility infrastructure at the park's Mineral Headquarters.

**Alternative B, the Preferred Alternative.** This alternative would replace the current utility infrastructure by undertaking the following: replacing existing overhead powerlines with underground lines, and then removing overhead lines; replacing water and sewer lines; updating telecommunication lines; replacing small, building-specific propane tanks with two centralized, large propane tanks; improving utilities at the seasonal staff housing area south of Highway 36E; and updating site lighting.

Neither of the alternatives analyzed in this environmental assessment would result in major environmental impacts or adverse effects. Generally, alternative A would continue to result in adverse impacts to cultural resources, water resources, public health and safety, and park operations. Alternative B would result in adverse and beneficial impacts to cultural resources, and beneficial impacts to water resources, public health and safety, and park operations. A nonimpairment determination for the proposed project will be provided in the resulting decision document.

### Public Review and Comment

This EA will be available 30 days for public review from April 4, 2012 to May 3, 2012. If you wish to comment, you are encouraged to submit your comments directly on the NPS Planning, Environment, and Public Comment (PEPC) website at <http://parkplanning.nps.gov/lavo>. Follow the links for the Mineral Headquarters Utilities EA. The "Open for Public Comment" link on the left column provides access to the EA.

Paper copies of the Mineral Headquarters Utilities EA will be available for review at the park's Kohm Yah-mah-nee Visitor Center; the local post office in Mineral, California; and the public libraries in Chester and Red Bluff, California.

Please **mail written comments** to:

Lassen Volcanic National Park, ATTN: Mineral Headquarters Utilities EA Comments, P.O. Box 100, Mineral, CA 96063-0100

Before including your address, phone number, e-mail address, or other personal identifying information in your comments, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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# CHAPTER 1: PURPOSE AND NEED

## INTRODUCTION

Lassen Volcanic National Park, located in Mineral, California, proposes to improve the utility infrastructure at the park's Mineral Headquarters. This chapter provides a background of the proposed project; explains why the National Park Service (NPS) proposes to replace existing overhead and underground utilities at the Mineral Headquarters of Lassen Volcanic National Park; outlines objectives of the proposed project; reviews the laws, policies, and regulations applicable to the project; discusses internal and external scoping conducted; examines project-related issues; and identifies resource topics retained and dismissed for impact analysis.

## PROJECT BACKGROUND

The original utility system for the headquarters area was constructed in 1929. As the park headquarters expanded over the years, the utility system was expanded. The resulting system is a patchwork of utilities (power, water, wastewater, gas, telecommunications, and site lighting) that is ineffective, inefficient, outdated, and difficult to repair.

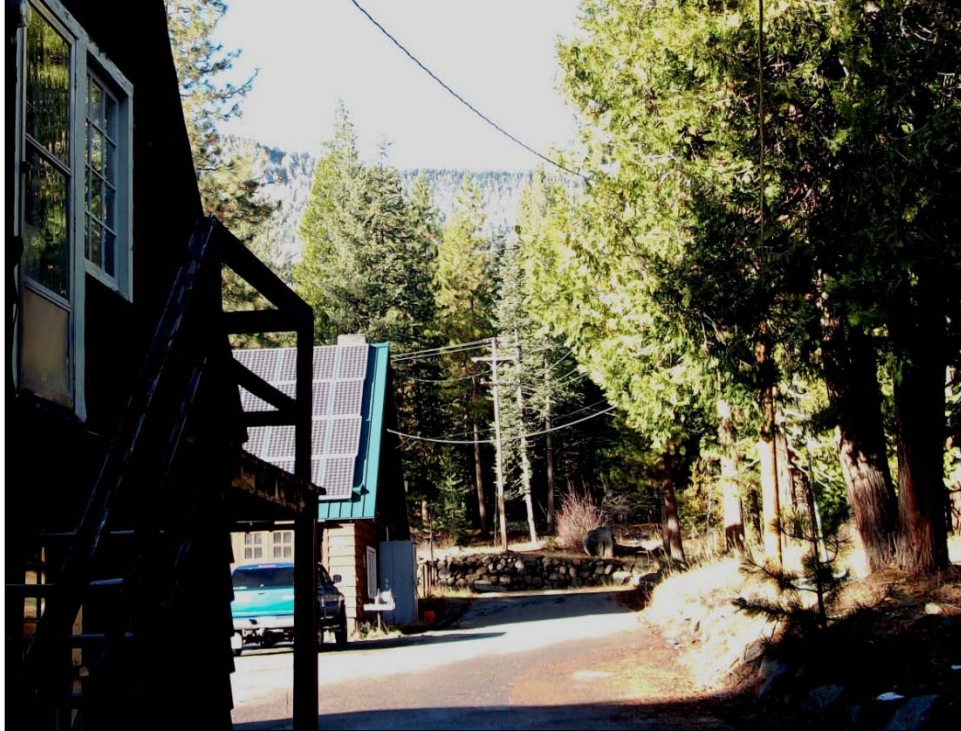
The park is subjected to extreme winter conditions each year. The array of overhead electric and telephone lines (Figure 1) frequently tangle or break under the weight of falling tree limbs or snow, resulting in power and telephone outages. When these outages occur, there are few backup systems (e.g., for power, alarms, phones). This overall condition leads to increased safety risks in a variety of possible situations ranging from fires caused by downed powerlines to an inability to contact outside authorities due to lost power and telecommunications.

In addition to the problems posed by downed overhead utility lines, the park's sewer and water line infrastructure has deteriorated. Replacement of these systems is under consideration to also address the deterioration of the water and wastewater systems, reduce expenses associated with repairs, and reduce the potential for contamination of domestic water, as well as, water resources in and outside the park.

The NPS currently leases 33 500-gallon propane tanks (Figure 2) in use at the Mineral headquarters. Because the weight of snow can break connections at the tanks, snow and ice must be removed from tank regulators after every snowstorm to prevent the possibility of breakage and subsequent leakage. Snow cover also increases the risk of automobiles and heavy equipment colliding with the tanks, breaking connections, and creating dangerous explosions.

Furthermore, the current telecommunications fiber optic network is considered to be unreliable. Site lighting is outdated, poorly located, and ineffectively set on timers that, in some cases, do not update with the varying daylight hours. Outdoor light fixtures also do not use lighting designs sensitive to night sky considerations.

As a result of this combination of concerns, the park is exploring the option of replacing its utility infrastructure.



**Figure 1. View of typical array of overhead electric and telephone lines within the headquarters area (Parsons 2010).**



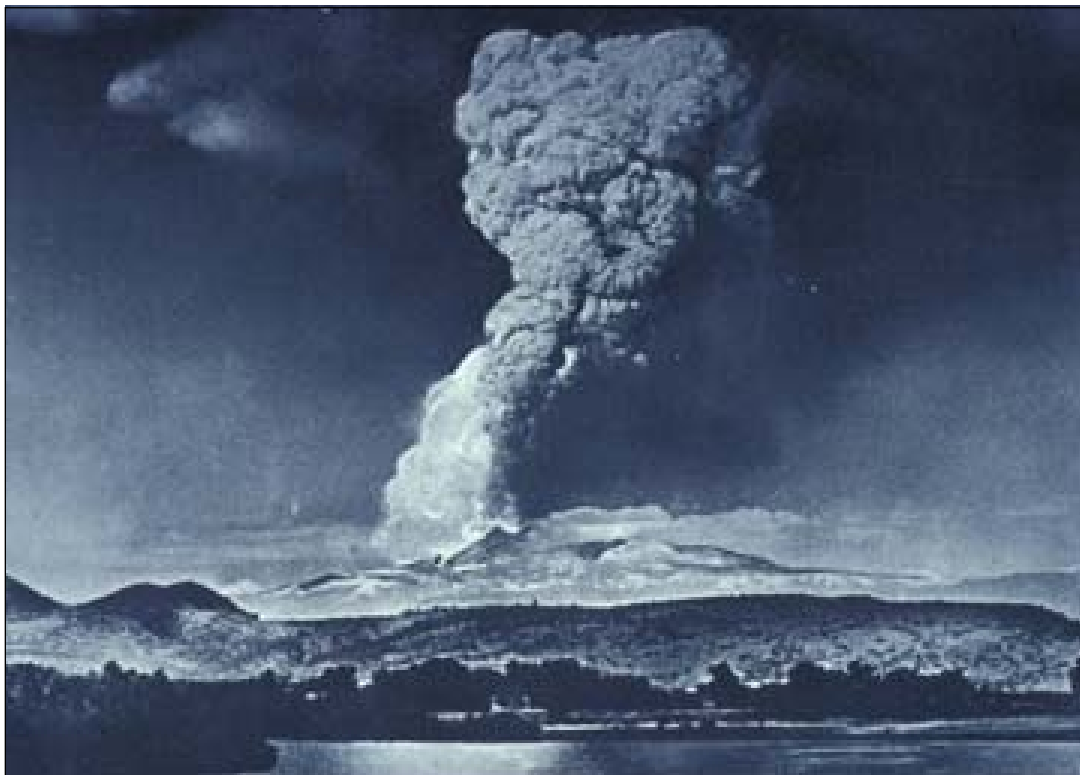
**Figure 2. View of typical, individual propane tank found within the headquarters area (Parsons 2010).**

## **PARK BACKGROUND**

Lassen Volcanic National Park, established in 1916, is located in northeastern California in portions of Shasta, Lassen, Plumas, and Tehama counties. The 106,452-acre park accommodates approximately 400,000 visitors each year, providing opportunities for visitors to learn about volcanism (Figure 3) and other park phenomena and to enjoy various recreation pursuits such as sightseeing, camping, picnicking, and hiking. (The total park acreage includes 80 acres that the park acquired in 2011 in Spenser Meadow.) Over 75 percent of the park, outside of the Mineral headquarters area, is congressionally designated wilderness.

Lassen Volcanic National Park is an outstanding example of a dynamic geologic landscape and is of unquestioned national significance. Lassen Volcanic National Park's mission is to conserve, preserve and protect its geological, biological, and cultural resources for the enjoyment, education, and inspiration of present and future generations.

The park's Mineral headquarters was constructed in the 1920s and is an excellent example of Civilian Conservation Corps (CCC) era architecture. It is listed as a National Register district with 38 contributing historic structures (NPS 1993). Similar CCC area park structures exist in Crater Lake, Yosemite, Mt. Rainier and Sequoia National Parks. Today, the headquarters area contains a combination of administrative, maintenance, and residential structures. There are 14 permanent residences and six seasonal residences within the headquarters area. The park has 40-50 permanent, year-round staff working at the headquarters area; summer seasonal staff increase personnel at the Mineral headquarters to over 100 employees. The project area also includes a seasonal staff housing area that provides space for 5 RVs, and a grass ball field. Both of these are located to the southwest of the headquarters area across Highway 36E.



**Figure 3. The May 22, 1915 eruption of Lassen Peak as seen from Red Bluff, California (NPS 2011a).**



## PURPOSE AND NEED

### PURPOSE

The purposes of this project are to improve NPS staff and community safety, protect cultural resources that are listed or eligible for listing on the National Register for Historic Places (NRHP), and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system (electrical power, water, wastewater, gas, telecommunications, and site lighting) is ineffective, inefficient, outdated, and difficult to repair. In particular, above-ground powerlines are susceptible to frequent damage during winter storms, while water and wastewater pipes suffer from chronic leaking.

### NEED

The utility system is not adequate to withstand current conditions. Prolonged power outages resulting from utility inadequacies compromise the health and safety of the park staff and resident community, as well as increase the risk of damage to buildings in the headquarters area. The ineffectiveness, inefficiency, and repair difficulty associated with the current utility infrastructure places a burden on park operations. In addition, leaking water and wastewater pipes result in drafting of excessive water and potential contamination issues. The use of individual propane tanks at each building requires increased maintenance and involves greater risk of damage and subsequent explosions. The current telecommunications network and site lighting are also outdated and unreliable. The existing on-site utilities require constant repair, and 2,500 hours in emergency labor was spent in 2007 alone (Kennedy/Jenks 2011).

### PROJECT OBJECTIVES

Objectives are specific statements of purpose, and describe what must be accomplished to a large degree for the project to be considered a success. This will allow the National Park Service to decide on alternative actions. The following objectives will be used in the analysis of alternatives in the environmental assessment:

- Limit the frequency and duration of utility outages.
- Reduce leaks in water and wastewater lines.
- Minimize maintenance and repairs necessary for propane service, as well as reduce potential for propane explosions.
- Modernize telecommunications.
- Improve site lighting.
- Reduce staff time lost due to operational shut downs related to inclement weather.
- Reduce safety risks to park staff and community.

### Project Area

The project area is shown in Figure 4, and consists of the entire realm of NPS ownership at the headquarters area.

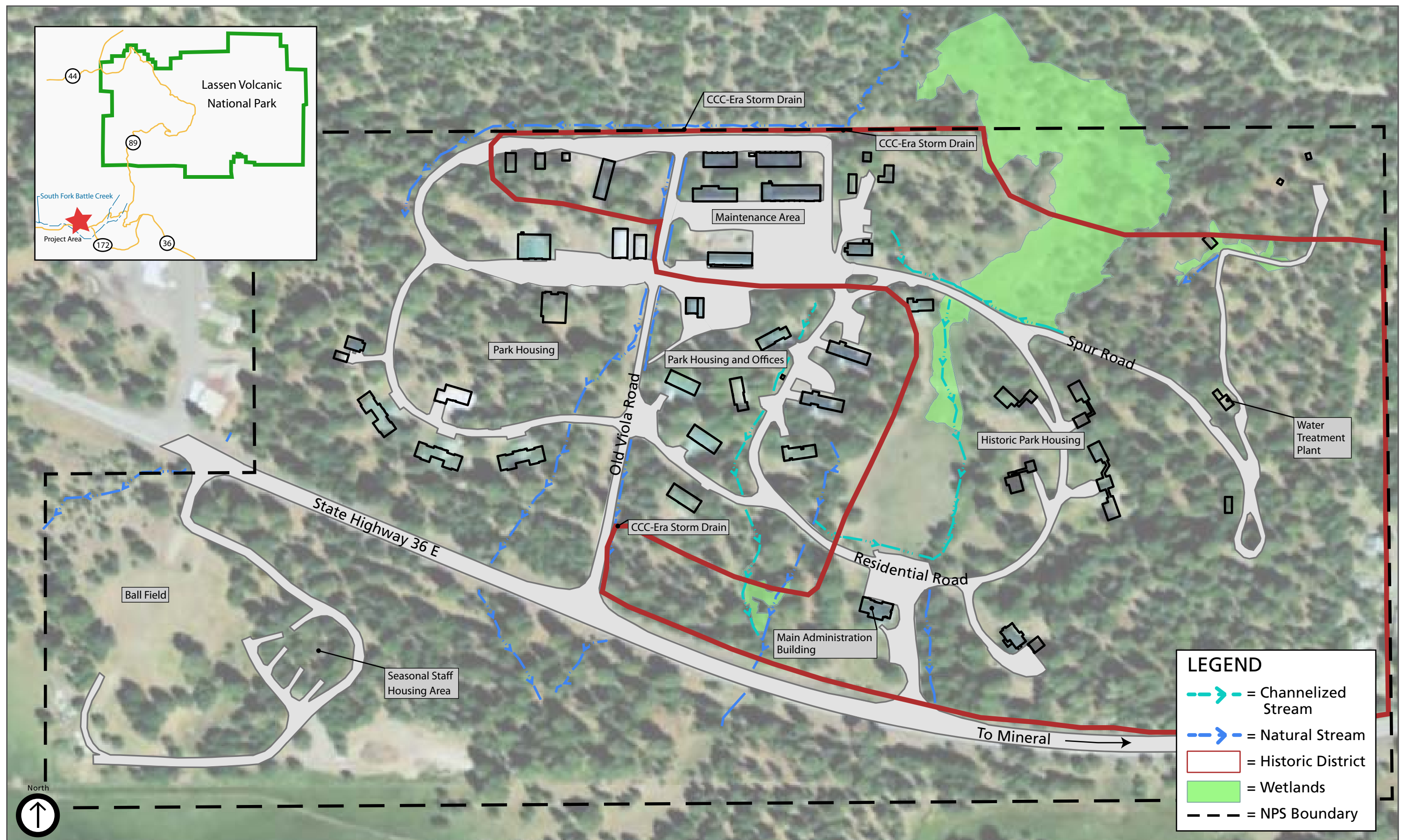


Figure 4: Map of the Mineral Headquarters Area  
Lassen Volcanic National Park  
U.S. Department of the Interior / National Park Service

0 250 500 1,000 Feet

## SCOPE OF ENVIRONMENTAL ASSESSMENT

This environmental assessment examines one action alternative and a no action alternative and analyzes their impacts to the human and natural environment. It fully describes each alternative, existing conditions in the project area, and equally analyzes the effects of each project alternative on the environment.

This environmental assessment was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4341 et seq.), as amended in 1975 by P.L. 94-52 and P.L. 94-83. Additional guidance includes NPS Director's Order #12 (NPS, 2001a) which implements Section 102(2) of the National Environmental Protection Act and the regulations established by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The project must comply with requirements of the National Environmental Policy Act, as well as, other legislation that governs land use, natural resource protection, and other policy issues within the park.

## RELATED LAWS, REGULATIONS, AND POLICIES

Numerous laws, regulations, and policies at the federal, state, and local levels guide the decisions and actions regarding upgrades to the utility infrastructure at Lassen Volcanic National Park. Some of the primary examples of these legal and regulatory constraints and bounds follow.

### NATIONAL PARK SERVICE LEGISLATION AND POLICIES

#### National Park Service Organic Act (1916)

Congress directed the U.S. Department of the Interior and the National Park Service to manage parks “to conserve the scenery and the natural and historic objects and the 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 § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that the National Park Service must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 United States Code § 1 a-1).

Despite these mandates, the Organic Act and its amendments afford the National Park Service latitude when making resource decisions that balance visitor recreation and resource preservation. By these acts, Congress “empowered [the National Park Service] with the authority to determine what uses of park resources are proper and what proportion of the park resources are available for each use” (*Bicycle Trails Council of Marin v. Babbitt*, 82 F.3d 1445, 1453 [9th Circuit 1996]).

Courts consistently interpret the Organic Act and its amendments to elevate resource conservation above visitor recreation. *Michigan United Conservation Clubs v. Lujan*, 949 F.2d 202, 206 (6th Circuit 1991) states, “Congress placed specific emphasis on conservation.” *The National Rifle Association of America v. Potter*, 628 Federal Supplement 903, 909 (D.D.C. 1986) states, “In the Organic Act Congress speaks of but a single purpose, namely, conservation.” *Management Policies* (NPS 2006) also recognizes that resource conservation takes precedence over visitor recreation. Section 1.4.3 states, “when there is a conflict

between conserving resources and values and providing for enjoyment of them, conservation is to be predominant.”

Because conservation remains predominant, the National Park Service seeks to avoid or to minimize adverse impacts to park resources and values, though they may allow negative impacts when necessary to fulfill park purposes, as long as the impact does not constitute impairment of the affected resources and values (NPS 2006). That discretion to allow certain impacts within the park is limited by statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006). An adverse impact constitutes impairment to the extent that it has a major adverse effect on a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park.
- Key to the natural or cultural integrity of the park.
- Identified as a goal in the park’s general management plan or other relevant NPS planning documents.

To determine impairment, the National Park Service must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006). A nonimpairment determination for the proposed project will be provided in the decision document.

### **Enabling Legislation / Purpose and Significance of the Park**

Lassen Volcanic National Park was established by an Act of Congress on August 9, 1916 "for recreation purposes by the public and for the preservation from injury or spoliation of all timber, mineral deposits and natural curiosities or wonders within said park and their retention in their natural condition...and provide against the wanton destruction of the fish and game found within said park and against their capture or destruction...." Incorporated into the park were Cinder Cone and Lassen Peak National Monuments, which were established by Presidential Proclamations (No. 753 and 754) on May 6, 1907 as part of the Lassen Peak Forest Reserve (established on June 5, 1905 by Presidential Proclamation).

Lassen Volcanic National Park is an outstanding example of a dynamic geologic landscape and is of unquestioned national significance. Lassen Peak erupted over a six-year period between 1914 and 1921. Preserved within the park is the site of the most recent volcanic eruption within the continental United States, prior to the Mount Saint Helens eruption in May, 1980. Lassen Peak is one of the largest plug dome volcanoes in the world. The park is unique in that it also preserves, in a relatively small geographic area, examples of the three other types of volcanoes recognized by geologists: shield volcanoes, composite volcanoes and cinder cones. Also within the park is the most extensive, intact network of hydrothermal resources west of Yellowstone National Park, including outstanding examples of boiling springs, mudpots, and fumaroles.

In 1972 Congress designated 75 percent of the park (78,982 acres) as the Lassen Volcanic Wilderness. In addition to natural resources, the park preserves nationally significant cultural resources including 109 historic structures that are on the List of Classified Structures (most



of which date from early park development and the CCC era), over 100 archeological sites, and portions of the historic Nobles Emigrant Trail.

### **Management Policies**

*Management Policies* (NPS 2006) establishes service-wide policies for the preservation, management, and use of park resources and facilities. These policies provide guidelines and direction for management of resources within the park. The alternatives considered in the environmental assessment would incorporate and comply with the provisions of these mandates and policies.

### **Director's Order #12 and Handbook: Conservation Planning, Environmental Impact Analysis, and Decision-Making**

Director's Order #12 and the accompanying handbook (NPS 2001) lay the groundwork for how the National Park Service complies with the National Environmental Policy Act. (See 'National Environmental Policy Act, 1969, as Amended' in 'Other Federal Laws and Executive Orders' below.) Director's Order #12 and the handbook set forth a planning process for incorporating scientific and technical information and establishing a solid administrative record for NPS projects.

Director's Order #12 and Management Policies 2006 also require that parks analyze whether the impacts of a proposed action would constitute impairment as prohibited by the Organic Act of 1916 and the General Authorities Act. Impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact, and the cumulative effects of the impact in question and other impacts. A determination of whether the proposed action in this EA would cause impairment to park resources and values will be provided as an attachment in the decision document (FONSI anticipated) for this EA.

Director's Order #12 requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision-makers to understand implications of those impacts in the short and long-term, cumulatively, and in context, based on an understanding and interpretation by resource professionals and specialists.

### **General Authorities Act of 1970**

This act defines the National Park System as including " ... any area of land and water now or hereafter administered by the Secretary of the Interior through the National Park Service for park, monument, historic, parkway, recreational, or other purposes ... " (16 USC 1c[a]). It states that " ... each area within the national park system shall be administered in accordance with the provisions of any statute made specifically applicable to that area ... " (16 USC 1c[b]) and in addition with the various authorities relating generally to NPS areas, as long as the general legislation does not conflict with specific provisions.

## **OTHER FEDERAL LAWS AND EXECUTIVE ORDERS APPLICABLE TO THE PROJECT**

### **National Environmental Policy Act, 1969, as Amended**

Section 102(2)(c) of this act requires that an environmental analysis be prepared for proposed federal actions that may significantly affect the quality of the human environment or are major or controversial federal actions. The National Environmental Policy Act is implemented through regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The National Park Service has, in turn, adopted procedures to comply with the act and the Council on Environmental Quality regulations, as found in Director's Order #12, and its accompanying handbook (NPS 2001). Section 102(2) (c) of this act requires that an EIS be prepared for proposed major federal actions that may significantly affect the quality of the human environment.

### **National Parks Omnibus Management Act of 1998**

This act (16 USC 5901, et seq.) underscores National Environmental Policy Act in that both are fundamental to NPS park management decisions. Both acts provide direction for articulating and connecting the ultimate resource management decision to the analysis of impacts, using appropriate technical and scientific information. Both also recognize that such data may not be readily available and provide options for resource impact analysis in this case.

### **National Historic Preservation Act of 1966, as Amended**

The National Historic Preservation Act (NHPA) of 1966 (as amended) requires that proposals and alternatives relating to actions that could affect cultural resources both directly and indirectly, and the potential effects of those actions, be provided for review and comment by the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), and the Advisory Council on Historic Preservation. Compliance with Section 106 of the NHPA was conducted for the proposed action and included an assessment of effect that is included in the correspondence in Appendix A. The Section 106 assessment of effect was completed as a separate process from this EA, but is included here for reference.

### **Clean Water Act**

The Federal Pollution Control and Prevention Act of 1972, commonly known as the Clean Water Act, is the primary federal law in the United States governing water pollution. The purpose of the act is to make our nation's waters "fishable and swimmable" by 1983 by eliminating releases of toxic substances, controlling wastewater and storm water pollution of waterways, and instituting water quality standards and associated permitting systems.

The principal body of law currently in effect is based on the Federal Water Pollution Control Amendments of 1972, which significantly expanded and strengthened earlier legislation. Major amendments were made to the Clean Water Act of 1977 enacted by the 95th United States Congress and the Water Quality Act of 1987 enacted by the 100th United States Congress.

### **Safe Water Drinking Act**

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, the U.S. Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards.

The Act was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells.

### **Executive Order 11990 - Protection of Wetlands**

This Executive Order directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

### **Executive Order 13423 - Strengthening Federal Environmental, Energy, and Transportation Management**

This Executive Order requires the National Park Service and all other federal agencies to reduce energy intensity and greenhouse gas emissions by 3% each year, leading to a cumulative 30% reduction by the end of 2015, compared to a 2003 baseline. Executive Order 13423 also has sustainability requirements for water. Federal agencies must reduce water intensity (gallons per square foot) by 2% each year through 2015 for a total of 16%, based on water consumption in 2007.

### **Executive Order 13514**

This Executive Order sets sustainability goals for federal agencies to be achieved by improvements in environmental, energy, and economic performance. The Executive Order requires federal agencies to set a 2020 greenhouse gas emissions reduction target; increase energy efficiency; reduce fleet petroleum consumption; conserve water; reduce waste; support sustainable communities; and leverage federal purchasing power to promote environmentally responsible products and technologies.

## **PARK-SPECIFIC PLANS**

### **General Management Plan / Environmental Impact Statement**

The park completed a general management plan (GMP) in 2002 that guides park activities and management for 15 years. For the park's Mineral headquarters, which is the focus of this environmental assessment, the general management plan prescribes a "high level of management for protection and safety." In addition, it stipulates that, "facility design conforms to parkwide architectural design standards and is sensitive to historic settings and landscapes." When visitors are present in the headquarters area, the general management plan states that they should be, "confronted with developments reflecting environmental sensitivity and sustainability." Finally, the general management plan states that, "Utilities in this (headquarters) area are obsolete, unsafe, and unreliable. . . . Utilities will be upgraded and

replaced as needed for safe and dependable service, with provisions for back-up power for use on those frequent winter occasions when commercial electrical power is interrupted.”

### **Strategic Management Plan**

The park completed a Strategic Management Plan in 2009 which details the activities the park will engage in to further its mission and advance towards its long-term vision. These activities were developed cooperatively by park staff, partners, and stakeholders. In developing this plan, all aspects of park operations were open to discussion, starting with the park’s mission and vision statements. These were updated to reflect the spirit of the goals and objectives expressed by the park.

The park’s revised mission statement is as follows: “Our shared mission is to conserve, preserve, and protect Lassen Volcanic National Park, including its geological, biological, and cultural resources, for the enjoyment, education, and inspiration of present and future generations.” Its revised vision is as follows: “We, as stewards of Lassen Volcanic National Park, in collaboration with our stakeholders and partners, will demonstrate exemplary leadership in adaptability, sustainability, resource protection and interpretation of the unique features for which the park was established, and serve as a model for our global community.” Of the plan’s five goals, one aligns with an objective of the proposed utility replacement project. The park states that its staff seeks to, “become leaders in sustainability and use of renewable resources with the goal of becoming carbon neutral by 2016.”

### **RELATIONSHIP TO OTHER PLANS, POLICIES, AND ACTIONS**

Actions undertaken in association with the utilities replacement project have the potential to contribute to the cumulative effects of other plans and projects in or near the park. The following projects and plans have the ability to contribute to cumulative effects of the project. These are included in analyses of the cumulative scenario for the various impact topics addressed in the environmental assessment.

### **STRUCTURAL FIRE MANAGEMENT PLAN**

A structural fire management plan was completed in 2010 that set forth the operational policies and procedures necessary to establish and implement a structural fire prevention and protection program within the park. Structural fires have caused substantial damage to NPS properties, and these fires have also resulted in deaths and numerous injuries nationwide. Effective structural fire management is essential to the protection of human life, property and irreplaceable cultural and natural resources.

Aspects of the plan include conducting annual fire detection and suppression systems/equipment inspections, conducting preoccupancy and periodic inspections of park facilities, providing training to all park and concession employees in the basics of fire prevention and emergency response, and a periodic evaluation of the park's fire prevention and protection program on an as-needed basis. A primary objective of the plan is to promote fire prevention through code-compliant new construction, upgrading of existing structures, standardized and regularly scheduled fire inspections, and properly installing and maintaining detection and suppression systems to address and correct structural fire deficiencies.



## **CONSTRUCTION OF WATER TREATMENT PLANT**

A new water treatment plant was constructed in 2011 to serve the headquarters area. The former filtration treatment plant was antiquated and non-compliant. During heavy rain storms, the former treatment plant was unable to meet EPA drinking water standards for turbidity. Increased turbidity during storm events often led to state-ordered boil water notices that could remain in effect for as long as a week or more.

The project consisted of the removal of the previous water treatment plant and the construction of a new building to house higher capacity, fully compliant treatment equipment. The new plant is semi-automatic in operation and equipped with fail safe process equipment, along with a propane-powered automatic emergency standby generator (NPS 2009b).

## **CONSTRUCTION OF MINERAL CONFERENCE ROOM**

The Mineral Conference Room building is currently being constructed within the headquarters area and is anticipated to open in summer 2012. The building will provide a central location for employee functions or large meetings, and will also contain a fitness facility for park staff. Formerly, both meeting and exercise spaces were located in upstairs portions of historic buildings that were not best suited for the weight loading of large groups of people or exercise equipment. The new Mineral Conference Room will possess the capability of becoming an additional asset to the incident command post in the fire building. It is equipped with the appropriate internet and electrical systems to serve this ancillary purpose.

## **PROPOSED CONSTRUCTION OF WATER TANK**

The park has requested funding for a new treated water storage tank to be installed within the next five years. Currently, the headquarters area is without adequate water storage. The California Department of Health Services requires a minimum of 134,000 gallons of storage per 24 hour period for the headquarters area. The existing tank has a storage volume of 100,000 gallons with 50,000 of those gallons held back for fire protection. The remaining 50,000 gallons of domestic water supply is very often at a near low-pressure situation. The filtration plant produces a maximum of 103,000 gallons per day, with an average usage of 60,000 gallons per day. During times of filter plant maintenance or high raw water turbidities the plant is shut down. At other times the availability of water to backwash filters is insufficient. This creates an instant low water situation.

The proposal includes the construction of an additional 100,000-gallon water storage tank. The elevation of the existing 100,000-gallon tank is approximately 200 feet above the headquarters area, and finished water is gravity-fed. The new tank would be installed at the same location as the existing tank and would be connected to the existing water main. An abandoned above-ground 14,000-gallon concrete tank would be demolished and removed (NPS 2011b).

## **INTERIOR RENOVATIONS TO ADMINISTRATIVE BUILDING**

Future interior renovations to the Mineral headquarters administrative building are dependent upon funding, but are generally anticipated to occur in approximately 2013. The interior renovation project is expected to improve energy efficiencies by minimizing drafts that currently exist in the building during the winter season, thereby reducing energy costs. The project is also expected to improve productivity by utilizing better workspace

configurations. Construction activities would last for approximately six to eight months, and park staff would use other buildings during this time. Construction for this project is not anticipated to overlap with the proposed utility infrastructure improvements.

## **LAND ACQUISITION PLANS**

The park is considering the purchase of three separate parcels of land adjacent to the Mineral headquarters area, which together comprise approximately 125 acres. Construction on these parcels, if they are acquired, would not take place within the next ten years. However, in general, the land acquisition would provide the park with flexibility for expansion of administrative, maintenance, and housing facilities, as well as potential sites for increased generation of photovoltaic energy. In particular, should this acquisition occur, the park would be provided with a greater ability to conduct future construction outside the boundaries of the National Register of Historic Places district.

## **PROJECT TO RESTORE HABITAT IN BATTLE CREEK AND ITS TRIBUTARIES**

California has experienced a decline in salmon and steelhead populations, due to multiple causes, most notably the development of federal, state, municipal, and private water projects to meet growing demands. Actions to offset permanent stream habitat loss, such as establishing hatchery facilities, have maintained adequate stocks of some species. However, these actions have not been able to mitigate fully the loss of habitat used by species such as winter-run Chinook salmon, spring-run Chinook salmon, and steelhead (U.S. Bureau of Reclamation 2003).

The U.S. Department of the Interior, Bureau of Reclamation and the California State Water Resources Control Board are conducting the Battle Creek Salmon and Steelhead Restoration Project, which is an effort to reestablish approximately 42 miles of prime salmon and steelhead habitat on Battle Creek, plus an additional 6 miles of habitat on its tributaries. The restoration project would be accomplished primarily through the modification of the Battle Creek Hydroelectric Project facilities and operations, and would result in increased instream flow (U.S. Bureau of Reclamation 2003).

## **SCOPING**

Scoping is an early and open process to determine which environmental issues and alternatives should be addressed in an environmental assessment. Lassen Volcanic National Park conducted internal scoping in November 2010 with an interdisciplinary team of NPS staff, as well as external scoping with the public and interested and affected groups and agencies.

The interdisciplinary process of internal scoping defined the purpose and need for the project, identified potential alternatives to address these needs, determined what the issues were and what resources would be affected, and identified the relationship, if any, of the proposed action to other planning efforts at the park.

Public scoping began with letters announcing the project and a press release issued on December 15, 2010. Over 200 letters were sent to various individuals; businesses; and federal, state, and local agencies, such as the U.S. Fish and Wildlife Service (USFWS) and the California State Historic Preservation Office (SHPO). The park found no identifiable conflicts with any state or local plan, goal, or objective at that time. The announcement was also posted on the National Park Service's public comment website.

Four replies were received during scoping for this project. The Enterprise Rancheria and Shingle Springs Rancheria Tribes responded, asking for a work stoppage and notification should any cultural material be encountered during excavation. The California Department of Transportation (CalTrans) responded, noting that any potential work conducted in the highway right-of-way would require an encroachment permit. CalTrans also stated that no open cuts to the paved portion of the highway would be allowed. One private citizen also responded to scoping, asking about dates for any potential public meetings.

See Chapter 4 for additional details on consultation and coordination with interested parties. Appendix A includes copies of scoping letters and responses.

## ISSUES

Issues are concerns or topics that need to be considered in the course of developing a successful project that is consistent with governing laws, regulations, and policies and park resources. Issues need to be addressed in the analysis of the proposed project and its alternatives. Issues identified in association with the project to improve the utility infrastructure are as follows:

- Excavation for underground utilities could disturb archeological resources.
- Construction could disturb historic stone walls, ditches, and culverts. These features contribute to National Register of Historic places district and to the cultural landscape.
- Trenching could damage root systems of old-growth trees that contribute to the cultural landscape.
- Groundwater flow could be altered by underground conduits.
- Trenching may affect water quality near wetlands in the headquarters area, as well as near a stream that traverses the project area.
- Trenching in a roadway that crosses a delineated wetland within the headquarters area may affect wetland resources.

## IMPACT TOPICS

Specific impact topics were developed for discussion, and to allow comparison of the environmental consequences of each alternative. These impact topics were identified based on federal laws, regulations, and Executive Orders; 2006 NPS *Management Policies*; and NPS knowledge of the affected resources. A brief rationale for the selection of each impact topic is given below, as well as the rationale for dismissing specific topics from further consideration.

### IMPACT TOPICS IDENTIFIED FOR FURTHER ANALYSIS

#### Cultural Resources

**Archeological Resources.** Trenching for utility conduits could disturb archeological resources.

**Historic Structures.** Construction activities associated with the action alternative are not anticipated to affect the historic fabric of the NRHP district's buildings. However, historic ditches and stone culverts are contributing resources to the district and could be disturbed

during trenching. One historic structure within the district would also be adaptively used for telecommunications equipment. On the other hand, removal of individual propane tanks and overhead powerlines has the potential to improve the viewshed of the historic district.

**Cultural Landscapes.** According to the National Park Service's Cultural Resource Management Guideline (DO-28), a cultural landscape is, "a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions" (NPS 1998b). As previously mentioned, stone ditches, culverts, and walls could potentially be affected during proposed construction activities. These elements contribute to the cultural landscape. In addition, old-growth trees also contribute to the cultural landscape and could be damaged during trenching associated with the action alternative. Removal of individual propane tanks and overhead powerlines has the potential to improve the viewshed of the cultural landscape.

Compliance with Section 106 of the NHPA was conducted for the proposed action and included an assessment of effect that is included in the correspondence in Appendix A. The Section 106 assessment of effect was completed as a separate process from this EA, but is included here for reference.

### **Water Resources**

Leakage resulting from deterioration of the water and wastewater systems increases the potential for contamination of water resources in the park. Ground disturbance from the proposed project could increase sediment erosion into nearby Battle Creek and into the surface waters within the wetland that occurs within the project area.

### **Public Health and Safety**

Power outages could result in unsafe conditions for park staff and resident community. Emergency repairs to utilities also could result in injuries. Leaking water and wastewater lines could pose risks to the potable water supply.

### **Park Operations**

Power outages result in lost time for NPS staff. Overall utility inadequacies are a burden on staff time and park resources to maintain and repair.

## **IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS**

### **Soils**

According to the National Park Service's 2006 *Management Policies*, the National Park Service will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2006). These policies also state that the National Park Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources. The proposed action would generate only a small amount of surface disturbance for the installation of utility infrastructure predominantly within the footprint of the previously disturbed utility



corridors within the headquarters area. Effects of the proposed action to sediment erosion are considered in the water resources analysis.

### **Vegetation**

According to the National Park Service's 2006 *Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). Because most construction activities associated with the action alternative would be within existing roadways, vegetation would only be displaced, disturbed, and/or compacted to a very small degree. Effects of the proposed action to mature trees are considered in the analysis of cultural landscapes.

### **Wildlife**

During construction there could be a temporary disturbance or displacement of wildlife common to the Mineral Headquarters area and its environs. The surrounding land, however, would continue to provide abundant nesting, escape, and protective cover. Some small animals may be forced to temporarily relocate to areas outside the general project area, but this would not have any long-term adverse effect upon local populations. Wildlife would be expected to reoccupy the general project area following construction. Overall, impacts would be adverse but negligible and short-term.

### **Wetlands**

Wetlands within the project area are associated with a small perennial stream that flows north to south through the meadow at the center of the site swale. Utilities would be placed beneath the road that crosses the wetland and may result in localized runoff, sedimentation, and turbidity into the wetland and localized loss of plants due to trampling. Impacts to wetlands from the activities proposed under Alternative B are estimated to be 3,000 square feet (< 0.1 acre). With implementation of construction fencing and use of best management practices by contractors, impacts to the wetland would be short-term, localized, less than minor, and adverse.

NPS policies require that a "Wetland Statement of Findings" be completed for all new adverse impacts to wetlands, regardless of size. The statement of finding: (1) documents compliance with NPS policies; (2) provides the rationale for selecting the preferred alternative that has adverse wetland impacts; and (3) explains why no alternatives with less wetland impacts were practicable.

However, certain activities (and related compensation) may be exempted from the requirement for a statement of findings. In terms of the proposed project, minor stream crossings for underground utilities are exempted (NPS 2008). Therefore, a statement of findings is not necessary for the proposed action.

### **Visitor Use and Experience**

The main administration building was formerly used for visitor contact. However, the park has recently opened a new visitor center in another location. After this new visitor center opened in 2008, the Mineral headquarters area ceased its use as a visitor contact station and now only serves park staff and a small NPS residential community.

### **Conflicts with Land Use Plans, Policies, or Controls, and Urban Quality**

Whenever actions taken by the National Park Service have the potential to affect the planning, land use, or development patterns on adjacent or nearby lands, the effects of these actions must be considered. None of the actions proposed in this plan would affect land use within or outside the park, and the park is not situated in an urban area.

### **Environmental Justice**

Presidential Executive Order 12898, General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. According to the Environmental Protection Agency, environmental justice is the

“...fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”

The goal of fair treatment is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.

In the Mineral, California area, communities contain both minority and low-income populations; however, environmental justice is dismissed as an impact topic for the following reasons:

- The park staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of either alternative would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with implementation of either alternative would not disproportionately affect any minority or low-income population or community.
- Implementation of either alternative would not result in any identified effects that would be specific to any minority or low-income community.

### **Prime and Unique Agricultural Lands**

The Council on Environmental Quality 1981 memorandum on prime and unique farmlands states that prime farmlands have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique agricultural land is land other than prime farmland that is used for production of specific high-value food and fiber crops. No such agricultural sites are found within the project area. Soils present in the headquarters area are predominantly stony or gravelly loams (National Resource

Conservation Service 2011), which are not consistent with conditions necessary for prime and unique agricultural lands.

### **Special Status Species**

The Endangered Species Act of 1973 requires examination of impacts to all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the 2006 *Management Policies* and Director's Order-77 *Natural Resources Management Guidelines* require the National Park Service to examine the impacts to federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species. No threatened, endangered, or other species of concern are known to occur in the headquarters area.

### **Ecologically Critical Areas or other Unique Natural Resources**

Neither alternative would affect any designated ecologically critical areas, wild and scenic rivers, or other unique natural resources, as referenced in the Wild and Scenic Rivers Act, *Management Policies* (NPS 2006), 40 CFR 1508.27, or the criteria for national natural landmarks (36 CFR 62), as none are present within the park.

### **Energy Requirements and Conservation Potential**

The Council on Environmental Quality guidelines for implementing the National Environmental Policy Act require examination of energy requirements and conservation potential as a possible impact topic in National Environmental Policy Act documents.

Lassen Volcanic National Park strives to incorporate the principles of sustainable design and development into all facilities and park operations. Sustainability can be described as the result achieved by doing things in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices minimize the short- and long-term environmental impacts of developments and other activities through resource conservation, recycling, waste minimization, and the use of energy efficient and ecologically responsible materials and techniques.

The National Park Service's *Guiding Principles of Sustainable Design* (1993) provide a basis for achieving sustainability in facility planning and design, emphasizes the importance of biodiversity, and encourages responsible decisions. The guidebook describes principles to be used in the design and management of park facilities that emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The park strives to reduce energy costs, eliminate waste, and conserve energy resources by using energy efficient and cost effective technology wherever possible. Energy efficiency is also to be incorporated into any decision-making process during the design or construction of facilities, as well as all decisions affecting park operations. The use of value analysis and value engineering, including life cycle cost analysis, is performed to examine energy, environmental, and economic implications of proposed development. The park also encourages suppliers, permittees, and contractors to follow sustainable practices and address sustainable park and non-park practices in interpretive programs.

The preferred alternative would result in the conservation of resources. Replacement of the waterlines would eliminate the loss of water, contribute to water conservation measures, and provide for sustainable use of water resources. Installation of a more efficient site lighting system would reduce the overall energy requirement and increase the potential for energy conservation. Furthermore, use of larger, centralized propane tanks would result in substantially fewer product deliveries in contrast to the current need for weekly propane delivery. Consequently, any adverse impacts relating to energy use, availability, or conservation would be negligible.

### **Climate Change**

Climate change refers to any significant changes in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality and storm frequency) lasting for an extended period (decades or longer). Recent reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change provide evidence that climate change is occurring as a result of rising greenhouse gas (GHG) emissions and could accelerate in the coming decades. While climate change is a global phenomenon, it manifests differently depending on regional and local factors. General changes that are expected to occur in the future as a result of climate change include hotter, drier summers; warmer winters; warmer water; higher ocean levels; more severe wildfires; degraded air quality, more heavy downpours and flooding, and increased drought. Climate change is a far-reaching, long-term issue that could affect Lassen Volcanic National Park, its resources, visitors, and management. Although some effects of climate change are considered known or likely to occur, many potential impacts are unknown. Much depends on the rate at which the temperature would continue to rise and whether global emissions of greenhouse gases can be reduced or mitigated. Climate change science is a rapidly advancing field and new information is being collected and released continually.

Construction activities associated with implementation of the proposed action would contribute to increased GHG emissions but such emissions would be short-term and negligible, ending with the cessation of construction. Any effects of construction-related GHG emissions on climate change would not be discernible at a regional scale, as it is not possible to meaningfully link the GHG emissions of such limited, individual project actions to quantitative effects on regional or global climatic patterns.

### **Indian Trust Resources**

Indian trust assets are owned by American Indians but are held in trust by the United States. Requirements are included in the Secretary of the Interior's Secretarial Order 3206, American Indian Tribal Rites, Federal – Tribal Trust Responsibilities, and the Endangered Species Act, and Secretarial Order 3175, Departmental Responsibilities for Indian Trust Resources. According to Lassen Volcanic National Park staff, Indian trust assets do not occur within the park.

### **Lightscape Management**

In accordance with 2006 *Management Policies*, the National Park Service strives to preserve natural ambient lightscapes, which are natural resources and values that exist in the absence of human caused light (NPS 2006). Lassen Volcanic National Park strives to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. The park

also strives to ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky.

The proposed action incorporates minimal exterior lighting in the headquarters area, and the lighting would be directed toward intended areas with appropriate shielding mechanisms and would be placed in only those areas where lighting is needed for safety reasons. The amount and extent of exterior lighting would have negligible effects on the existing outside lighting or natural night sky of the area.

### **Visual Quality**

Section 9.1.5.3 of 2006 *Management Policies* states that, “Where feasible, NPS utility lines will be placed underground, except where such placement would cause significant damage to natural or cultural resources” (NPS 2006). This guidance is in keeping with the Organic Act’s mandate to conserve scenery in national parks.

Utility upgrades associated with the action alternatives include burial of overhead powerlines and removal of building-specific propane tanks. Because the viewshed within the headquarters area is analyzed in the cultural landscapes discussion, and because no adverse visual impacts would be anticipated from implementation of the action alternative, this impact topic was dismissed from detailed analysis.

### **Wilderness**

There are no areas currently designated as wilderness in or adjacent to the headquarters area. It is also unlikely that any land within the proposed project area would meet the criteria established in the Wilderness Act of 1964 (16 United States Code 1131, et seq.) – that the “imprint of man’s work substantially unnoticeable” – because of existing development, historic structures, and a history of human occupation of the area. This impact topic is, therefore, dismissed from further analysis.

### **Ethnographic Resources**

National Park Service’s Director’s Order-28 Cultural Resource Management defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the National Park Service should try to preserve and protect ethnographic resources. No ethnographic resources have been identified within the project area; therefore, this topic was not carried forward for analysis.

### **Museum Collections**

According to Director’s Order-24 Museum Collections, the National Park Service requires the consideration of impacts to museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections. No museum collections are maintained within the project area and excavations associated with the action alternative are not anticipated to result in the discovery of substantial artifacts; therefore, this topic was dismissed from further analysis.



### **Natural Soundscapes**

In accordance with 2006 Management Policies and Director's Order-47 Sound Preservation and Noise Management, an important component of the National Park Service's mission is the preservation of natural soundscapes associated with national park units (NPS 2006). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

Construction activity associated with the action alternative would occur in what can be considered a developed zone of the park. Existing sounds in this area are most often generated from vehicular traffic, people, maintenance activities, and wind. During construction, human-caused sounds would likely increase due to construction activities, equipment, vehicular traffic, and construction crews. Any sounds generated from construction would be temporary, lasting only as long as the construction activity is generating the sound. Because these effects are minor or less in degree, this topic is dismissed from further analysis.

### **Socioeconomic Environment**

Neither alternative would change local and regional land use nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a beneficial impact to the economies of nearby Mineral, California, as well Tehama County due to minimal increases in employment opportunities for the construction workforce and revenues for local businesses and governments generated from these additional construction activities and workers. Any increase in workforce and revenue, however, would be temporary and negligible, lasting only as long as construction. As such, this topic was dismissed from further analysis.

## CHAPTER 2: THE ALTERNATIVES

### DEVELOPMENT OF THE ALTERNATIVES

National Environmental Policy Act implementing regulations provide guidance on the consideration of alternatives in an EA. These regulations require the decision-maker to consider the environmental effects of the proposed action and a range of alternatives (40 CFR § 1502.14). The range of alternatives includes reasonable alternatives that must be rigorously and objectively explored, as well as other alternatives that are eliminated from detailed study. To be “reasonable,” an alternative must meet the stated purpose of and need for the project. There are two alternatives proposed in this EA: Alternative A, the No Action Alternative and Alternative B, the NPS Preferred Alternative.

The purpose of including a No Action Alternative in environmental impact analyses is to ensure that agencies compare the potential impacts of the proposed action to the known impacts of maintaining the *status quo*. Current conditions are used as a benchmark. By using the current conditions as the No Action Alternative, impacts of the proposed alternatives can be directly compared to the existing baseline.

Alternative A, the No Action Alternative, represents the current conditions in the project area. The action alternative proposed in this environmental assessment was developed by the park after careful assessment by subject-matter experts, including natural and cultural resource specialists, park planners and managers, and input by the public during project scoping. The collective efforts of these individuals formed the basis for development of the proposed action alternative, the Preferred Alternative.

Alternative B, the Preferred Alternative, represents the NPS proposed action and defines the rationale for the action in terms of resource protection and management, operational use, and other applicable factors.

The alternatives were developed to address current utility and system inadequacies and not in response to any anticipated increase in demand for either water or sewer services. Inadequacies include the ongoing deterioration of both sewer and water lines, which limits their ability to effectively convey sanitary water and potable water, respectively; the diminished capacity of the sewer pipes due to obstruction by solid waste and root materials; and the capacity of the current leach field. This alternative was designed to minimize sewer line leakages and blockages by abandoning the current sewer lines and installing new ones, consolidate the electric utilities underground, and provide adequate telecommunication services. Water line leakages would be similarly addressed by wholesale replacement of the pipes servicing the headquarters area administration buildings and residences, as well as those servicing the park headquarters seasonal staff housing area. Implementing these approaches would improve sanitary sewer and water service, help maintain a high quality work environment for park staff, and limit operational expenses associated with maintaining the aged utilities.

### ACTIONS COMMON TO BOTH ALTERNATIVES

A number of actions were considered that are common to both alternatives. These actions include the sewer line and water line placement, road crossings, routine maintenance, and inspection.

***Sewer Line and Water Line Placement.*** As maintaining a gravity-based sanitary sewer system was determined to be the most suitable approach, the locations of the existing sewer lines also generally represent the optimal location for the proposed replacement lines. Therefore, alternative locations for sewer lines were not evaluated. Each alternative considered abandoning the current pipes in place and installing new lines in close proximity. The positioning of the existing water lines also was considered to be largely optimized. Therefore, the replacement water lines were proposed to be located immediately adjacent to existing lines in each alternatives considered.

***Road Crossings and Repaving .*** As the roads within the headquarters have been resurfaced within the last several years, each alternative was somewhat constrained by the need to avoid disturbance to roads where feasible. Road repaving will occur in both alternatives where utility trenches are dug, whether for emergency utility repairs in alternative A or for proposed new utility conduits in alternative B.

***Routine Maintenance and Inspection.*** All alternatives considered during the scoping process involved inspection of the sewer and water lines as well as water testing.

## DESCRIPTION OF THE ALTERNATIVES

### ALTERNATIVE A, THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the National Park Service would continue to use the park's existing utilities within the headquarters area, with no changes to the current infrastructure of overhead electrical lines; leaking water and wastewater lines; building-specific, above-ground propane tanks; unreliable telecommunications connections; and insufficient lighting. This alternative represents a continuation of the existing situation and provides a baseline for evaluating the impacts of the action alternative. Each aspect of the existing conditions is described more fully as follows:

#### Potable and Fire Water

The current system provides both potable and fire water and is fed by a 100,000 gallon concrete tank at the northeastern corner of the headquarters area. There is an 8-inch pipeline from the tank that feeds the distribution system, which primarily consists of 6-inch and smaller diameter lines built in the 1930-1960 time frame (Kennedy/Jenks 2011). The existing water lines are in a deteriorated condition, presumably leaking chlorinated water. Emergency repairs have been completed over the years, as the system does not effectively function and is generally unreliable.

#### Electrical

The headquarters area is served at 120/240 volts from Pacific Gas and Electric Company (PG&E) via overhead lines with pole-mounted transformers. Winter outages are common due to wind and/or snow. Downed overhead lines create outages eight to ten times per year on average, with durations of over one week for severe occurrences. There is limited back-up power on-site.

### **Telephone/Data/IT**

The existing overhead telephone utilities are provided by Frontier Communications Company and supply service to residents in the headquarters area, as well as limited telecommunication services to park offices. The existing telephone service enters the site near the Administration Building and follows the path of the electrical service. As with the electric service, downed overhead lines during storm events result in outages affecting the headquarters area.

### **Propane**

Propane gas is used at the headquarters area as fuel for space heating, water heating, cooking appliances, and other minor uses. Currently, the park has 33 leased propane tanks on-site to serve the buildings in the headquarters area. The current tank locations are hard to access for snow removal. Despite having bollards located nearby, three tanks have been hit by snow removal equipment in the last three winters, presenting substantial risk to staff and resident safety. Piping at each tank is exposed, making it susceptible to breakage during storm events. Propane deliveries are currently made every week, and tanks are filled on an as-needed basis during these deliveries. There is no propane service to the seasonal staff housing area.

### **Sanitary Sewer**

The existing sewer system was installed over time from the 1930s to the 1960s and has surpassed its expected useful life. In a recent inspection of the wastewater line, several deficiencies were noted, including extraordinary signs of aging and settlement which has caused dislocations, offsets and cracking in the line (Kennedy/Jenks 2011). These deficiencies are the cause of several leaks throughout the 3,000 linear feet of wastewater line running through the headquarters area. The inspection also indicated that the system is undersized for its use and is not in compliance with standard code. Blockages in the sewer line and/or reverse grade have led to sanitary sewer overflows, and infiltration of groundwater into the sanitary sewer during peak hydrological events in the spring and early summer may reach up to 76,000 gallons a day (Kennedy/Jenks 2011). In addition, an existing 1,500 gallon septic tank and leach field at the headquarters' seasonal staff housing area does not function properly. It employs the use of a septic tank that must be routinely pumped out and cleaned to ensure system performance. This is currently performed on an annual basis.

### **Site Lighting**

There are currently 13 lights in the headquarters area, of which only ten function. Some lights stay on all the time, while others do not turn on. Every resident building has a front and back porch light, and some buildings have photo-sensor or motion-sensor mounted fixtures. Current lighting does not utilize designs sensitive to night sky impacts.





**Figure 5: Alternative A, No Action**  
 Lassen Volcanic National Park  
 U.S. Department of the Interior / National Park Service



## **ALTERNATIVE B, REPLACEMENT OF UTILITY INFRASTRUCTURE, THE PREFERRED ALTERNATIVE**

Alternative B would result in the replacement of existing overhead and underground utilities in the administrative and residential area of Lassen Headquarters. The following utility systems would be replaced: potable and fire water, electrical, telephone/data/IT, propane, sanitary sewer, and site lighting. To the greatest extent possible, buried utilities would be consolidated to minimize trenching.

Each aspect of the action alternative is described more fully as follows:

### **Potable and Fire Water**

Under Alternative B, the existing potable water mainline and service connections to all buildings would be replaced in the headquarters area and an irrigation line provided for the main headquarters administration building site. New laterals would be provided to serve the existing seasonal staff housing area sites, as well as five additional proposed seasonal staff housing sites. Fire water capacity would be provided within the new water mainline, and fire sprinkler stubs would be provided to buildings. The fire hydrants would be replaced and relocated according to current fire protection code. Three new water sampling stations would be provided at strategic locations on site to allow for better water quality monitoring.

Alternative B would use either a single polyvinyl chloride (PVC) or high density polyethylene (HDPE) potable and fire water system routed predominantly in the existing roadways. Water mains would be primarily routed within the existing roadways to provide staff with maintenance access during heavy snow and to minimize impacts to natural and cultural resources. The pavement would be repaired above the trench, and the work would be coordinated with the other utility replacements which may warrant repaving of the entire street section. Existing water lines encountered during the installation of the new water lines would be removed, and existing water lines that run through the meadows and wetlands would be capped and filled to avoid disturbance of the natural environment.

### **Electrical**

Under Alternative B, the existing overhead electrical utilities would be replaced with underground electrical lines, beginning from the existing Pacific Gas & Electric (PG&E) 12,000 volt overhead electrical service pole located on the eastern side of the headquarters area and routed westward. PG&E would provide and install nine single phase transformers and service feeders to meters for administrative buildings and residences and would own and maintain the transformers, feeders, and meters. The park would provide and install transformer pads, handholes approximately every 400 feet and at locations requiring wire splices, and conduits for PG&E equipment. The park would only be responsible for maintaining the conduits and boxes. This arrangement would be similar to existing conditions except that all services would be underground instead of overhead. For the seasonal staff housing area located across the highway, underground electrical lines would be installed beginning from an existing PG&E power pole located approximately 200 feet to the west of the seasonal staff housing area.



### **Telephone/Data/IT**

Under Alternative B, underground fiber optic telecommunication lines would be installed beginning from an existing historic structure and routed westward. The existing building is the historic seismograph building #31. This building has not been in use since 1995. The structure stands near the eastern boundary of the Mineral Headquarters Historic District, across the road from the Headquarters Water Filtration Plant. With minor upgrades, seismograph building #31 will meet the standards, size and location specifications set forth by the telecommunications provider (Frontier Telecommunications).

It is anticipated that a future connection for the telephone system is not required for the seasonal staff housing area. Because there is insufficient space in the administration building basement to mount and store the necessary telephone equipment, the provider (Frontier) would bring its telephone lines to the point of entry at Building #31. Cabling that services residents would be separated from cabling that services park offices. Frontier will own and assume responsibility for underground telephone and data lines, while the park will own and maintain underground fiber optic lines.

### **Propane**

Under Alternative B, the 33 existing 500-gallon propane tanks would be removed and replaced with two centrally-located, 10,000-gallon propane tanks. Each tank would be approximately eight feet in diameter and 32 feet in length. A propane gas distribution loop would serve the buildings within the headquarters area.

Two tanks would reduce the number of propane containers to be filled, limit the number of service account records to be maintained, and limit the number of propane installations to be maintained either by the park or an outside supplier. The park would fill the large central tanks with propane purchased in bulk, and reduce its per-gallon propane costs. Each building would be internally metered to measure its propane use.

### **Sanitary Sewer**

Under Alternative B, the entire existing sanitary sewer system in the headquarters area north of Highway 36E would be replaced, while the existing septic system and leach field located at the seasonal staff housing area on the south side of the highway would be removed and replaced with a sanitary sewer collection system that connects to the Tehama County sewer main via a lift station. The new system would include HDPE piping primarily routed through the existing roadways to provide ease of access during heavy snow. A small lift station would be required to tie the new seasonal staff housing area collection system to the existing Tehama County sewer main, which conveys flow to the Tehama County sewage treatment plant. Existing piping encountered during the installation of the proposed system would be removed, with the exception of piping passing through the wetlands, which would be capped and filled to avoid environmental impacts. The pavement would be repaired above all trenching.

### **Site Lighting**

Under Alternative B, light emitting diode (LED) lamps and fixtures would be installed to provide light for the administrative areas, maintenance facilities, drainage ditches, intersections, parking lots, and hazardous features. Light sources would be located on corners or long stretches of roadway for guidance, not for illumination, in order to preserve the night sky. The location of the fixtures would take into account snow plow “push” areas.

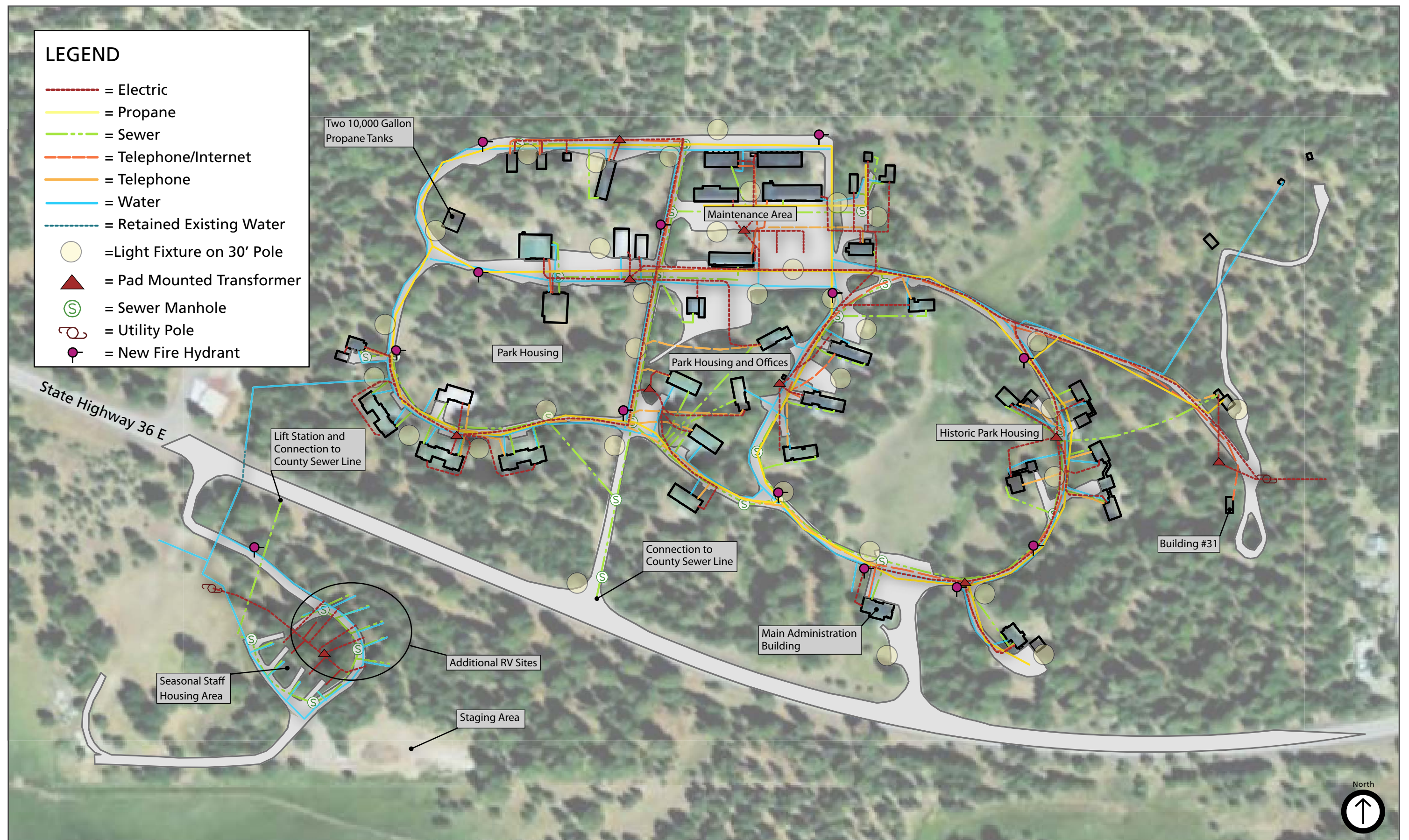
Approximately eight light poles would be located in the administrative area, ten in the maintenance area, ten in the housing area, and five along the roadway, intersections, and parking lots. This total number of light poles would be the maximum for the proposed project. Further consultation would be completed with Dark Night Sky experts, and additional information would be gathered on mandatory placement of lights to meet safety standards. These consultations may potentially reduce the number of total light poles proposed.

It is anticipated that pole-mounted roadway light fixtures would be designed to meet NPS standard illumination levels of 0.1 foot candles and use proper photometric distribution. Controls would include a combination of photocells and timers. All roadway lighting, lamps and controls would be owned and maintained by the National Park Service.

### **Construction**

Construction is assumed to begin in Spring 2015 and would occur over two construction seasons due to the late end and early onset of winter conditions in the area. Construction would be carried out such that utilities would not be unavailable to park staff or the residential community during construction activities. The ballfield area, adjacent to the seasonal staff housing area and on the southern side of Highway 36, would be used as a staging area for construction equipment.





0 250 500 1,000 Feet

**Figure 6: Alternative B, Preferred**  
 Lassen Volcanic National Park  
 U.S. Department of the Interior / National Park Service



## ENVIRONMENTALLY PREFERABLE ALTERNATIVE

In accordance with Director's Order #12, the National Park Service is required to identify the "environmentally preferable alternative" in all environmental documents. The environmentally preferable alternative is determined by applying the criteria suggested in the National Environmental Policy Act, which is guided by the Council on Environmental Quality. The Council on Environmental Quality provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in Section 101 of the National Environmental Policy Act, which considers:

- Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assuring for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings.
- Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
- Preserving important historic, cultural and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
- Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources (NEPA, section 101)."

Generally, these criteria mean the environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources (Federal Register 1981). Based on the above evaluation, it has been determined that Alternative B would be considered the environmentally preferable alternative.

Under Alternative A, cultural and natural resources within the Mineral headquarters area would continue to be adversely affected by the outdated and ineffective utility infrastructure. Structures contributing to the historic district would continue to be at risk of fire caused by downed powerlines, as well as water damage from pipes frozen during lengthy power outages. The viewshed of the cultural landscape would also continue to be diminished due to visual clutter created by the numerous individual propane tanks and overhead powerlines. Leaking sewer and water lines would continue to pose risks for both groundwater and potable water contamination. Utility infrastructure deficiencies would continue to adversely affect park operations because of high rates of emergency repairs, operational interruptions during outages of long duration, and poor telecommunications reliability.

Alternative B (the NPS Preferred Alternative) would increase protection of both natural and cultural resources and better fulfill the role of the park as trustee of the environment for future generations. Alternative B would result in a safer and more aesthetically pleasing headquarters area environment. Buried powerlines would substantially reduce the risk of fire or water damage to historic structures, and elimination of building-specific propane tanks and overhead powerlines would improve the viewshed of the cultural landscape. Replacing leaking sewer and water lines would reduce the potential to contaminate groundwater and would improve water conservation. Alternative B would improve public health and safety for

NPS staff and the residential community that use the headquarters area by eliminating the potential for potable water contamination, improving site lighting conditions, and providing reliable utilities.

### ALTERNATIVES CONSIDERED AND DISMISSED

The park considered two alternatives – Alternative A, the no action alternative and Alternative B, the NPS Preferred alternative. The following aspects were considered for project implementation, but were ultimately dismissed from further analysis as a result of value analysis (Kennedy/Jenks 2011):

- ***Installation of a dual water system for potable water and fire suppression.*** The original historic district area has separate potable and fire water mains, while in the Mission 66 area, both potable and fire water use the same pipeline. Separating the two water sources could be advantageous because a potable water line would have a backflow preventer; a separate fire line would not influence pressure of the potable water line; and flushing of hydrants could occur without disturbing the drinking water main and causing water hammer. However, this aspect was dismissed because the value analysis found that the degree of increased project costs outweighed the associated advantages.
- ***Below-grade installation of smaller propane tanks dispersed in several locations.*** Installation of multiple propane tanks below grade was dismissed because of the difficulty associated with maintaining regulators and valves in a below-grade assembly. Installation of an array of smaller, but dispersed, tanks was discussed due to the potential visual impacts of 10,000 gallon above-ground tanks. However, this was dismissed because the use of fewer tanks would result in reduced maintenance, reduced risk for damage to tanks or appurtenances, and a more reliable propane source.
- ***Conversion of some equipment on-site from propane to electrical use so that fewer tanks and/or less propane would be required.*** Currently, furnaces and hot water heaters are powered by propane. The advantage of electric is that the park could buy “green” electricity; it would be more stable; and, pricing would be better regulated. However, this was dismissed due to the difficulty of converting large appliances to electricity and because the resulting power demand would exceed the capacity of the electric provider.
- ***Introduction of electric service in areas other than along the eastern boundary.*** PG&E has indicated that it would only provide service to the eastern area of the site. Participants in the value analysis did not believe that any other entry points provided advantages substantial enough to warrant negotiating this point with PG&E.
- ***Retain the communications room in the main administration building.*** The main communications room for the headquarters’ data/IT network is currently located in the main administration building basement. This room is occasionally flooded and there is no direct access for Frontier. Due to these factors, this was dismissed.
- ***Alignments impacting natural or cultural resources.*** Any alternative elements that included alignments anticipated to impact wetlands or historic stone features, or that would require creek crossings, were dismissed from further consideration.

## COMPARISON OF THE ALTERNATIVES

Table 1 shows the ability of the two alternatives to meet the project objectives. This provides a way to quickly compare the degree to which each alternative accomplishes the purpose or fulfills the need identified in the “Purpose and Need” chapter.

Table 1. Ability of the Alternatives to Meet The Objectives

Objective	Alternative A	Alternative B
<i>Limit the frequency and duration of utility outages</i>	Under Alternative A, frequent and long-lasting utility outages would continue to occur during winter storms.  This objective would not be met.	Under Alternative B, underground utility lines would likely reduce the frequency and duration of outages.  This objective would be met.
<i>Address leaks in water and wastewater lines</i>	Under Alternative A, leaks would continue to occur in buried pipes.  This objective would not be met.	Under Alternative B, new water and wastewater lines would be less susceptible to leaks.  This objective would be met.
<i>Minimize maintenance necessary for propane service, as well as reduce potential for propane explosions</i>	Under Alternative A, intensive winter maintenance would still be necessary, and risk of damage to propane tanks and potential explosions would continue to exist.  This objective would not be met.	Under Alternative B, two centralized propane tanks with buried distribution lines would minimize maintenance needs and reduce the potential for damage to the tanks and possibility of explosions.  This objective would be met.
<i>Modernize telecommunications</i>	Under Alternative A, telecommunications capabilities would continue to be outdated and unreliable.  This objective would not be met.	Under Alternative B, the telecommunications network would consist of the latest technology and would be more reliable because lines would be buried and therefore not subject to damage during inclement conditions.  This objective would be met.



Table 1. Ability of the Alternatives to Meet The Objectives

Objective	Alternative A	Alternative B
<i>Improve site lighting</i>	<p>Under Alternative A, some site lighting would continue to be non-functional. Those lights that do work would not have appropriate shielding designs to preserve the night sky, nor would they function using proper switches that minimize their overall operation time.</p> <p>This objective would not be met.</p>	<p>Under Alternative B, the installation of new site lighting would ensure that all lights function. In addition, the newly installed lighting would make use of appropriate shielding design that helps preserve the night sky, and would function using proper switches that reduce overall operation time.</p> <p>This objective would be met.</p>
<i>Limit park staff's time lost due to inclement weather</i>	<p>Under Alternative A, park staff would continue to experience lost time during storm events due to power and telecommunication outages.</p> <p>This objective would not be met.</p>	<p>Under Alternative B, underground powerlines would be less susceptible to damage during inclement weather. As a result, power and telecommunication outages that necessitate dismissal of park staff from the headquarters area would be less frequent.</p> <p>This objective would be met.</p>
<i>Reduce risks to park staff and community safety.</i>	<p>Under Alternative A, park staff and residential community members would continue to experience decreased safety due to risks associated with downed powerlines and leaking propane tanks. Some park staff would be subjected to even greater risk associated with the repair of damaged utilities.</p> <p>This objective would not be met.</p>	<p>Under Alternative B, park staff and community members would experience improved safety due to the minimized risk associated with buried powerlines and a centralized propane source. Park staff responsible for emergency utility repairs would experience even greater reductions to risk due to the reliability of a new utility infrastructure which would require less frequent maintenance. Furthermore, fire suppression capabilities would be upgraded with additional fire hydrants and improved piping</p> <p>This objective would be met.</p>

## SUMMARY OF IMPACTS

Table 2 briefly summarizes the effects of each of the alternatives for the impact topics that were retained for analysis. The impacts summarized in this table include both direct and cumulative impacts. More detailed information on the effects of the alternatives is provided in the “Affected Environment and Environmental Consequences” chapter.

**Table 2. Summary of the Impacts of the Alternatives**

Resource Topic	Alternative A	Alternative B
<i>Cultural Resources – Historic Structures</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be direct, localized, minor to moderate, long-term, and adverse.</p> <p>The cumulative effect of the No Action Alternative combined with other projects and plans would be direct, localized, minor to moderate, long-term, and adverse.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be direct, localized, long-term, and beneficial, as well as direct, localized, long-term, minor, and adverse.</p> <p>The cumulative effect of Alternative B combined with other projects and plans would be direct, localized, long-term, and beneficial.</p>
<i>Cultural Resources – Cultural Landscapes</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be direct, localized, minor, long-term, and adverse.</p> <p>The cumulative effect of the No Action Alternative combined with other projects and plans would be direct, localized, minor, long-term, and adverse.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be direct, localized, long-term, and beneficial, as well as direct, localized, short-term, minor, and adverse.</p> <p>The cumulative effect of Alternative B combined with other projects and plans would be direct, localized, long-term, and beneficial.</p>
<i>Cultural Resources – Archeological Resources</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be direct, localized, negligible, long-term, and adverse.</p> <p>No specific past, present, or future plans or actions were identified to consider relative to the impacts of Alternative A.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be direct, localized, negligible to minor, long-term, and adverse.</p> <p>No specific past, present, or future plans or actions were identified to consider relative to the impacts of Alternative B.</p>

Table 2. Summary of the Impacts of the Alternatives

Resource Topic	Alternative A	Alternative B
<i>Water Resources</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be long-term, localized, minor to moderate, and adverse on water resources.</p> <p>The cumulative effect of the No Action Alternative combined with other projects and plans would be direct and indirect, localized, long-term, and beneficial.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be short-term, localized, minor, adverse, and long-term, localized, and beneficial on water resources.</p> <p>The cumulative effect of Alternative B combined with other projects and plans would be direct and indirect, localized, long-term, and beneficial.</p>
<i>Public Health and Safety</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be direct, localized, negligible to minor, short- and long-term, and adverse.</p> <p>The cumulative effect of the No Action Alternative combined with other projects and plans would be direct, localized, negligible, short- and long-term, and adverse.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be direct, localized, short- and long-term, and beneficial.</p> <p>The cumulative effect of Alternative B combined with other projects and plans would be direct, localized, short- and long-term, and beneficial.</p>
<i>Park Operations</i>	<p>Impacts from continuing use of the current utility infrastructure in the park would be direct, localized, moderate, short- and long-term, and adverse.</p> <p>The cumulative effect of the No Action Alternative combined with other projects and plans would be direct, localized, minor to moderate, short- and long-term and adverse.</p>	<p>Impacts from replacement of the utility infrastructure in the park would be direct, localized, short- and long-term, beneficial.</p> <p>The cumulative effect of Alternative B combined with other projects and plans would be direct, localized, short- and long-term and beneficial.</p>

## MITIGATION MEASURES

The resource protection measures identified in Table 3 would be implemented to avoid or minimize potential construction related impacts to natural and cultural resources. These measures would be implemented as part of the action alternative.

**Table 3. Mitigation Measures of the Proposed Action Alternative**

Resource Topic	Mitigation Measure
<i>Cultural Resources – Historic Structures</i>	<ul style="list-style-type: none"> <li>• Historic CCC era stonework, which contributes to the NRHP district, would be avoided.</li> </ul>
<i>Cultural Resources – Cultural Landscapes</i>	<ul style="list-style-type: none"> <li>• Curves would be incorporated (within the allowable pipe bending radius) in pipeline alignments to minimize damage to roots of mature trees that contribute to the cultural landscape.</li> <li>• The action alternative would involve the reuse of the historic seismograph building #31, rather than the addition of a new structure to the historic district.</li> <li>• During project setup and any necessary maintenance of the telecommunication system, an Argo 8x8 soft tire all terrain vehicle, and accompanying trailer if needed, would be utilized to access building #31, minimizing ground disturbance and eliminating the need for construction of a fill-based driveway.</li> </ul>
<i>Cultural Resources – Archeological Resources</i>	<ul style="list-style-type: none"> <li>• Underground duct design would be coordinated such that utilities are located in the same trench to the greatest extent possible, reducing total area of disturbance.</li> <li>• An archeological monitor would be present during all ground-disturbing activities.</li> <li>• If previously unknown archeological resources were discovered during construction, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented by NPS staff. If the resources could not be preserved in situ, an appropriate mitigation strategy would be developed in consultation with the state historic preservation officer and, as necessary, American Indian tribes. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed. If non-Indian human remains were discovered, standard reporting procedures to the proper authorities would be followed, as would all applicable federal, state, and local laws.</li> </ul>

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**Table 3. Mitigation Measures of the Proposed Action Alternative**


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<i>Water Resources</i>	<ul style="list-style-type: none"> <li>• Soil erosion best management practices such as sediment traps, erosion check screen filters, jute mesh, and hydro mulch (pre-approved by the vegetation ecologist) would be used to prevent the entry of sediment into water-ways.</li> <li>• Bentonite dams would be used in the construction of open-cut utility trenches to avoid providing a route for groundwater.</li> <li>• Lateral/service connections would avoid crossing creeks.</li> <li>• Abandoned pipes would be capped and filled to avoid water intrusion and conveyance.</li> </ul>
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*General  
Construction Best  
Management  
Practices (BMPs)*

- Construction zones would be identified and fenced with construction tape, fencing, flags, stakes and/or other materials prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. It would identify areas of special concern such as wetlands or archeological sites and provide a buffer zone for these areas. The areas of special concern would be marked with a different color to differentiate them from the construction zone. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
  - Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
  - To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time and would follow guidelines in the park's *Climate Friendly Action Plan* on idling.
  - To minimize possible petrochemical leaks from construction equipment, the contractor would regularly monitor and check construction equipment to identify and repair any leaks.
  - All disturbed ground would be reclaimed using appropriate BMPs that include planting with NPS approved species. Until the soil is stable and vegetation is established, erosion control measures would be implemented to minimize erosion and prevent sediment from reaching streams.
  - To prevent the introduction of, and minimize the spread of, nonnative vegetation and noxious weeds, the following measures would be implemented during construction:
    - Soil disturbance would be minimized;
    - All construction equipment would be pressure washed and/or steam cleaned before entering the park to ensure that all equipment, machinery, rocks, gravel, and other materials are clean and weed free;
    - All haul trucks bringing fill materials from outside the park would be covered to prevent seed transport;
    - Vehicle and equipment parking would be limited to within construction limits or approved staging areas; and
    - All fill, rock, and additional topsoil obtained from sources outside the park would be taken from weed-free sources approved and visited by the vegetation ecologist.
  - New trees using local seed sources would be planted to replace those removed for construction of the headquarters and associated facilities. Additional native grasslands and other landscape vegetation would be used to revegetate all disturbed areas. Monitoring and follow-up treatment of exotic vegetation would occur after project activities are complete.
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# CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

## INTRODUCTION

This chapter provides a description of the Affected Environment for each resource followed by an evaluation of the Environmental Consequences of the alternatives. It is organized by impact topic, which allows a standardized comparison among alternatives, based on issues.

The Affected Environment section describes the resources within Lassen Volcanic National Park that could be affected as a result of implementation of each alternative considered in the EA. The resource descriptions provided in this chapter serve as a baseline with which to compare the potential effects of the alternatives considered in this environmental assessment. This section is required by the Council on Environmental Quality regulations implementing the National Environmental Policy Act, to succinctly describe the environment of the area(s) likely to be affected by the alternatives under consideration, and focus efforts and attention on important issues (40 CFR 1502.15).

The Environmental Consequences portion of each impact topic analyzes both beneficial and adverse impacts that could result from implementing any of the alternatives described in Chapter 2: Alternatives. The analysis includes a summary of laws and policies relevant to each impact topic, and the methods used for determining cumulative effects. Definitions of impact thresholds (negligible, minor, moderate, and major) used to analyze impacts are detailed in Table 4. As required by the Council on Environmental Quality, a summary of the environmental consequences of each alternative is provided in Table 2 in Chapter 2: The Alternatives.

The following section discusses the general methods that were used to identify impacts and includes definitions of terms. Additionally, it includes policy, terminology, and methods related to general analysis and cumulative impacts. The alternatives are then analyzed in the order they appear in Chapter 2: The Alternatives. Each impact topic includes a description of the effects of the alternative, a discussion of cumulative impacts, and a conclusion.

## METHODS FOR ANALYZING IMPACTS

### General Analysis

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

Under each impact topic is a brief description of relevant components of existing conditions and information for determining the effects of implementing each alternative. The impact analyses involved the following steps:

- Define issues of concern, based on internal and external scoping.
- Identify the geographic area that could be affected.
- Define the resources within that area that could be affected.

- Impose the alternative on the resources within the area of potential effect. Identify the effects caused by the alternative, compare these to the baseline represented by the No Action Alternative, and determine the relative change in resource conditions.
- Characterize the effects based on the following factors:
  - Whether the effect would be beneficial or adverse. Beneficial impacts would improve resource conditions, while adverse impacts would deplete or negatively alter resources. Beneficial would contribute a positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition. Adverse impacts would result in change that moves the resource away from a desired condition or detracts from its appearance or condition. A direct impact would be an impact that is caused by an action and occurs at the same time and place. An indirect impact would be one that is caused by an action but is later in time or farther removed in distance, but still reasonably foreseeable.
  - The intensity of adverse effects, as negligible, minor, moderate, or major. Beneficial impacts are not assigned an intensity. Impact topic-specific thresholds for each of these intensities are provided in each impact topic methodology section.
  - Duration of the effect, either short-term or long-term. A short-term impact would be temporary in duration and would be associated with the construction process. Depending on the resource, impacts would last as long as construction was taking place, or up to one year after construction is completed. Long-term impacts last beyond the construction period, and the resources may need more than one year after construction to resume their previous condition. Impact topic-specific thresholds for each of these durations are provided in each impact topic methodology section.
  - The context of the effect, i.e. the setting within which an impact occurs. The context can be site specific, local, parkwide, or regional. Each of these categories is defined as follows:
    - Site specific - The impact would occur within the project area.
    - Local - The impact would occur within the general vicinity of the project area and the park.
    - Parkwide – The impact would occur throughout the park.
    - Regional - The impact would affect areas surrounding the park.
  - Whether the effect would be a direct result of the action or would occur indirectly because of a change to another resource or impact topic.
- Determine cumulative effects by evaluating the effect in conjunction with the past, present, or reasonably foreseeable future actions for Lassen Volcanic National Park and the region.

### Geographic Area Evaluated

Unless otherwise stated, the geographic area within the park that was evaluated for effects is defined as the headquarters area, an approximate 80-acre tract of land. The headquarters area is largely surrounded by Lassen National Forest except for a residential development to the east, ranching land to the south, and a state highway maintenance facility to the west. California State Highway 36E runs in an east-west direction and intersects the southern portion of the headquarters area. The site consists of mature conifers surrounding a meadow

at the center of the site, as well as 56 structures which include administrative offices, maintenance facilities, fire protection, equipment storage, employee housing, and seasonal staff housing area (NPS 2010c).

### Assumptions

For the purposes of this impact assessment, the following assumptions are considered common to both the No-action and Action Alternative:

- There would be no increase in the demand/supply for the sewer or water supply/service systems.
- There would be no substantial structural improvements or changes in service capacity with respect to road surfaces, buildings, and associated facilities in the headquarters area. (The adaptive use of building #31 proposed in the action alternative would include slight alterations to meet standards for housing telecommunication equipment.)
- Routine maintenance and inspection of the sewer system and water lines would continue.

### Impact Thresholds

Determining impact thresholds is a key component of NPS *Management Policies* (NPS 2006) and Director's Order #12 (NPS 2001). These thresholds provide the reader with an idea of the intensity of a given impact on a specific topic. The impact threshold is determined primarily by comparing the impact to a relevant standard from state or federal regulations or scientific research. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this document. The following NPS intensity definitions are used throughout this analysis: negligible, minor, moderate, and major. More specific, resource-specific intensity thresholds are detailed in Table 4, which follows.

Table 4. Impact Threshold Intensities

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Cultural Resources - Historic Structures	The effect is at the lowest levels of detection– barely perceptible and not measurable.	Impacts would affect character-defining features but would not diminish the overall integrity of the structure.	Impacts would alter a character-defining feature(s), diminishing the overall integrity of the structure to the extent that its National Register of Historic Places eligibility could be jeopardized.	Impacts would alter character-defining features, diminishing the integrity of the structure to the extent that it would no longer be eligible to be listed on the National Register of Historic Places.	Effects on historic properties would be long-term because these resources are non-renewable.
Cultural Resources - Cultural Landscapes	The effect is at the lowest levels of detection– barely perceptible and not measurable.	Impacts would affect character-defining features or patterns, but would not diminish the overall integrity of the landscape.	Impacts would alter character-defining features or patterns, diminishing the overall integrity of the landscape to the extent that its National Register of Historic Places eligibility would be jeopardized.	Impacts would alter character-defining features or patterns, diminishing the overall integrity of the landscape to the extent that it would no longer be eligible to be listed on the National Register of Historic Places.	Effects on cultural landscapes would be long-term because these resources are non-renewable.
Cultural Resources - Archeological Resources	The effect is at the lowest levels of detection– barely perceptible and not measurable.	The impact affects an archeological site(s) with modest data potential and no significant ties to a living community’s cultural identity.	The impact affects an archeological site(s) with high data potential and no significant ties to a living community’s cultural identity.	The impact affects an archeological site(s) with exceptional data potential or that has significant ties to a living community’s cultural identity.	Effects on archaeological resources would be long-term because these resources are non-renewable.

**Table 4. Impact Threshold Intensities**

<b>Impact Topic</b>	<b>Negligible</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>	<b>Duration</b>
Water Resources	Impacts are chemical, physical, or biological impacts that would not be detectable, would be well below water quality standards or criteria, and would be within historical or desired water quality conditions. Variations in flows would be within historical conditions that reflect normal variability.	Impacts (chemical, physical, biological) would be detectable, but would be well below water quality standards or criteria and within historical or desired water quality conditions. Measurable changes from historical norms would occur, but flows, would remain within the range of historical variability.	Impacts (chemical, physical, biological) would be detectable, and may occasionally exceed water quality standards or criteria but not be consistently altered from the historical baseline or desired water quality conditions. Flows would be outside the range of normal variability. However, while changes would be readily apparent, there would not be a change in the extent or frequency of stream dewatering or of damaging floods and the maximum area flooded.	Impacts (chemical, physical, biological) would be detectable, and would be consistently and permanently altered from the historical baseline or desired water quality conditions. Changes to flows would be readily apparent. Flows would be outside the range of normal variability, and could include complete dewatering or unusual flooding.	Short-term: The effect would occur only during or shortly after a specified action or treatment. Within a year, there would be stable conditions similar to those that dominated previously.  Long-term: Effects on water resources would not stabilize within a year, and would not result in conditions similar to those that dominated previously.
Public Health and Safety	Health and safety would not be affected, or the effects on employee and residential community health or safety would not be measurable.	Effects on employee or residential community health and safety would be detectable, but would not produce an appreciable change in employee or community health or safety.	Effects would be readily apparent, and would result in noticeable effects on employee or residential community health and safety.	Effects would be swiftly apparent and would result in substantial, noticeable effects on employee or residential community health and safety.	Short-term: Effects would occur only during and shortly after a specified action or treatment.  Long-term: Effects would persist well beyond the duration of a specified action or treatment.

Table 4. Impact Threshold Intensities

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Park Operations	Effects on NPS operations and management would be at or below the level of detection.	Effects on NPS operations and management would be small but detectable. The change would be noticeable to park staff.	Effects on NPS operations and management would be readily apparent to park staff.	Effects on NPS operations and management would be substantial, widespread, and obvious to park staff.	<p>Short term: Effects would occur only during and shortly after a specified action or treatment.</p> <p>Long term: Effects would persist well beyond the duration of a specified action or treatment, or would not be associated with a particular action such as construction.</p>

### Cumulative Impacts Analysis Method

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. The CEQ regulations that implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects.

In defining the contribution of each alternative to cumulative impacts, the following terminology is used:

- Imperceptible: The incremental effect contributed by the alternative to the overall cumulative impact is such a small increment that it is impossible or extremely difficult to discern.
- Noticeable: The incremental effect contributed by the alternative, while evident and observable, is still relatively small in proportion to the overall cumulative impact.
- Appreciable: The incremental effect contributed by the alternative constitutes a large portion of the overall cumulative impact.

Cumulative impacts were determined by combining the impacts of either the Preferred or No Action Alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects near the park or the surrounding region that might contribute to cumulative impacts. The geographic scope of the analysis includes actions in the vicinity of the headquarters area, as well as other actions in the park or surrounding lands where overlapping resource impacts are possible. The temporal scope includes past actions in the project area from the early 1900s when the CCC constructed the Mineral headquarters and reasonably foreseeable actions within a range of approximately 5 years in the future. The geographic area for evaluating cumulative effects is defined in the discussion for each resource.

To determine the potential cumulative impacts, existing and anticipated future projects in the vicinity of the project area were identified. Based on the limited project area and scope of the project, these included lands and the immediate vicinity of the Lassen Volcanic National Park Mineral headquarters and seasonal staff housing area only. Potential projects identified as cumulative actions include planning or development activity currently being implemented or expected to be implemented in the reasonably foreseeable future. For the purpose of this EA, the reasonably foreseeable future is five years from the publication of this document. The projects identified as contributing to cumulative impacts to the resources addressed by this EA include the following:

- Structural Fire Management Plan
- Construction of New Water Treatment Plant
- Proposed Construction of New Water Tank
- Project to Restore Habitat in Battle Creek and its Tributaries

In addition to specific agency actions and programs, other activities would continue in the region that would cumulatively impact particular resources. Actions, plans, or programs that have the potential to cumulatively affect specific resources are described in the cumulative effects analysis for those topics.



### **Presentation of Analysis**

Organized by resource topic, this chapter describes the resources that could be impacted by the proposed action. Resources examined in detail include cultural resources, water resources, public health and safety, and park operations. Resources dismissed from further consideration are discussed in “Chapter 1: Purpose and Need.”

## CULTURAL RESOURCES

### AFFECTED ENVIRONMENT

#### Introduction

The Mineral headquarters is located along California State Highway 36E, approximately one-half mile west of the town of Mineral, in Tehama County, California. The headquarters property encompasses eighty (80) acres of forest and meadow. Mature conifers surround the meadow, which occupies the center of the site; the open space of the meadow provides a distinct contrast to the dense forest. Because of its elevation at 4,850 feet, snow regularly covers the site four months out of the year. The site is bounded to the north by the Lassen National Forest, to the east by the national forest and a residential development, to the south by Battle Creek and privately-owned land, and to the west by a state highway maintenance facility and the national forest. The park headquarters' administration building was individually listed on the NRHP in 1978. In 1994, the entire headquarters area was designated as a NRHP historic district. Additionally, a cultural landscape inventory was completed in 2002 that determined that the headquarters area is a historic designed landscape that shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces (NPS 2002a).

#### Historic Structures

The Lassen Volcanic Mineral Headquarters historic district is listed on the NRHP under Criteria A and C due to its association with early National Park Service Rustic design, with 38 of its 45 surveyed elements listed as contributing to the district's eligibility. The designation includes most of the older buildings dating from the late 1920s to the mid 1940s, some of which were built by the CCC. According to the NRHP nomination form, many of the buildings were modified after construction; however, these modifications took place during the district's period of significance (1927-1943) and are therefore historic in their own right (NPS 1993).

The nomination broke the district's elements (not all of which contribute to its eligibility) into six categories, 1) the Administration Building which stands by itself at the southern edge of the district; 2) the science office, staff residences, and associated garages, built in an arc around the east side of the meadow; 3) the Seismograph Building, Chlorination House, and former Employee Fitness Center (since removed) to the north, northeast, and northwest of the historic housing area; 4) an apartment building, employee residence, and seasonal cottages to the northwest of the meadow; 5) service/maintenance buildings to the northwest of the Administration Building and west of the meadow, and; 6) additional maintenance buildings located in the northwest section of the proposed district (NPS 1993a).

The district was primarily developed immediately after the NPS' landscape and architectural planning and design philosophy had been implemented in the 1920s. According to the nomination form, the Lassen Volcanic National Park Mineral headquarters is "an outstanding example of planned development in a National Park based on this design philosophy, which was a cohesive style of landscape design that 'subordinated all built features to the natural and often cultural influences of the environment where they were placed'" (NPS 1993). The nomination goes on to state that, "it is an excellent collection of rustic style buildings and landscape features, designed to harmonize with the alpine landscape. . . . Although on a much smaller scale, the development of Lassen Volcanic National Park can be compared with similar projects undertaken during the same time

period in other national parks, specifically in: Sequoia National Park, General Grant (Kings Canyon) National Park, Yosemite National Park, Grand Canyon National Park, Yellowstone National Park, and Crater Lake National Park (NPS 1993)."

The rustic architectural styling within the district is characterized by lapped wood siding, dark brown and green paint colors, and steep gable roofs clad in shake shingles. According to the nomination, the development plan for the park "was completed in 1930, and a master plan prepared in 1936, with alterations through 1941. The site has seen additional development since the historic period, but within the historic district, the original plan has changed little since the early 1940s. The historic district retains a high degree of integrity, of both its architectural and landscape features (NPS 1993)."

Between 1957 and 1970 some dozen residential structures, including single-family dwellings and duplex units, were erected near Viola Road south of the maintenance area. These structures were built as part of the NPS's Mission 66 development program, a 10-year program designed to upgrade facilities in all national parks by 1966, which was the agency's 50th anniversary. Although these structures have not been formally evaluated for National Register of Historic Places consideration, the park has determined that its Mission 66 structures will be considered eligible until determined otherwise.

### **Cultural Landscapes**

The Mineral headquarters is a historic designed landscape with a period of significance that extends from 1928 to 1943. This timeframe encompasses the period of original development and the presence of the CCC. As partially mentioned in the preceding section discussing the NRHP-designated historic district, the built environment includes the administration building, residences, garages and associated structures, as well as the residential area road and the maintenance yard. It also includes features associated with the CCC, such as stone walls (Figure 7), stone-lined drainage ditches (Figure 8), and remnants of a split-rail fence system.

The headquarters area landscape is a picturesque collection of small-scale, rustic-styled houses and buildings encircling a meadow. Most of the buildings constructed after 1929 (up to 1942) were situated according to a landscape plan prepared by the Landscape Engineering Division of the National Park Service, San Francisco Office. The National Park Service Western Region Branch of Plans and Design (the successor to the Landscape Engineering Division) completed a comprehensive plan for the headquarters area in the early 1930s during the period of intensive development at Lassen Volcanic National Park (NPS 2002a).

The headquarters buildings and structures were designed in the rustic style and the landscape was developed along naturalistic principles. Native materials and construction techniques employed in the buildings and structures referred to local vernacular building traditions. Its setting in a mountainous area amidst the pine forest provided a natural context to apply the principles of rustic architecture and landscape development appropriate to the site. Buildings were designed with steeply pitched gable roofs to shed snow, wood siding stained a dark shade of brown (tobacco) to blend in with the forest, and native rock veneers on foundations (Figure 9). These design elements repeated the materials and forms of the surrounding landscape: the towering conifers, the mountains, and volcanic rock outcrops. Roads, buildings, and other structures were located in the landscape to conform to and enhance natural topographic qualities (NPS 2002a).

The headquarters area continues to fulfill its historic function as the main administrative and residential area for Lassen Volcanic National Park, and the majority of the landscape characteristics contribute to the district's integrity as a historic designed landscape (Figure

10). These include buildings and structures, circulation, cluster arrangement, land use, natural systems and features, topography, and vegetation including large conifer trees (Figure 11). Small-scale features are the sole landscape characteristics that have lost their integrity and do not contribute as a landscape feature (NPS 2002a).

The Mineral headquarters landscape continues to convey a rustic and naturalistic association through its architecture and landscape architectural design. As a whole, the cultural landscape of the Mineral headquarters is in good condition, retains integrity, and is an important, intact example of park service rustic architecture and naturalistic landscape design (NPS 2002a).



**Figure 7. CCC-era stone wall at northern edge of headquarters area (Parsons 2010).**





**Figure 8. Historic stone culverts, ditches, and walls are found throughout the headquarters area (Parsons 2010).**



**Figure 9. Historic buildings within the headquarters area exemplify a good intact example of National Park Service Rustic architecture (Parsons 2010).**

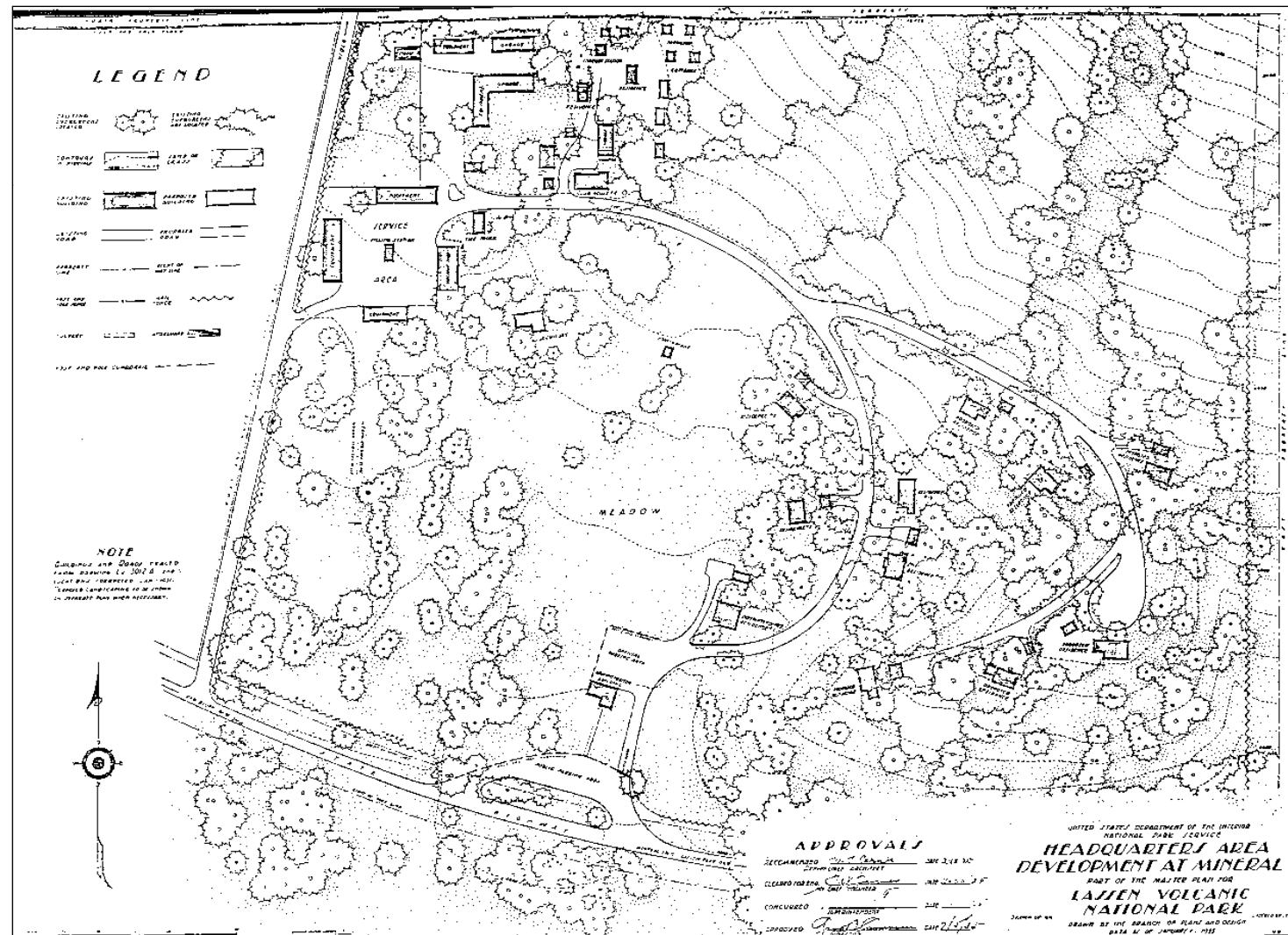


Figure 10. Copy of the original 1935 master plan for the Lassen Volcanic National Park Headquarters Area drafted by the NPS Branch of Plans and Design (NPS 1935).





**Figure 11. Old-growth trees are prevalent throughout the headquarters area and contribute to the cultural landscape (Parsons 2010).**

### Archeological Resources

An archeological overview for the park was recently written for another compliance document (NPS 2010a) and is excerpted as follows:

It is not definitively known when human habitation in California first began, though research has this event occurring sometime before 10,000 B.C. This first period of human occupation is commonly referred to as the *Paleo-Indian Period*, characterized by small groups of nomadic hunter gatherers faced with different ecologic-climatic environments than those familiar to modern-day Californians (Fagan, 2003). Recent scholarship proposes a date range for the Paleo-Indian Period as before 5000 calibrated B.C. (Jones & Klar, 2007). There is little evidence that Paleo-Indian populations hunted regularly at higher elevations, however some isolated Paleo-Indian fluted points have been found in northeastern California, as have several Paleo-Indian sites been



discovered along Honey Lake (Chartkoff & Chartkoff, 1984; Jones & Klar, 2007: 169).

Following the Paleo-Indian Period is the *Post-Mazama Period*, dating from 5000 calibrated B.C. to 3000 calibrated B.C. (Jones & Klar, 2007). Post-Mazama cultural traits include “semisubterranean house structures. . .morphologically distinctive artifacts” such as “large side-notched projectile points, antler wedges, mortars with V-shaped bowls and pointed pestles, T-shaped drills, tanged blades, and flaked stone pendants” (Jones & Klar, 2007: 170). After the Post-Mazama Period comes the *Archaic Period*, representing a continuation of earlier traditions along with an increase in population size and a change in subsistence strategy, as well as the development and implementation of new technologies (Chartkoff & Chartkoff, 1984). Dates for the Archaic Period as defined by Jones & Klar (2007) span between 3000 calibrated B.C. and calibrated A.D. 1400. Typical material culture types from the Archaic include, but are in no way limited to, an expanded flaked tool assemblage, the appearance of “U-shaped grinding bowls and flat or round-ended pestles”, and the “occupation of large semisedentary villages”, along with “elaborations in material culture, house construction, obsidian production, and ceremonial activity” (Jones & Klar, 2007: 171-174).

Several ethnographic Native American tribes were present within the Lassen area, among them the Atsugewi, Yana, Yahi, and Maidu. The Mountain Maidu tribe is most notably associated with the Warner Valley area (NPS, 2005). Lassen Peak had particular importance, as evidenced by its inclusion in local myths and Native lore (NPS, 2002a). The respective territories for these groups converged on Lassen Peak with the Atsugewi spreading from the mountain to the north and east, the Yana to the west, the Yahi to the south, and the Maidu to the south-southeast (Kroeber, 1925; Jones & Klar, 2007). Hunting, fishing, and gathering were essential to the subsistence strategy for these groups. Access to seed resources such as acorns was limited and therefore of less importance to the overall strategy employed by these populations (Jones & Klar, 2007). Like most of the mountainous regions of California, the Lassen area was not conducive to year-round living (Chartkoff & Chartkoff, 1984). Contained within the Lassen Volcanic National Park are numerous cultural resources that collectively represent nearly 4,000 years of human habitation. Specific cultural resources include a large village, lithic workshops, and several seasonal campsites (NPS, 2002a). As of 2009, nine percent of the Park had been surveyed and approximately 106 archaeological sites have been recorded (Svinarich, personal communication, 2009).

Two known, previously surveyed archeological sites are documented within the headquarters area – CA-TEH-14 / CA-TEH-609 (same site, given two different site numbers) and the Pioneer Gravesite. CA-TEH-14/609 is a prehistoric site which was first surveyed in 1962, and then again in 1987. CA-TEH 14/609 is generally located in the north-central portion of the headquarters area and consisted of midden with sparse lithic material on the surface when it was surveyed. The other archeological site consists of a small cluster of graves where three pioneer settlers are buried. It is located in the wooded area northeast of the Science Center building and is not considered a contributing element to the historic district because it predates the development of the Mineral headquarters area (NPS 2002a).

## ENVIRONMENTAL CONSEQUENCES

### Guiding Regulations and Policies

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places (NRHP). All actions affecting the parks' cultural resources must comply with this legislation.

The National Environmental Policy Act requires analysis of the impacts of federal actions on the human environment (the natural and physical environment and its relationship with human culture); and directs that these important historical, cultural and natural aspects of our national heritage be preserved.

The physical attributes of cultural resources are, with few exceptions, nonrenewable. Once the historic fabric of a resource is gone, nothing can restore its authenticity or gain the information that might have been found through analysis. *NPS-28* (NPS 1998a) and *NPS Director's Order #28* (NPS 1998b) provide guidance for management and protection of the cultural resources in National Park Service custody.

### Methods and Assumptions

Regulations for implementing the National Environmental Policy Act (NEPA) (42 USC 4321, et seq.) and the National Historic Preservation Act (NHPA) (16 USC 470 et seq.) require the analysis of the effects of proposed actions on important cultural resources. Both acts have different sets of definitions for assessing effects on cultural resources. The following impact analyses are designed only to comply with the requirements of the National Environmental Protection Act.

The method for evaluating impact topics under the National Environmental Protection Act is described in the "General Methodology" section of this chapter. The Council on Environmental Quality regulations and NPS policies (NPS 2001) also call for a discussion of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. Mitigation measures were previously detailed in Table 3.

### Impacts of Alternative A, the No Action Alternative – Historic Structures

This alternative would not change current conditions within the historic district. Maintaining the status quo in the headquarters area, as it relates to the utility infrastructure, would result in continued risk of fire to contributing resources in the district when overhead powerlines are downed during winter storms. Power loss and the accompanying loss of heat could also lead to frozen pipes that pose flooding hazards to building interiors. The risk of explosion from individual, building-specific propane tanks would also persist. As a result, Alternative A would have direct, localized, minor to moderate, long-term adverse effects on historic structures.

**Cumulative Impacts.** Of the past, present, or future plans or actions identified, the Structural Fire Management Plan has resulted in direct, localized, long-term, beneficial impacts to the historic structures in the headquarters area due to increased levels of fire prevention and protection to the buildings that contribute to the NRHP-listed historic district. The beneficial effects of this past plan in combination with the minor to moderate

adverse effects of continuing no action would result in an overall direct, localized, minor to moderate, long-term cumulative adverse effect on historic structures.

**Conclusions.** Continuing threats to individual structures from deteriorating utilities under Alternative A would result in direct, localized, minor to moderate, long-term adverse effects on historic structures. Implementation of Alternative A, in combination with the impact associated with the Structural Fire Management Plan, would result in an overall direct, localized, minor to moderate, long-term adverse cumulative effect.

### **Impacts of Alternative A, the No Action Alternative – Cultural Landscapes**

Under current conditions, the cultural landscape within the headquarters area is cluttered with overhead power and telecommunications lines, as well as individual, above-ground, building-specific propane tanks. The current utility infrastructure detracts from the viewshed of the cultural landscape, and the no action alternative would not remedy the diminished viewshed. As a result, implementation of Alternative A would have direct, localized, minor, long-term adverse effects on cultural landscapes.

**Cumulative Impacts.** Of the past, present, or future plans or actions identified, the Structural Fire Management Plan has resulted in direct, localized, long-term, beneficial impacts to the cultural landscape in the headquarters area due to increased levels of fire prevention and protection to the buildings that contribute to the cultural landscape. Meanwhile, current construction of the new Mineral conference room and the proposed construction of a new water tank would result in direct, localized, long-term, minor adverse effects to the viewshed. The overall negligible adverse effects of these plans or actions in combination with the minor adverse effects of continuing no action would result in an overall direct, localized, minor, long-term adverse cumulative effect on the cultural landscape.

**Conclusions.** Alternative A would result in direct, localized, minor, long-term adverse impacts to the cultural landscape. Implementation of Alternative A, in combination with the impact associated with the Structural Fire Management Plan, would result in an overall direct, localized, minor, long-term adverse cumulative effect.

### **Impacts of Alternative A, the No Action Alternative – Archeological Resources**

Ground disturbance associated with the no action alternative would be limited to emergency repairs to buried water or wastewater lines. There are no water or wastewater lines in the general vicinity of the two known archeological sites in the Mineral headquarters area (CA-TEH-14/609 and the pioneer gravesite), and emergency repairs would occur in the linear corridors previously disturbed by installation of the lines. No impacts to archeological resources are anticipated, but the NPS would monitor ground disturbance associated with emergency repairs. If during the repairs, significant archeological resources were uncovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed. Alternative A would result in direct, localized, negligible, long-term adverse impacts to archeological resources.

**Cumulative Impacts.** Other past, present, and reasonably foreseeable future actions would have no effect on archeological resources in the Mineral headquarters area. This is because none of the actions described in the cumulative impact methodology section of this chapter would result in any ground disturbing activities. Therefore, there would be no cumulative impacts to archeological resources under Alternative A.

**Conclusions.** Emergency related repairs to underground utilities under Alternative A would result in direct, localized, negligible, long-term adverse impacts to archeological resources. There would be no cumulative impacts to archeological resources under the no action alternative.

### **Impacts of Alternative B, the Preferred Alternative – Historic Structures**

There would be no impacts to CCC era stonework in the Mineral headquarters area because utility alignments would be oriented toward the center of roadways, whereas historic stone features are generally located on the edges or periphery of roads.

Implementation of Alternative B would result in decreased risk of fire to historic structures because there would no longer be the possibility of downed overhead powerlines during winter storms. In addition, power loss and the accompanying loss of heat that could lead to frozen pipes and pose flooding hazards to building interiors would occur less often with buried utilities. The risk of explosion from individual, building-specific propane tanks would also be greatly reduced. As a result, Alternative B would have direct, localized, long-term, beneficial impacts upon historic structures.

Service connections for water and wastewater lines would require no exterior or interior alterations to structures. Propane meters and regulators installed adjacent to structures would be small and visually unobtrusive and have negligible impacts upon historic structures. The adaptive use of Building #31 for telecommunications would involve minor alterations, none of which would diminish the building's character-defining features.

The installation of fire hydrants, transformer pads and light poles in the historic district would not result in visual elements that are incompatible, out of scale, in great contrast, or out of character with the Mineral headquarters area because it has generally contained these utility elements throughout its history. In addition, such appurtenances would minimally affect open space or scenic views. Any adverse impacts would be direct, localized, long-term, and minor.

**Cumulative Impacts.** Of the past, present, or future plans or actions identified, the Structural Fire Management Plan has resulted in long-term, beneficial impacts to the historic structures in the Mineral headquarters area due to increased levels of fire prevention and protection to the structures that contribute to the historic district.

As described above, implementation of Alternative B would result in long-term beneficial and minor adverse impacts to historic structures. The long-term beneficial and minor adverse impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a direct, localized, long-term, and beneficial cumulative effect.

**Conclusions.** Implementation of Alternative B would result in direct, localized, long-term beneficial and direct, localized, long-term, minor adverse impacts to historic structures. There would be direct, localized, long-term, and beneficial cumulative impacts to historic structures under this alternative.

### **Impacts of Alternative B, the Preferred Alternative – Cultural Landscapes**

There would be no impacts to CCC era stonework in the Mineral headquarters area for the same reasons as described in the preceding section, and utility alignments would be designed to minimize damage to roots of mature trees that contribute to the cultural landscape.

The installation of water and wastewater lines and the undergrounding of utility lines would not alter the topography, spatial organization, or land use patterns of the cultural landscape. Once the lines were installed, the trenches would be backfilled and the disturbed ground restored to its pre-construction contour and condition. Any adverse impacts would be direct, localized, short-term, construction-related and minor.

Service connections for water and wastewater lines would require no exterior or interior alterations to structures, which are important features of the landscape. The installation of propane meters and regulators adjacent to structures, as well as the installation of fire hydrants, transformer pads and light poles, would minimally affect the scale and visual relationship among landscape features. In addition, the topography, spatial arrangement, circulation features, and land use patterns of the landscape would remain unaltered and the integrity of the historic district undiminished. Any adverse impacts would be direct, localized, long-term and minor.

Burying overhead power and telecommunications lines, as well as removing individual, building specific propane tanks, would eliminate visual elements that block or intrude into views both into and out of the landscape – a direct, localized, long-term, and beneficial impact. The two centralized propane tanks would be installed outside the historic district and would negligibly affect the scale and visual relationships among landscape features or patterns.

During construction, the contractor would have both personnel and equipment on site. Construction activities associated with implementation of Alternative B would temporarily introduce dissonant visual, audible, and atmospheric elements into landscape's setting. Any adverse impacts would be direct, localized, short-term, minor, and adverse, lasting only as long as construction.

**Cumulative Impacts.** Of the past, present, or future plans or actions identified, the Structural Fire Management Plan has resulted in long-term, beneficial impacts to the cultural landscape in the Mineral headquarters area due to increased levels of fire prevention and protection to the structures that contribute to the historic district. Meanwhile, minor adverse effects to the viewshed could result from construction of the Mineral conference room and proposed water tank. Overall, there would be direct, localized, long-term, negligible adverse impacts to the cultural landscape.

As described above, implementation of Alternative B would result in direct, localized, long-term beneficial and direct, localized, short-term, minor adverse impacts to the cultural landscape. The long-term, beneficial, and short-term, minor adverse impacts of this alternative, in combination with the impacts of other past, present, and reasonably foreseeable future actions, would result in a direct, localized, long-term, and beneficial cumulative effect.

**Conclusions.** Implementation of Alternative B would result in direct, localized, long-term beneficial and direct, localized, short-term, minor adverse impacts to the cultural landscape. There would be direct, localized, long-term, and beneficial cumulative impacts to the cultural landscape under this alternative.

### **Impacts of Alternative B, the Preferred Alternative – Archeological Resources**

Implementation of the proposed alternative would require excavation to place utilities in underground conduits, as well as to install the water and wastewater lines and distribution piping for the propane system. No excavation would occur near the two known

archeological sites in the Mineral headquarters area (CA-TEH-14/609) and the pioneer gravesite. The two sites would be unaffected by construction.

Much of the Mineral headquarters area has been disturbed by past development. To the greatest extent possible, trenching would occur in corridors of previous disturbance for other utilities or roadways. Although excavations in previously disturbed areas are unlikely to encounter archeological resources, an archeological monitor would be present during all ground-disturbing activities. In the unlikely event that National Register eligible archeological resources were discovered and could not be avoided, e.g. by rerouting the trench, an appropriate mitigation strategy would be developed in consultation with the State Historic Preservation Officer and, if necessary, associated American Indian tribes. Any adverse impacts to archeological resources associated with inadvertent discoveries would be direct, localized, negligible to minor in intensity.

**Cumulative Impacts.** Other past, present, and reasonably foreseeable future actions would have no effect on archeological resources in the Mineral headquarters area. This is because none of the actions described in the cumulative impact methodology section of this chapter would result in any ground disturbing activities. Therefore, there would be no cumulative impacts to archeological resources under alternative B.

**Conclusions.** Placement of underground utilities in existing alignments, along with implementation of mitigation measures under Alternative B, would result in direct, localized, negligible to minor, long-term adverse effects on archeological resources. No cumulative impacts were identified for consideration in relation to Alternative B.

## WATER RESOURCES

### AFFECTED ENVIRONMENT

The project area lies within the Battle Creek watershed. The watershed drains an area of approximately 370 square miles on the eastside of the Sacramento River in Shasta and Tehama Counties. The watershed is unique because of its volcanic geology and year-round streamflow (Sacramento River Watershed Program 2011). Streams within and adjacent to the project area include Battle Creek and its tributaries, the North Fork and South Fork Battle Creek, and Martin Creek.

Elevations within the project area range from about 4,800 along Battle Creek to approximately 5,000 feet just north of Mineral Headquarters feet to about 4,850 feet (1,478 meters). The surrounding topography of the headquarters area is mountainous. The headquarters area sits at the base of a relatively steep hillside that gains 670 feet (204 meters) in elevation within one-half mile (0.8 kilometers). The majority of the project area, where the administrative buildings are located, consists of pine forests. South of Highway 36E, along Battle Creek, the area is predominantly open meadow and is used as pasturelands.

Within the park, the range in elevation coupled with mountain topography and orientation influence local temperatures and precipitation and, in turn, vegetation communities (Pinder et al. 1997). The average annual temperature within the park is 45°F (7 °C), the freeze-free period (growing season) ranges from 80 to 150 days, and average annual precipitation is 50 inches (127 centimeters) (NRCS 2011). The precipitation falls mainly from fall to spring, mostly as snow. Summers are typically warm and dry, with occasional thunderstorms (USDA 2006). The climate at Mineral Headquarters is somewhat drier and warmer due to the lower elevation.

Resulting runoff is highly variable, both within and between years. Peak flows arise from snowmelt, warm winter storms, rain-on-snow events, and summer and early-autumn thunderstorms. Resulting flows can be up to five orders of magnitude greater than minimum flows, and annual volumes can be twenty times greater in wet years compared to dry years. Some smaller streams and headwater areas may cease flowing during prolonged droughts (Kattelmann 1996).

Within the project area, soils are loose and unconsolidated (not cemented together) and that have been eroded, deposited, and reshaped by water in some form (“alluvium”). Soil parent material is volcanic rock (andesite), they are well-drained and have low water-holding capacity (NRCS 2011). Soils in the project area are particularly subject to erosion (USDA 2006).

### Water Resources

Battle Creek, a perennial spring-fed cold-water stream is composed of two main branches, North Fork Battle Creek which is approximately 29.5 miles in length from its headwaters to its confluence and South Fork Battle Creek, approximately 28 miles in length from its headwaters to its confluence with Battle Creek. The South Fork of Battle Creek is located to the south of the headquarters area as shown in Figure 4. It is approximately 28 miles long from its headwaters to the confluence with the North Fork Battle Creek. It drains a basin of approximately 124 square miles and has a bed consisting mostly of coarse gravel and cobbles. Martin Creek, a tributary to the South Fork of Battle Creek, is located approximately one mile east of the headquarters area. Several drainage channels are present throughout the project area.



The project area is influenced by a complex hydrology that includes both surface and groundwater. Surface waters in the vicinity of the headquarters area are seasonal, with high snowmelt flows in the spring and much lower base flows throughout the summer and fall. In general, surface waters drain south to southwest into tributaries of the South Fork Battle Creek. Groundwater emerges from several springs and seeps and serves as an important support to the riparian corridor and wet meadow. These spring-fed areas are sensitive to increased channeling, imperviousness, and redirected surface flows. Any changes to the hydrology of spring-fed areas, such as the wetland running through the center of the project area, could result in increased sediment reaching Battle Creek.

Martin and Battle Creeks are not listed as impaired by the California Water Control Board as part of the state's obligations under Section 303(d) of the Clean Water Act. Water quality in Battle Creek and in Martin Creek is influenced by seasonal changes in flow (i.e., runoff vs. base flow), precipitation inputs, and biological activity (Jones and Stokes 2005). Water quality data are not available for Martin Creek. However, water quality in Battle and Martin Creeks is assumed to be of high quality as surface water originating in areas upstream of the headquarters has very few potential sources of pollutants. The data for Battle Creek from 1955–1989 indicate that the existing surface water quality is excellent. All concentrations of nonmetals and metals were within the limits recommended for aquatic life by the U.S. Environmental Protection Agency's criteria (USEPA 2004). However, analysis of aquatic insect populations in the South Fork Battle Creek indicates that the stream has been adversely impacted by upland disturbance (Ward and Kier 1999). Napper (2001) also noted cumulative impacts in the Battle Creek watershed from prior development activities, such as logging and forest road construction.

Beneficial uses of the waters of Battle Creek include agriculture (irrigation and stock watering), power generation, recreation (contact and other noncontact), freshwater habitat (warm and cold), migration (cold), spawning (warm and cold), and wildlife habitat (CRWQCB 1998). Many of these beneficial uses are threatened or impaired by excess nutrients and flow alteration, such as by dams and water diversions (USEPA 2004). Current salmonid restoration efforts on Battle Creek downstream from the park's Mineral headquarters area have resulted in the removal of several dam diversion structures that have resulted in the maintenance of minimum flows within the stream to support a healthy salmonid fishery.

Drinking water for the headquarters project area is diverted from Martin Creek (tributary to South Fork Battle Creek) that is approximately three miles east of the headquarters area and delivered by underground pipe (NPS 2005). The existing system leaks approximately 50,000 gallons of treated water underground per day (NPS 2010b). Leaks in the existing sanitary sewer system serving the project area are also of concern. In addition, the existing septic system and leach field at the seasonal staff housing area is not functioning properly and has become a concern (NPS no date).



**Figure 12. The main park loop road traverses a wetland. View as seen facing south toward main administration building.**

## ENVIRONMENTAL CONSEQUENCES

### Guiding Regulations and Policies

**Water Quality / Quantity.** The federal Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and for regulating quality standards for surface waters (USEPA 2004). The purpose of the act is “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters” (33 USC 1251, et seq.). States adopt water quality standards based on how the water will be used (“beneficial use”) and these standards establish the water quality goals for a specific water body and serve as the regulatory basis for the establishment of water-quality treatment strategies (30 CFR 131). Within the proposed project area, the act is administered by the California Water Quality Control Board – Central Valley Region (Jones and Stokes 2005).

According to NPS policies related to water resources, units of the National Park system must meet these requirements (NPS 2006):

- “Perpetuate surface waters and groundwaters as integral components of park aquatic and terrestrial ecosystems” and to water used by the park in a condition that “ensures that there will be no impairment of park resources.”

- “Determine the quality of park surface and groundwater resources and avoid, whenever possible, the pollution of park waters by human activities occurring within and outside the parks.”
- “Take all necessary actions to maintain or restore the quality of surface waters and groundwaters within the parks.”

The National Park Service is also directed to “use water efficiently and sustainably” and to design water systems “to maximally conserve water and the energy used in its treatment and distribution.” Similar directives apply to park wastewater systems (NPS 2006).

### Methods and Assumptions

Impacts to water resources were evaluated and determined qualitatively based on the professional judgment of NPS staff and consultants, and quantitatively based on construction drawings and discussion with park personnel familiar with the project. The primary sources of information used in this analysis included site evaluation and habitat analysis, existing park management documents, published reports and scientific literature, NPS policy documents, and unpublished observations and insights from knowledgeable park staff and experts. For the impact topic of water quality, the context has been modified somewhat from the general categories provided at the beginning of this chapter. Applicable contexts are described as follows:

- Site specific - The impact would occur within the project area.
- Local - The impact would occur within the general vicinity of the project area.
- Regional - The impact would occur further downstream in the watershed.

The assessment addresses construction-related (short-term) impacts and long-term impacts. Construction-related impacts are those effects that occur during or shortly after construction activities, including potential spill of or leakage of contaminants and input of fine sediment which would affect individual organisms, temporary impedance of drainage and temporary disturbance of the streams. Construction-related impacts are generally of relatively short duration and affect a restricted area.

### Impacts of Alternative A, the No Action Alternative

Under Alternative A, no changes would occur to existing utilities, and there would be no changes to the size or location of existing facilities or structures. However, existing leaks of water and wastewater would also continue. Although no health or environmental conditions of concern have been identified with these leaks, continued decay of existing systems may increase these flows. As a result, the potential for migration of both uncontaminated and contaminated water to the groundwater would persist. As the utility is located beneath the surface, there would be little opportunity for the surface water in the streams within the project area to be affected as they are most influenced by runoff. Implementation of Alternative A would result in long-term, localized, minor to moderate, and adverse impacts to water quality. Continuation of Alternative A would result in no change in hydrologic conditions within the project area. Although water removed from Martin Creek would continue to leak into the subsurface, there would not be any changes in the amount of water removed that would result in changes in hydrology of that stream. There is no flow data available for the South Fork of Battle Creek in the vicinity of the park headquarters so it is not known how much of that leaking water transports underground to the creek. However it is not expected that the amount of water being fed to the creek is outside of the range of natural conditions.

**Cumulative Impacts.** Past and reasonably foreseeable actions that would potentially impact water quality include the construction of roads, trails, buildings adjacent to (and upstream of) the headquarters. These actions, along with maintenance activities, have contributed sediment, nutrients, and other contaminants into the natural stream system in the project area. Planned future prescribed burns and brush clearing to reduce fire risk in the surrounding areas would potentially result in soil erosion that could temporarily affect water quality. These actions would have short- and long-term, minor adverse effects on water quality and hydrology.

The California Department of Fish and Game is conducting habitat restoration activities in Battle Creek approximately 10 miles downstream from the headquarters building. Efforts include removing stream barriers and stream restoration, and changes in water use by hydroelectric projects (CDFG 2007). These actions would notably improve the hydrology within the stream to reflect natural conditions and improve the quality of the habitat for native species. The impacts of past, present, and future plans and projects would be long-term, localized, and beneficial. The beneficial effects of these actions in combination with the minor to moderate localized adverse effects of continuing no action would result in an overall direct and indirect, localized, moderate, cumulative beneficial effects to water resources.

**Conclusions.** Continuation of leaking underground sewer lines could affect the quality of the groundwater in the project area under Alternative A and would result in long-term, localized, minor to moderate, adverse impacts to water quality. There would be no effect on hydrology in the project area. Implementation of Alternative A, in combination with the beneficial effects of habitat restoration efforts, would result in an overall direct and indirect, localized, long-term, beneficial, cumulative effects.

### **Impacts of Alternative B, the Preferred Alternative**

Disturbance would be limited to areas associated with construction, modification, or removal activities, including drainageways, streams, temporary and permanent access roads, staging areas, and utility alignments, conveyances, and appurtenant facilities. Construction related impacts to water quality such as the mobilization of soil from disturbed surfaces would be minimized via the use of approved erosion and sediment control measures.

Under Alternative B, existing leaks from water and wastewater systems would cease, as would any related health or environmental concerns.

Accordingly, Alternative B would have potential localized, short-term, minor, adverse impacts to surface water quality during construction, and long-term, and local beneficial impacts to water quality following project implementation due to improvements in the transport and treatment of wastewater.

Under Alternative B there may be some slight reduction in water transport to the South Fork of Battle Creek. No information is available as to how much subsurface flow is being transported to the creek currently. With improved pipes that eliminate excess water leakage to the subsurface there may be a slight decrease to the amount of water transported to the stream; however this is expected to be a negligible quantity. There would not be a change in stream flow compared to natural conditions.

Water rights are granted for a given quantity from a given water source. The rate and point of diversion, the time of year, and the purpose and place of use are also specified (California Water Code section 5100 et seq.). The park would monitor the amount of water withdrawn from Martin Creek, and if substantial changes in use are occurring as a result of improved

efficiency in the replaced water delivery system, then the National Park Service may choose to consult with the California Water Board regarding water rights and changes in conveyance.

**Cumulative Impacts.** The effects of past, present, and future plans would be the same as described in Alternative A, long-term, localized, and beneficial predominantly from habitat restoration efforts in Battle Creek. When these beneficial effects are combined with the beneficial effects of Alternative B, the cumulative impacts would be long-term, localized, and beneficial.

**Conclusions.** Under Alternative B, impacts to water resources from repairs to existing water and wastewater systems would be long-term, localized, and beneficial. Short-term, localized, minor, adverse impacts would occur during construction. Implementation of Alternative B, in combination with the moderate benefits of habitat restoration efforts, would result in an overall direct and indirect, localized, long-term, beneficial cumulative effects.

## PUBLIC HEALTH AND SAFETY

### AFFECTED ENVIRONMENT

Park administrative staff occupy the headquarters area. In addition, approximately 38 year-round residents and 12 seasonal residents are also present within the project area (NPS 2009a). The utility infrastructure within the headquarters area influences public health and safety to a great degree, particularly due to inclement weather experienced during the winter season. The park staff depends upon utilities to conduct its various NPS-related responsibilities, while the resident population relies on the same infrastructure to supply the typical necessities and comforts of home.

Electric service is often disrupted during winter storms when snow causes tree limbs to break and fall on the existing above-ground powerlines. During these outages several factors, e.g. - lack of light, heat, and communication capabilities, combine to produce unsafe conditions for park staff and community members. In addition, downed powerlines pose electrocution risk to park staff, community members, and especially to those conducting emergency repairs.

Potable water within the headquarters area is treated and distributed via gravity-fed underground pipes. Buried sewer lines are maintained by the park and discharge to Tehama County sewer lines along State Highway 36E. Both water and wastewater lines suffer from cracking, which is likely due to both age and extensive root systems from mature trees within the headquarters. Leaks resulting from these cracked lines could lead to health concerns related to the potential for contaminated groundwater and/or drinking water. It should be noted that there have been no recorded incidents to date of contaminated drinking water; however with continued leakage and further deterioration over time of sewer lines, the potential for contamination would remain.

One identified public health and safety concern within the headquarters area is the unpredictable discharge of sanitary waste onto ground surfaces adjacent to manholes located throughout the headquarters. As park staff can move freely in all areas within the headquarters' roadways, they may unexpectedly come into contact with untreated waste that has overflowed from manholes.

Propane is supplied to the buildings within the headquarters area by means of individual, building-specific 500-gallon propane tanks. These tanks require constant maintenance throughout the winter to remove snow and ice from their regulators. Park staff and community safety is compromised by the potential for explosions associated with propane tank damage during inclement weather.

### ENVIRONMENTAL CONSEQUENCES

#### Guiding Regulations and Policies

The larger context for analyzing the impact of each alternative on public health and safety is established by the legislation establishing the park, as well as *Management Policies* (NPS 2006). NPS policies provide service-wide guidelines and mandates for public health and safety. The saving of human life will take precedence over all other management actions as the National Park Service strives to protect human life. The National Park Service will do this within the constraints of the 1916 Organic Act. The primary—and very substantial—constraint imposed by the Organic Act is that discretionary management activities may be undertaken only to the extent that they will not impair park resources and values.

## Methods and Assumptions

Effects on public health and safety were evaluated and determined qualitatively based on the professional judgment of NPS staff and consultants. The primary sources of information used in this analysis included existing park management documents, NPS policy documents, and unpublished observations and insights from knowledgeable park staff.

## Impacts of Alternative A, the No Action Alternative

Implementation of Alternative A would continue to result in public health and safety risk. The park staff, as well as members of the headquarters area residential community, would continue to experience utility outages caused by inclement weather and subsequent loss of light, heat, and communication capabilities. Potential for drinking and groundwater contamination would persist and may increase over time, and the risk of multiple propane tanks would remain. Both of these systems would continue to be monitored and maintained to meet all applicable operations and safety regulations and guidelines.

Emergency repairs to failing sanitary sewer and water infrastructure would continue as required. Park staff may be called upon in unpredictable fashion to assist in or oversee such repairs and/or manage staff access as necessary to ensure public safety.

Water sampling would continue to be carried out in accordance with the provisions of the Regional Water Quality Control Board. Bacteriological monitoring must be carried out by taking samples at least twice a month at equally spaced intervals. Routine maintenance of the existing sanitary sewer system would be carried out in accordance with the applicable guidelines. Routine maintenance would also include annual pumping out and cleaning of the septic tank and regulation of the flow at the leach field near the seasonal staff housing area. The leach field would be surveyed annually during a period of peak use to identify system failures such as odors or surfacing wastewater. Accidental overflows of untreated waste from the sanitary sewer would be expected to continue in the future. Inadvertent exposure or contact with potentially hazardous bacteria could occur. The suitability of the water for public consumption would be monitored via bacteriological monitoring.

With proper monitoring and maintenance of these systems, the adverse effects resulting from the aged utility infrastructure would be reduced. As a result, Alternative A would have direct, localized, negligible to minor, short- and long-term adverse effects on public health and safety.

**Cumulative Impacts.** Of the past, present or future plans or actions identified, the Structural Fire Management Plan, the new water treatment plant and water tank, and the additional incident command capacity to be provided by the conference room opening in summer 2012 have or would be expected to each result in direct, localized, long-term, beneficial impacts to public health and safety in the headquarters area due to increased levels of fire prevention and protection, a more reliable water filtration and supply system, and the addition of a modern, auxiliary location for an incident command center, respectively. The beneficial effects of these past improvements and management plan in combination with the negligible to minor adverse effects of continuing no action would result in an overall direct, localized, negligible, short- and long-term adverse, cumulative effect on public health and safety.

**Conclusions.** Continuing threats to public health and safety from deteriorating utilities under Alternative A would result in direct, localized, negligible to minor, short- and long-term adverse impacts. Implementation of Alternative A, in combination with the impacts associated with other past, present and future plans or actions would result in overall direct, localized, negligible, short- and long-term adverse cumulative impacts.



### **Impacts of Alternative B, the Preferred Alternative**

Implementation of Alternative B would result in improvements to public health and safety. Buried power, propane, and telecommunication lines would result in fewer utility outages, which would therefore reduce instances of park staff or the resident community going without heat, light, and communication capabilities during inclement weather.

New water and wastewater lines would ensure safe potable water, and a centralized propane source would reduce the risk for leaks and explosions. As a result, Alternative B would have direct, localized, short- and long-term, beneficial effects on public health and safety.

**Cumulative Impacts.** The effects of past, present, and future plans would be the same as described in Alternative A; localized, long-term, and beneficial. The beneficial effects of these past improvements and management plan in combination with the long-term beneficial effect of Alternative B would result in an overall direct, localized, short- and long-term beneficial cumulative effect on public health and safety.

**Conclusions.** Improvements to the utility infrastructure under Alternative B would result in direct, localized, short- and long-term, beneficial impacts to public health and safety. Implementation of Alternative B, in combination with the impacts associated with other past, present, and future plans or actions would result in overall direct, localized, short- and long-term beneficial cumulative impacts.

## PARK OPERATIONS

### AFFECTED ENVIRONMENT

The Mineral headquarters at Lassen Volcanic National Park serves as both a staff and residential hub for the park. Maintenance, fire and visitor protection, resource management, and administrative staff are all located within the project area, as well as both year-round and seasonal residents that use employee housing. The park staff and community within the headquarters area carry out a broad spectrum of functions and services to accomplish management objectives and meet the requirements of park protection, emergency services, public health and safety, science, resource protection and management, emergency services, interpretation and education, utilities, administrative services, and management support. As of January 2012, there were 32 full-time-equivalent (FTE) employees assigned to this portion of the park during the winter season and 40 employees during the summer season, as well as a resident population of up to 50 persons (NPS, 2010b; NPS 2012). Within the headquarters area, on the south side of State Highway 36E, the park also operates and maintains a seasonal staff housing area.

The ineffectiveness, inefficiency, and repair difficulty associated with the current utility infrastructure places a burden on park operations. For instance, each time a leak in the water line is detected, the leak must be identified and repaired by excavation. The park had one lost time accident as a result of work on a water line in 2000 and spent 2,500 hours in emergency labor costs repairing utility systems in 2007. The park estimates that approximately 10,000 hours of labor were spent on repair of broken water lines over the course of the past decade (NPS 2009a). The septic tank within the seasonal staff housing area is pumped out and cleaned annually by private contractors and their contents disposed of offsite. The park maintains and may occasionally hire a contractor to address maintenance issues related to clogged sanitary sewer lines and water line leakages.

During power outages in inclement winter conditions, furnace blowers do not function. Unacceptably cold conditions in office spaces, combined with disabled phone and internet capabilities from downed phone lines, often require dismissal of NPS staff until repairs are conducted to restore heat and telecommunications to work spaces. Blockages in the sanitary sewer lines and breakages in water lines can temporarily disrupt services within the headquarters area while repairs are carried out. The park estimates that, on average, approximately \$41,000 is lost annually in employee productivity due to utility shortcomings (NPS 2009a).

### ENVIRONMENTAL CONSEQUENCES

#### Guiding Regulations and Policies

The larger context for analyzing the impact of each alternative on park operations and management is established by the legislation establishing the park, and *Management Policies* (NPS 2006). National Park Service policies provide service-wide guidelines and mandates for the preservation, management, and use of park resources and facilities. Exceptions to the standards may be authorized when necessary to meet specific park and public safety needs. Based on these and other laws, regulations, and policies, park operations and management at the Lassen Volcanic National Park headquarters area concern: 1) serving the needs of park staff and residential community; 2) maintaining the physical components of the headquarters; and 3) protecting the natural and cultural resource values of the park

### Methods and Assumptions

This impact topic addresses the ability of National Park Service staff to carry out its daily activities in order to protect and preserve resources. It also addresses the effectiveness and efficiency with which NPS staff performs such tasks. Information about NPS operations was gathered from park staff, especially those in facilities and maintenance roles, as well as from other planning documents.

### Impacts of Alternative A, the No Action Alternative

Implementation of Alternative A would continue to result in negative repercussions to park operations. An increased risk for lost-time accidents suffered during utility repairs would occur. Extra labor hours needed for repair work would continue to occur, and lost staff productivity due to dismissal of employees during outages would also continue to be a problem. Propane deliveries would continue to be necessary on a weekly basis, resulting in disruptions due to the presence of delivery trucks. As a result, Alternative A would have direct, localized, moderate, short- and long-term adverse effects on park operations.

**Cumulative Impacts.** Of the past, present or future plans or actions identified, the proposed interior renovations to the administration building, the pending opening of the Mineral Conference Room in summer 2012, and plans to acquire adjacent land are each anticipated to result in direct, localized, long-term, beneficial impacts to park operations in the headquarters area. The interior renovations to the administration building are expected to increase energy efficiency by reducing drafts in the historic building, as well as increase productivity through optimized workspace organization. The summer 2012 opening of the Mineral Conference Room is expected to benefit park operations by providing a space specifically designed to host large groups of people, and by serving as an auxiliary incident command center during emergencies. Future land acquisitions will provide the park greater flexibility in any necessary expansion of administrative, maintenance, or residential facilities, especially in regard to development constraints imposed by the National Register of Historic Places district located within the current headquarters area. The direct, long-term, beneficial effects of these past improvements and future plans in combination with the direct, localized, moderate, short- and long-term adverse effects of continuing no action would result in an overall direct, localized, minor to moderate, short- and long-term adverse, cumulative effect on park operations.

**Conclusions.** Alternative A would result in direct, localized, moderate, short- and long-term adverse impacts to park operations. Implementation of Alternative A, in combination with the impacts associated with other related past, present, and future plans and actions would result in overall direct, localized, minor to moderate, short- and long-term adverse cumulative impacts.

### Impacts of Alternative B, the Preferred Alternative

Implementation of Alternative B would result in improvements to park operations. Buried utilities would reduce the need for repairs during inclement weather or otherwise. Therefore, lost-time accidents would also likely decline. Similarly, additional labor hours needed for repair work would be minimized due to a modernized utility infrastructure that is less vulnerable to damage during inclement weather. Given the expectations for less frequent power outages, park staff would likely be dismissed less often due to unacceptable work conditions, resulting in greater overall staff productivity.

Improved sanitary sewer and water systems would result in more effective park operations as staff would be less likely to be engaged in unpredictable and frequent emergency repairs arising from aged and undependable facilities. Replacing individual propane tanks with a large, centralized source would reduce the amount of propane deliveries necessary in a year, resulting in a reduction in disruptions caused by delivery trucks. Two tanks installed at one location would allow one tank to serve as backup while the other tank was filled or undergoing maintenance. Above ground tanks would be easier to maintain, and the tanks' fill pipe would be accessible from the road for easy refilling of the tanks. Therefore, implementation of Alternative B would have direct, localized, short- and long-term, beneficial effects on park operations.

**Cumulative Impacts.** The effects of past, present, and future plans would be the same as described in Alternative A; direct, localized, long-term, and beneficial. The beneficial effects of this past action and future plans in combination with the direct, localized, short- and long-term beneficial effects of Alternative B would result in an overall direct, localized, short- and long-term beneficial, cumulative effect on park operations.

**Conclusions.** Alternative B would result in direct, localized, short- and long-term, beneficial impacts to park operations. Implementation of Alternative B, in combination with the impacts associated with other related past, present, and future plans and actions would result in overall direct, localized, short- and long-term beneficial cumulative impacts.

## **CHAPTER 4: CONSULTATION AND COORDINATION**

### **SCOPING PROCESS AND PUBLIC INVOLVEMENT**

The National Park Service divides the scoping process into two parts: internal scoping and external (public) scoping. Internal scoping for the Lassen Volcanic National Park Utilities Replacement EA was conducted in November 2010. Participants discussed the purpose and need for the project, issues, objectives, alternatives, and other related topics. External scoping involved over 200 letters sent from the National Park Service to associated individuals, businesses, and federal and state agencies. Public scoping is the early involvement of the interested and affected public in the environmental analysis process. The public scoping process was initiated in December 2010 and helps ensure that people have been given an opportunity to comment and contribute early in the decision-making process. No public meeting was held, but the public was encouraged to comment electronically on the NPS Planning, Environment and Public Comment (PEPC) website or by letter.

### **AGENCY CONSULTATION**

#### **U.S. Fish and Wildlife Service (USFWS)**

In accordance with Section 7 of the Endangered Species Act (16 USC 1531, et seq.), the NPS contacted the USFWS by letter on December 15, 2010, regarding federally listed special status species. No response was received from the USFWS. The letter is included in Appendix A. This environmental assessment will be sent to the agency for review and comment.

#### **California Department of Transportation (CalTrans)**

A scoping letter was submitted to CalTrans on December 15, 2010 describing the purpose and need for action and a summary of the proposed action to replace the utilities within the headquarters area of the park. A letter from the agency was received on January 18, 2011 noting that any potential work conducted in the highway right-of-way would require an encroachment permit. CalTrans also stated no open cuts to the paved portion of the highway are allowed; however conduits may be placed in the roadway by horizontal directional drilling. Therefore, actions included in the proposed project do not require the park to obtain a CalTrans permit.

#### **California State Historic Preservation Officer (SHPO)**

The undertaking described in this document is subject to Section 106 of the National Historic Preservation act as amended (16 U.S.C. 470 et seq.). The office of the California State Historic Preservation Officer (SHPO) was notified by letter of the proposed project on December 15, 2010 when the park initiated informal consultation. The SHPO was subsequently updated about the project in a letter that provided the project area of potential effect (APE) and identification of historic properties for the proposed undertaking. This environmental assessment will also be submitted to the SHPO for review and comment.

The SHPO responded in a letter dated February 8, 2012, concurring with the APE for the project. The park will continue to coordinate with the California SHPO to avoid cultural

resources where possible and mitigate impacts where needed. Correspondence with the California SHPO is contained in Appendix A.

### **AMERICAN INDIAN TRIBES**

The following list of tribes was contacted to participate in the planning process:

Greenville Rancheria	Pit River Tribal Council
Redding Rancheria	Berry Creek Rancheria
Enterprise Rancheria	Susanville Rancheria
Mooretown Rancheria	United Auburn Indian Community
Shingle Springs Rancheria	

Two tribes, Enterprise Rancheria and Shingle Springs Rancheria, responded to external scoping letters. Each asked for continued consultation so that they may be kept abreast of the project. Each also requested work stoppage and subsequent notification of any discovery of cultural resources during ground disturbance. The environmental assessment will be provided to the tribes for their review and comment, and the National Park Service will continue to keep the tribes informed of the project's progress. Mitigation measures have been identified in the Alternatives chapter to reduce impact to cultural resources during project implementation.

All tribal consultation correspondence can be found in Appendix A.

### **SUMMARY OF COMPLIANCE WITH FEDERAL AND STATE REGULATIONS**

**National Environmental Policy Act (NEPA) and Regulations of the Council on Environmental Quality** – The National Environmental Policy Act applies to major federal actions that may significantly affect the quality of the human environment. This generally includes major construction activities that involve the use of federal lands or facilities, federal funding, or federal authorizations. If the environmental effects are undetermined then an environmental assessment is prepared to evaluate potential impacts. This environmental assessment meets the requirements of the National Environmental Policy Act and regulations on the Council on Environmental Quality in evaluating potential effects associated with activities on federal lands. A copy of this environmental assessment will be submitted to the California State Clearinghouse, which will publish an internal notification in the State Clearinghouse Newsletter of the availability of the document for review by California state agencies. If no significant effects are identified, a finding of no significant impact (FONSI) would be prepared. If significant impacts are identified, then a notice of intent (NOI) would be filed for preparation of an environmental impact statement.

**The Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)** – Section 7 of the Endangered Species Act is designed to ensure that any action authorized, funded, or carried out by a federal agency likely would not jeopardize the continued existence of any endangered or threatened plant or animal species. If a federal action may affect threatened or endangered species, then consultation with the U.S. Fish and Wildlife Service is required. Lassen Volcanic National Park biologists have determined that there are no known occurrences of federally threatened or endangered species within the project area and therefore there would be no effects. A scoping letter was provided to the agency as described previously with no response received. The environmental assessment has been sent to the

agency for their review and comment. Consultation has been completed with the US Fish and Wildlife Service.

**Clean Water Act (CWA) and State and Local Water Quality and Floodplain**

**Regulations**—No altering of streams or floodplains would occur. At this time it does not appear that a Section 404 permit would be required. However utility lines could cross small drainages within the project area where there are existing road crossings. The National Park Service would consult with the U.S. Army Corps of Engineers and determine whether these small drainages come under the jurisdiction of the Clean Water Act Section 404 and whether permits would be required. The indirect impacts to the wetland within the project area would result in less than 0.1 acre of disturbance and thus would not require a Section 404 permit.

Based on the schematic designs of the proposed utility alignment at the time of this assessment, the area affected during construction would be approximately 12,336 linear feet with a trench four feet wide, resulting in approximately 1.1 acres of disturbance. Projects disturbing more than one acre of land during construction are required to file a Notice of Intent to be covered under the state National Pollution Discharge Elimination System (NPDES) General Construction Permit for construction-related discharges of stormwater. A Stormwater Pollution Prevention Plan (SWPPP) must be developed and implemented for each project covered by the general permit. The SWPPP must include best management practices (BMPs) that are designed to reduce potential impacts to surface water quality during project construction and operation.

Due to the replacement of utilities across State Highway 36E, a California Transportation Department, Standard Encroachment Permit would need to be completed.

**National Historic Preservation Act of 1996, as amended (16 U.S.C. 470, et Seq.)** – Section 106 of the National Historic Preservation Act of 1966 (as amended) requires federal agencies to identify cultural resources within the area of potential effect for an undertaking and to consider effects of any federal action on cultural resources eligible for or listed in the National Register of Historic Places (NHRP), prior to initiating such actions. Compliance with Section 106 of the NHPA was conducted for the proposed action and included an assessment of effect that is included in the correspondence in Appendix A. The Section 106 assessment of effect was completed as a separate process from this EA, but is included here for reference.

**Asbestos Removal State and Federal Regulations** - Given the age of the pipes associated with the main water line, it is probable that the pipes were lined with asbestos containing material. If the water main pipes have not been tested, the contractor would conduct the necessary testing prior to project implementation. If the pipes are found to contain friable asbestos, the material should either be sealed or removed by qualified contractors.

Asbestos is a mineral-based material that includes six fibrous silicate minerals that occur naturally in the earth's crust and are heat and chemical resistant. Because of the insulating and fire retardant properties, asbestos has been used extensively in a variety of construction materials including pipe. Asbestos presents a health hazard when asbestos particles become airborne and are inhaled. Long-term exposure can result in scarring of the lungs, lung cancer, and mesothelioma (cancer of the lining of the lungs and gut cavity).

The EPA and OSHA regulate asbestos containing material (containing more than 1%). The EPA regulates asbestos as a hazardous waste under the Toxic Substance Control Act (TSCA), the Comprehensive Environmental Response and Liability Act (CERCLA) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP).



OSHA regulations focus on workers and procedures for the removal of asbestos. Training and notifications are necessary for any employee handling asbestos, including sampling and removal, regardless of friability. Safety and health standards pertaining to employee or worker exposure to asbestos dust are covered under OSHA regulation 29 CFR 1910.1001. Required work practices are covered in the Construction Standard for the Asbestos Industry (40 CFR 1926.1101 or CFR Title 8 Section 1529).

In addition, because both TSCA and CERCLA list asbestos as a hazardous material, the Department of Transportation in Title 49 of the Code of Federal Regulations has additional requirements regarding labeling and transportation of asbestos. Under California's Hazardous Waste Control Law, the California Department of Toxic Substances Control monitors compliance with applicable hazardous waste packaging, labeling, manifesting, transportation, and disposal requirements. All California transporters of hazardous waste must comply with these requirements.

The contractors responsible for removal, disposal, or cap and fill of the water main pipe would be responsible for complying with all federal and state regulations.

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### **LIST OF RECIPIENTS**

The following federal, state, local, and tribal government agencies have been sent a copy of this EA.

#### **FEDERAL AGENCIES**

National Park Service  
U.S. Fish and Wildlife Service

**STATE AGENCIES**

California Department of Transportation (CalTrans)

California Office of Historic Preservation

**LOCAL AGENCIES**

Tehama County

Town of Mineral

**AMERICAN INDIAN TRIBES**

Enterprise Rancheria

Shingle Springs Rancheria

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**APPENDIX A:**  
**CONSULTATION LETTERS AND PUBLIC SCOPING INFORMATION**



United States Department of the Interior  
NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

**Subject: Preparation of an Environmental Assessment for the Replacement of Utilities at Lassen Volcanic National Park, Headquarters Area, Mineral, CA**

Dear Friends and Neighbors:

The National Park Service (NPS) will be preparing an Environmental Assessment (EA) which will analyze the environmental effects of project alternatives to replace the utility infrastructure at the Headquarters Area of Lassen Volcanic National Park in Mineral, California.

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, propane gas, and telecommunications) is ineffective, inefficient, antiquated and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

Actions included in the proposed project which would improve the park headquarters area utility infrastructure are as follows: replacing existing overhead power lines with underground lines, and then removing overhead lines; replacing water and sewer lines; updating telecommunication lines; replacing small, building-specific propane tanks with one centralized, large propane tank; improving drainage; installing solar panels; and increasing utility capacity at the employee RV site south of State Highway 36.

Scoping is the first step for involving individuals, organizations, agencies and interested parties in the planning process. Public scoping is an early phase of the planning process, which is designed to obtain public input on issues and areas of concern related to the project, including a suitable range of alternatives, the nature and extent of potential environmental impacts and benefits, and appropriate mitigation strategies.

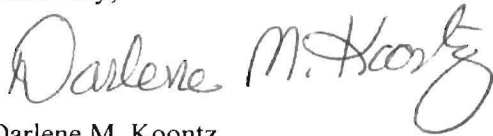
Because the environmental assessment will analyze many important issues, your participation is encouraged and needed. We look forward to your involvement in this process and believe that it will help ensure that your concerns and ideas regarding replacement of the utility infrastructure are adequately considered and evaluated in the environmental assessment. When the environmental assessment is complete, it will be made available for your review and comment.

If you have questions, issues, or concerns about the project or would like more information please call Louise Johnson at 530-595-6180.

Comments can be sent to the following address and should be received no later than January 15, 2011:

Mailing Address: Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

Sincerely,

A handwritten signature in cursive script that reads "Darlene M. Koontz". The signature is written in dark ink and is positioned above the printed name and title.

Darlene M. Koontz  
Superintendent

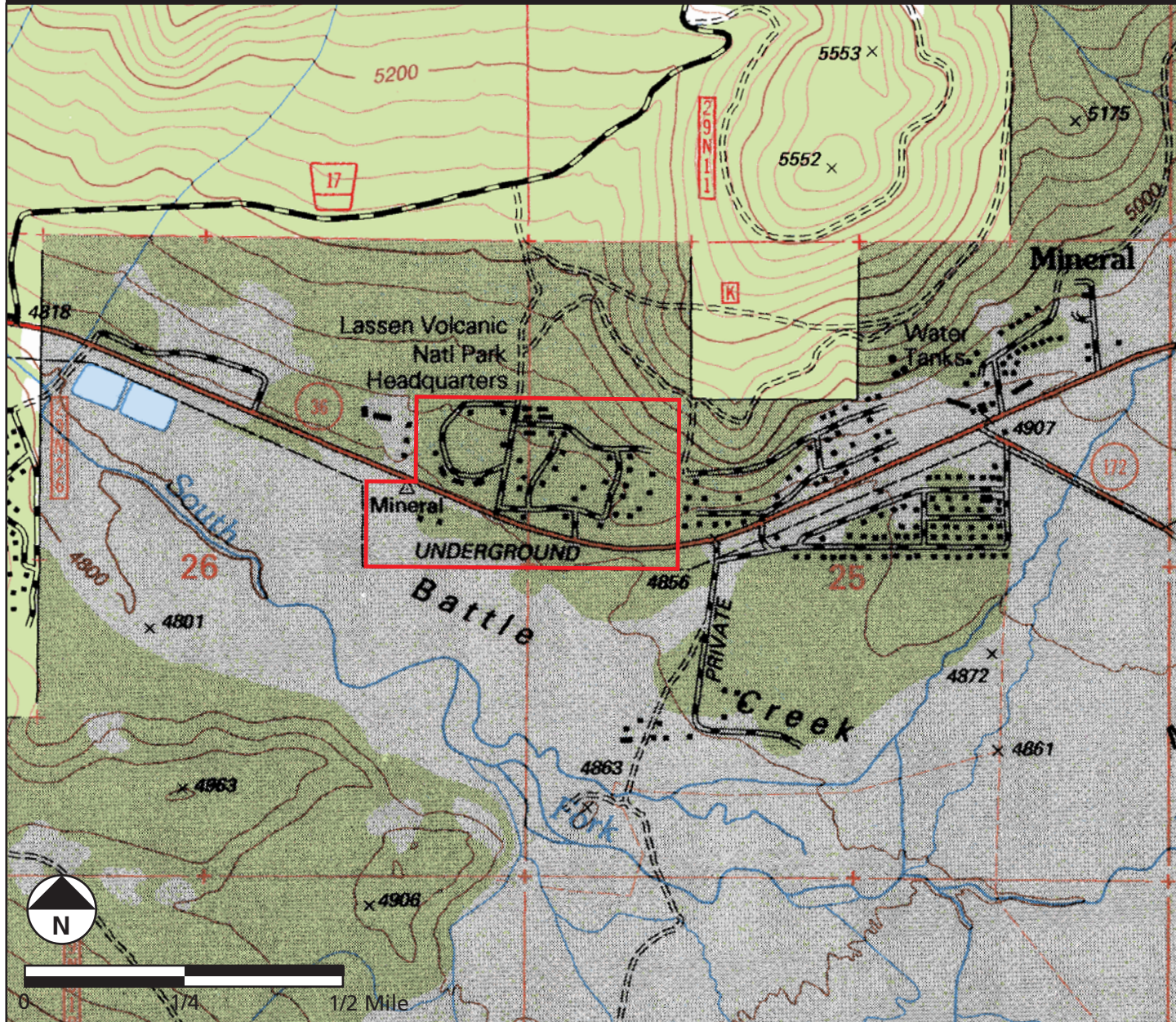
cc: C.Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



# Lassen Volcanic National Park Utility Replacement Project Environmental Assessment

California



USGS Topo Mineral, CA 1995



= Project Area Boundary



= Non-National Forest System land within  
National Forest Inholdings may exist in other  
National or State reservations





United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Milford Wayne Donaldson  
State Historic Preservation Officer  
1725 23rd Street, Suite 100  
Sacramento, CA 95816

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Donaldson:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

Actions included in the proposed project which would improve the park headquarters area utility infrastructure are as follows: replacing existing overhead power lines with underground lines, and then removing overhead lines; replacing water and sewer lines; updating telecommunication lines; replacing small, building-specific propane tanks with one centralized, large propane tank; improving drainage; installing solar panels; and increasing utility capacity at the designated RV area south of Highway 36.

Lassen Volcanic National Park Headquarters Area is listed on the National Register of Historic Places (NRHP) as a historic district, as it offers an excellent example of NPS rustic architecture. In addition, the following archeological sites are located within the project area: CA-TEH-14 and CA-TEH-609.

In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800: Protection of Historic Properties, the National Park Service is required to comply with section 106 of the

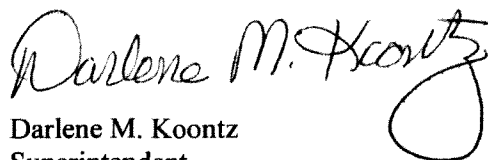
National Historic Preservation Act of 1966 (as amended). This scoping notice serves to officially initiate Section 106 consultation with your office. As such, the NPS seeks to ensure that the project provides appropriate protection for cultural resources which could be affected. The NPS would like to request any additional information your office may have regarding NRHP listed or eligible properties within the project area.

If you have questions, issues, or concerns about the project or would like more information please contact Louise Johnson at 530-595-6180 or [louise\\_johnson@nps.gov](mailto:louise_johnson@nps.gov). In order to meet project schedules, the NPS would appreciate your response to this letter at the address listed below by January 15, 2011. Comments can be emailed or sent to:

Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

A handwritten signature in black ink, reading "Darlene M. Koontz". The signature is fluid and cursive, with a large loop at the end of the last name.


Darlene M. Koontz  
Superintendent


cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: USGS topographic map depicting proposed project area



This topographic map depicts the Battle Creek region within Lassen Volcanic National Park. The map features contour lines indicating elevation, with specific points marked as 5553, 5552, 5175, 4907, 4872, 4861, 4863, 4906, 4801, 4818, and 5200. A red rectangle highlights the 'UNDERGROUND' area, which is labeled 'Mineral' and 'BATTLE CREEK'. Other landmarks include 'Lassen Volcanic Natl Park Headquarters', 'Water Tanks', and 'Mineral'. A scale bar at the bottom indicates a distance of 0 to 1/2 mile. A north arrow is also present.

 = Project Area Boundary

 = Non-National Forest System land within National Forest Inholdings may exist in other National or State reservations





United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Crista Stewart, Cultural Director  
Greenville Rancheria  
PO Box 279  
Greenville, CA 95947

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Ms. Stewart:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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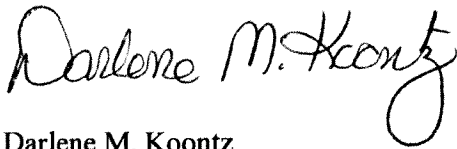
In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800: Protection of Historic Properties, the National Park Service is required to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended). This scoping notice serves to officially initiate Section 106 consultation with your tribe. As such, the NPS seeks to ensure that the project provides appropriate protection for cultural resources which could be affected.

The NPS would like to request any information your office may have regarding historic properties found within the project area that are of traditional, religious, or cultural significance to your tribe. If you have questions, concerns, or issues about the project or would like more information please contact Louise Johnson at 530-595-6180 or [lavo\\_planning@nps.gov](mailto:lavo_planning@nps.gov). In order to meet project schedules, the NPS would appreciate your response to this letter at the address listed below by January 15, 2011. Comments can be emailed or sent to:

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Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

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Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Ida Riggins, Chairperson  
Pit River Tribal Council  
PO Box 1570  
Burney, CA 96013

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Ida:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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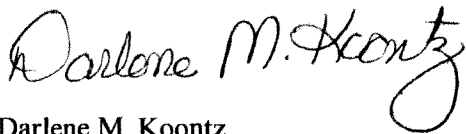
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P.O. Box 100  
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Sincerely,

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Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

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Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Jack Potter, Jr., Chairperson  
Redding Rancheria  
2000 Rancheria Road  
Redding, CA 96001

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Potter:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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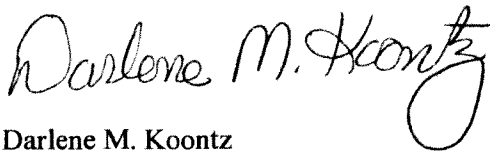
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Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area





United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

James Edwards, Tribal Chair  
Berry Creek Rancheria  
5 Tyme Way  
Oroville, CA 95966

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Edwards:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

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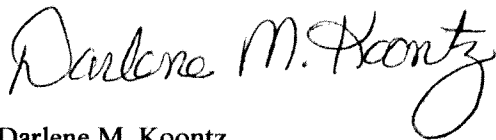
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Sincerely,

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Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Glenda Nelson, Tribal Chair  
Enterprise Rancheria  
2133 Monta Vista Avenue  
Oroville, CA 95966

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Ms. Nelson:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

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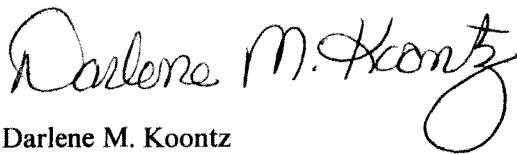
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The NPS would like to request any information your office may have regarding historic properties found within the project area that are of traditional, religious, or cultural significance to your tribe. If you have questions, concerns, or issues about the project or would like more information please contact Louise Johnson at 530-595-6180 or [lavo\\_planning@nps.gov](mailto:lavo_planning@nps.gov). In order to meet project schedules, the NPS would appreciate your response to this letter at the address listed below by January 15, 2011. Comments can be emailed or sent to:

Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

A handwritten signature in black ink that reads "Darlene M. Koontz". The signature is fluid and cursive, with a large loop at the end of the last name.

Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Gary Karchuleta  
Mooretown Rancheria  
1 Alverda Drive  
Oroville, CA 95966

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Karchuleta:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

Actions included in the proposed project which would improve the park headquarters area utility infrastructure are as follows: replacing existing overhead power lines with underground lines, and then removing overhead lines; replacing water and sewer lines; updating telecommunication lines; replacing small, building-specific propane tanks with one centralized, large propane tank; improving drainage; installing solar panels; and increasing utility capacity at the designated RV area south of Highway 36.

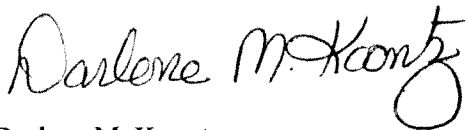
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Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

A handwritten signature in black ink that reads "Darlene M. Koontz". The signature is fluid and cursive, with the first name "Darlene" being the most prominent part.

Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Nick Fonseca, Tribal Chair  
Shingle Springs Rancheria  
PO Box 1340  
Shingle Springs, CA 95682

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Fonseca:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

Actions included in the proposed project which would improve the park headquarters area utility infrastructure are as follows: replacing existing overhead power lines with underground lines, and then removing overhead lines; replacing water and sewer lines; updating telecommunication lines; replacing small, building-specific propane tanks with one centralized, large propane tank; improving drainage; installing solar panels; and increasing utility capacity at the designated RV area south of Highway 36.

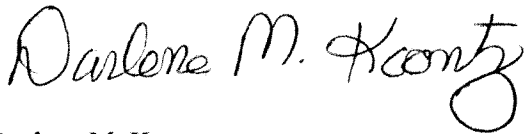
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Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

A handwritten signature in black ink that reads "Darlene M. Koontz". The signature is written in a cursive, flowing style.

Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area





United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Stacey Dixon, Tribal Chair  
Susanville Rancheria  
PO Drawer U  
Susanville, CA 96130

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Ms. Dixon:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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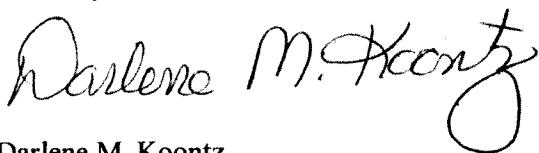
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Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

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Sincerely,

A handwritten signature in cursive script that reads "Darlene M. Koontz". The signature is written in dark ink and is positioned above the printed name and title.

Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior  
NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

David Keyser, Tribal Chairperson  
United Auburn Indian Community  
10720 Indian Hill Road  
Auburn, CA 95603

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Keyser:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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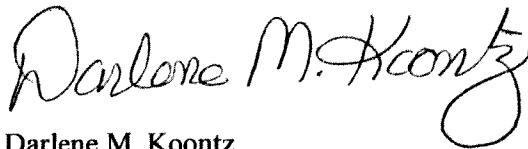
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Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

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Sincerely,

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Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior

NATIONAL PARK SERVICE  
Lassen Volcanic National Park

P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Kyle Self, Tribal Chair  
Greenville Rancheria  
PO Box 279  
Greenville, CA 95947

SUBJECT: *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Mr. Self:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

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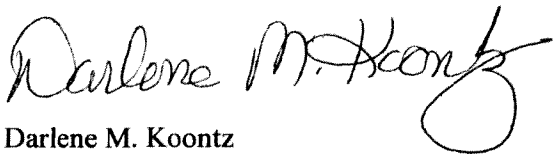
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Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

The NPS looks forward to your participation in this process and believes that it will help ensure that cultural resources are adequately considered in the environmental assessment. Upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

Sincerely,

A handwritten signature in black ink, reading "Darlene M. Koontz". The signature is fluid and cursive, with a large loop at the end of the last name.

Darlene M. Koontz  
Superintendent

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

Enclosure: Topographic map depicting proposed project area



United States Department of the Interior  
NATIONAL PARK SERVICE  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100  
Tel: (530) 595-6100



L76(LAVO)

December 15, 2010

Amy Fesnock, Field Supervisor  
USF&WS  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825

**RE:** *Environmental Assessment for Utilities Replacement Project at  
Lassen Volcanic National Park*

Dear Ms. Fesnock:

The National Park Service (NPS) is initiating the preparation of an Environmental Assessment (EA) for the proposed Utility System Replacement Project within the headquarters area at Lassen Volcanic National Park (the park). The EA is being prepared under the provisions of the National Environmental Policy Act (NEPA).

The purpose of the proposed project is to improve NPS staff and community safety, increase energy efficiency, protect National Register of Historic Places (NRHP-) listed cultural resources, and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system currently in use (power, water, wastewater, gas, and telecommunications) is ineffective, inefficient, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, and water and wastewater pipes suffer from chronic leaking.

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This letter serves as notification that the NPS has begun the NEPA compliance process and anticipates completion of an EA for public and regulatory review in May 2011. This letter also serves as a record that the NPS is initiating informal consultation with your agency pursuant to the requirements of the 1973 Endangered Species Act, as amended, and NPS Management Policies. As part of the scoping for this project, the NPS requests any information regarding listed or proposed threatened or endangered species or critical habitats that might occur in the project vicinity, and any special management considerations for such species. The project area is depicted on the enclosed 7.5-minute Mineral, California USGS quadrangle map.

Section 7 of the Endangered Species Act of 1973 requires that a federal agency consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service on any action that may affect threatened, endangered, or candidate species; or that may result in adverse modification of critical habitat. Park staff



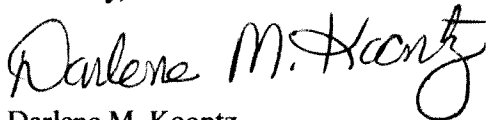
reviewed the most current list of federally listed animals and plants of the Mineral Quadrangle (626D), California at [http://www.fws.gov/sacramento/es/spp\\_lists/auto\\_list\\_form.cfm](http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm). The website provided a list of species that could be found in the area. That list includes one amphibian, four fish, and one mammal which is a candidate species. (See enclosure for full list.) In addition, according to the USFWS's online critical habitat mapper (<http://criticalhabitat.fws.gov/>), the Lassen Volcanic National Park headquarters area is not located in or near a designated critical habitat area.

Although development of the environmental assessment is in the preliminary stages, park staff has concluded that there would be no adverse effect on federally listed or candidate species, or their designated critical habitat, from the proposed project. The project area is in the administrative and residential area of the park on previously disturbed land. Thus, the NPS requests concurrence on this determination to implement for the proposed project. In keeping with the requirements of Section 7 consultation and National Park Service policy, upon completion of the environmental assessment, the NPS will forward it to your office for review and comment.

In order to meet project schedules, the NPS would appreciate your response to this letter at the address listed below by January 15, 2011. The NPS appreciates your input on this project and will provide a copy of the EA for your review as soon as it is available. If you have any initial input or questions regarding the project, please contact Louise Johnson, Chief of Resources Management, at 530-595-6180 or [louise\\_johnson@nps.gov](mailto:louise_johnson@nps.gov). Comments can also be sent to:

Superintendent Darlene Koontz  
ATTN: Utility Replacement - EA Comments  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

Sincerely,



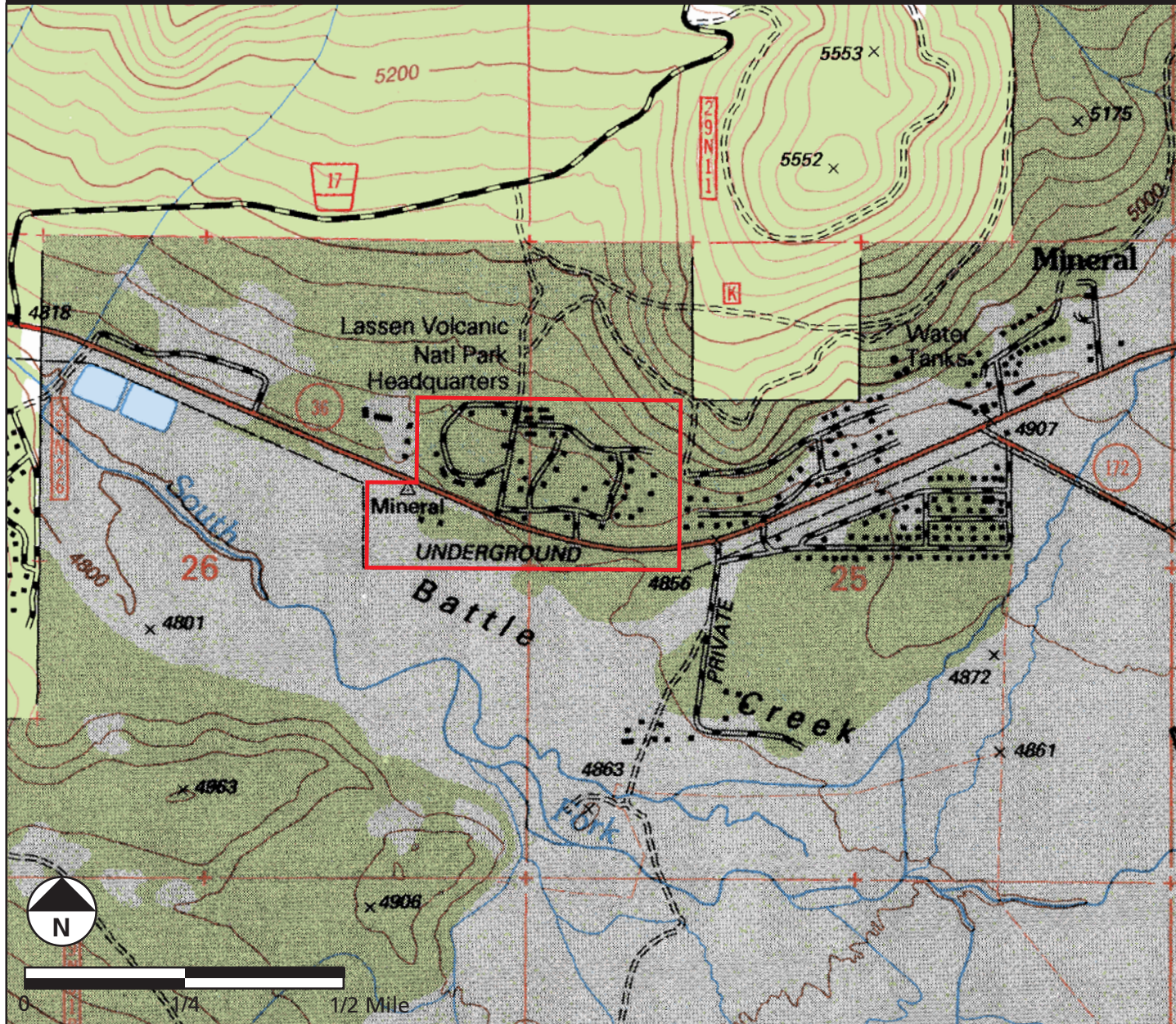
Darlene M. Koontz  
Superintendent

Enclosures: USGS Topographic map depicting proposed project area  
Full list of special status species in the Mineral quadrangle (626D)

cc: C. Chitwood, NPS - Denver Service Center  
L. Johnson, NPS - Lassen Volcanic National Park

# Lassen Volcanic National Park Utility Replacement Project Environmental Assessment

California



USGS Topo Mineral, CA 1995



= Project Area Boundary



= Non-National Forest System land within  
National Forest Inholdings may exist in other  
National or State reservations



Group	Name	Population	Status	Lead Office	Recovery Plan Name	Recovery Plan Stage
Amphibians	California tiger Salamander	U.S.A. (CA - Sonoma County)	Endangered	Sacramento Fish And Wildlife		
Amphibians	California red-legged frog (Rana)	Entire	Threatened	Sacramento Fish And Wildlife	Recovery Plan for the California	Final
Birds	Aleutian Canada goose (Branta)		Recovery	Anchorage Fish And Wildlife		
Birds	Arctic peregrine Falcon (Falco)		Recovery	Fairbanks Fish And Wildlife		
Birds	Mountain plover (Charadrius)		Proposed Threatened			
Birds	Northern spotted owl (Strix)		Threatened	Oregon Fish And Wildlife Office	Draft Revised Recovery Plan for	Draft Revision 1
Crustaceans	California freshwater shrimp		Endangered	Sacramento Fish And Wildlife	California Freshwater Shrimp	Final
Crustaceans	Conservancy fairy shrimp		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Crustaceans	Longhorn fairy shrimp		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Crustaceans	Vernal pool tadpole shrimp		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Sonoma alopecurus		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Ione manzanita (Arctostaphylos)		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Palild manzanita		Threatened	Sacramento Fish And Wildlife	Draft Recovery Plan for	Draft
Flowering Plants	Clara Hunt's milk-vetch		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Chinese Camp brodiaea		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Mariposa pussypaws		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Stebbins' morning-glory		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Gabbro Soil	Final
Flowering Plants	White sedge (Carex albida)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Fleshy owl's-clover (Castilleja)		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Pine Hill ceanothus (Ceanothus)		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Gabbro Soil	Final
Flowering Plants	Hoover's spurge (Chamaesyce)		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Suisun thistle (Cirsium)		Endangered	Sacramento Fish And Wildlife	Draft Recovery Plan for the	Draft
Flowering Plants	Vine Hill clarkia (Clarkia)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Soft bird's-beak (Cordylanthus)		Endangered	Sacramento Fish And Wildlife	Draft Recovery Plan for the	Draft
Flowering Plants	Baker's larkspur (Delphinium)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Yellow larkspur (Delphinium)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Ione (incl. Irish Hill) buckwheat		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Red Mountain buckwheat		Candidate	Arcata Fish And Wildlife Office		
Flowering Plants	Pine Hill flannelbush		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Gabbro Soil	Final
Flowering Plants	El Dorado bedstraw (Galium)		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Gabbro Soil	Final
Flowering Plants	Pitkin Marsh lily (Lilium)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Few-flowered navarretia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Many-flowered navarretia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Colusa grass (Neostapfia)		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Hairy Orcutt grass (Orcuttia)		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Lake County stonecrop		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Callistoga allocarya		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Napa bluegrass (Poa napensis)		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Hartweg's golden sunburst		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	San Joaquin adobe sunburst		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Layne's butterweed (Senecio)		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Gabbro Soil	Final
Flowering Plants	Keck's Checker-mallow		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Kenwood Marsh checker-mallow		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Presidio Manzanita		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Coastal	Final
Flowering Plants	Sonoma sunshine		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	Tiburon mariposa lily		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Coyote ceanothus (Ceanothus)		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final

Group	Name	Population	Status	Lead Office	Recovery Plan Name	Recovery Plan Stage
Flowering Plants	Sonoma spineflower		Endangered	Sacramento Fish And Wildlife	Seven Coastal Plants and the	Final
Flowering Plants	Fountain thistle (Cirsium		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Presidio clarkia (Clarkia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Palmate-bracted bird's beak		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Flowering Plants	Marin dwarf-flax (Hesperolinon		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Sebastopol meadowfoam		Endangered	Sacramento Fish And Wildlife		
Flowering Plants	San Joaquin Orcutt grass		Threatened	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Sacramento Orcutt grass		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Metcalfe Canyon jewelflower		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Tiburon jewelflower		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Hidden Lake bluecurls		Threatened	Carlsbad Fish And Wildlife		
Flowering Plants	Solano grass (Tuctoria		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	San Mateo thormmint		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Tiburon paintbrush (Castilleja		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Loch Lomond coyote thistle		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Red Hills vervain (Verbena		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Springville clarkia (Clarkia		Threatened	Sacramento Fish And Wildlife		
Flowering Plants	Pennell's bird's-beak		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Kern mallow (Eremalche		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Flowering Plants	San Mateo woolly sunflower		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	Butte County meadowfoam		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Vernal Pool	Final
Flowering Plants	Bakersfield cactus (Opuntia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Flowering Plants	Santa Clara Valley dudleya		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Serpentine	Final
Flowering Plants	San Francisco lessingia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Coastal	Final
Insects	Lange's metalmark butterfly		Endangered	Sacramento Fish And Wildlife	Revised Recovery Plan for	Final Revision 1
Insects	Mission blue butterfly (Icaricia		Endangered	Sacramento Fish And Wildlife	Recovery Plan for San Bruno	Final
Insects	Myrtle's silverspot butterfly		Endangered	Sacramento Fish And Wildlife	Seven Coastal Plants and the	Final
Insects	San Bruno elfin butterfly		Endangered	Sacramento Fish And Wildlife	Recovery Plan for San Bruno	Final
Insects	Callippe silverspot butterfly		Endangered	Sacramento Fish And Wildlife		
Insects	Delhi Sands flower-loving fly		Endangered	Carlsbad Fish And Wildlife	Delhi Sands Flower-Loving Fly	Final
Insects	Casey's June Beetle (Dinacoma		Proposed Endangered	Arcata Fish And Wildlife Office		
Mammals	Salt marsh harvest mouse		Endangered	Sacramento Fish And Wildlife	Salt Marsh Harvest Mouse and	Final
Mammals	Salt marsh harvest mouse		Endangered	Sacramento Fish And Wildlife	Draft Recovery Plan for the	Draft
Mammals	Tipton kangaroo rat (Dipodomys		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Mammals	Southern sea otter (Enhydra	south of Pt. Conception, CA	Experimental Population, Non-	Ventura Fish And Wildlife Office		
Mammals	Riparian brush rabbit (Sylvilagus		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Mammals	Buena Vista Lake ornate Shrew		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Mammals	Riparian woodrat (=San Joaquin		Endangered	Sacramento Fish And Wildlife	Recovery Plan for Upland	Final
Mammals	Fisher (Martes pennanti)	West coast DPS	Candidate	Yreka Fish And Wildlife Office		
Reptiles	Giant garter snake (Thamnophis		Threatened	Sacramento Fish And Wildlife	Draft Recovery Plan for the	Draft

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

Edmund G. Brown Jr. Governor

DEPARTMENT OF TRANSPORTATION  
OFFICE OF COMMUNITY PLANNING  
1657 RIVERSIDE DRIVE  
P. O. BOX 496073  
REDDING, CA 96049-6073  
PHONE (530) 229-0517  
FAX (530) 225-3020  
TTY (530) 225-2019



*Flex your power!  
Be energy efficient!*

January 18, 2011

Darlene Koontz  
National Park Service  
Lassen Volcanic National Park  
PO Box 100  
Mineral, CA 96063-0100

IGR/CEQA Review  
Teh-36-82.4  
Lassen Park Replacement of Utilities  
NOP Environmental Assessment

Dear Ms. Koontz:

Thank you for the opportunity to review the notice of preparation of an Environmental Assessment submitted on behalf of the Lassen Volcanic National Park, for the replacement of utilities at the headquarters area of the Lassen Volcanic National Park, Mineral, California.

The project area boundary shows the project area encompasses both sides of the highway. We are unable to determine if this project will require that work will need to be done in the state highway right-of-way. Please advise all contractors that any work done in the state highway right-of-way must meet state highway standards and will require an encroachment permit. The environmental analysis for biological and cultural issues should also include the highway areas, if affected. If utilities will cross the State Highway, no open cuts within the paved portion of the highway will be allowed. Conduits containing utilities may be installed beneath the State Highway by horizontal directional drilling, with a minimum depth of cover dependent on the size of the conduit. Conduits up to 6-inches in diameter must have a minimum depth of cover of 4 feet, 8 to 14-inch conduits require 6 feet of cover, 15 to 24-inch conduits require 10 feet of cover, and 25 to 48-inch conduits require 15 feet of cover. A minimum of 6 feet of clearance is required when placing installing utility conduits below drainage facilities.

For more information regarding encroachment permits or to consult with the permit inspector for that area, please contact the District 2 Permits Office located at 1657 Riverside Drive in Redding. The telephone number is (530) 225-3400. Encroachment permit applications are also available from the Caltrans website at [www.dot.ca.gov](http://www.dot.ca.gov).

If you have any questions, or if the scope of this project changes, please call me at 225-3369.

Sincerely,

MARCELINO GONZALEZ  
Local Development Review  
District 2



## Shingle Springs Rancheria

P.O. Box 1340; Shingle Springs, CA 95682  
(530) 676-8010; Fax (530) 676-3582

January 7, 2011

United States Department of the Interior

RE: Environmental Assessment for Utilities Replacement Project at Lassen Volcanic National Park

Dear Darlene M. Koontz

Thank you for your letter dated December 15, 2010 seeking information regarding the proposed Utilities Replacement project at Lassen Volcanic National Park. Based on the information provided, the Shingle Springs Band of Miwok Indians is not aware of any known cultural resources on this site. However, SSR would like to have continued consultation through updates, as the project progresses this will foster a greater communication between the Tribe and your agency.

If during the progress of the project new information or human remains are found we would like to be able to go over our process with you that we currently have in place to protect such important and sacred artifacts (especially near rivers and streams).

Please contact the following individuals if such finds are made:

Mr. John Tayaba, Director and Most Likely Descendant (MLD)  
Office: (530)676-8010, [jtayaba@ssband.org](mailto:jtayaba@ssband.org)

Mr. Daniel Fonseca, Asst. Director  
Office: (530) 676-8010, [dfonseca@ssband.org](mailto:dfonseca@ssband.org)

And copy all communications to:  
Crystal Dilworth, Office Mgr., [cadilworth@ssband.org](mailto:cadilworth@ssband.org) Office 916-760-0047

Thank you for providing us with this notice and opportunity to comment.

Sincerely,

  
Daniel Fonseca  
Assistant Director



# Enterprise Rancheria

Estom Yumeka Maidu Tribe

2133 Monte Vista Ave  
Oroville, CA 95966

Ph: (530) 532-9214  
Fax: (530) 532-1768  
Email: [renr@enterpriserancheria.org](mailto:renr@enterpriserancheria.org)

December 17, 2010

Darlene M. Koontz  
Superintendent

Re: Environmental Assessment for Utilities Replacement Project  
Lassen Volcanic National Park

Enterprise Rancheria EPA Department  
**We offer Site Monitors for these projects!**

Our protocol is as follows!

If during ground disturbing activities, any resources are uncovered all work shall cease within the area of the find, pending an examination of the site and materials and by a professional Archaeologist and tribal monitor.

If any remains are uncovered, the Health and Safety Code 7050-55097.9 shall be enforced and adhered to.

The tribe will work with local authorities on the disposition of all Cultural Resources.

We will be working with the tribes in that area and you on this project!

We request all Cultural Resources if found be turned over to the tribes in that area!

EPA Department

*Ren Reynolds*  
Site Monitor



When developers and public agencies assess the environmental impact of their projects, they must consider "historical resources" as an aspect of the environment in accordance with California Environmental Quality Act (CEQA) Guidelines section 15064.5.

These cultural features can include Native American graves and artifacts; traditional cultural landscapes; natural resources used for food, ceremonies or traditional crafts; and places that have special significance because of the spiritual power associated with them.

When projects are proposed in areas where Native American cultural features are likely to be affected, one way to avoid damaging them is to have a Native American monitor/consultant present during ground disturbing work. In sensitive areas, it may also be appropriate to have a monitor/consultant on site during construction work.

A knowledgeable, well-trained Native American monitor/consultant can identify an area that has been used as a village site, gathering area, burial site, etc. and estimate how extensive the site might be. A monitor/consultant can prevent damage to a site by being able to communicate well with others involved in the project, which might involve:

1. Requesting excavation work to stop so that new discoveries can be evaluated;
2. Sharing information so that others will understand the cultural importance of the features involved;
3. Ensuring excavation or disturbance of the site is halted and the appropriate State laws are followed when human remains are discovered;
4. Helping to ensure that Native American human remains and any associated grave items are treated with culturally appropriate dignity, as is intended by State law.



# United States Department of the Interior

## NATIONAL PARK SERVICE

LASSEN VOLCANIC NATIONAL PARK

Post Office Box 100

Mineral, CA 96063-0100

IN REPLY REFER TO:

L76(LAVO)

December 16, 2011

Mr. Milford Wayne Donaldson, FAIA, State Historic Preservation Officer  
Office of Historic Preservation  
1725 23<sup>rd</sup> Street, Suite 100  
Sacramento, CA 95816

Dear Mr. Donaldson:

The National Park Service (NPS) proposes the Mineral Headquarters Utility Replacement Project located in Lassen Volcanic National Park in Mineral, CA. This project proposes to improve the current utility infrastructure by replacing existing aerial and underground utilities at the Mineral Headquarters area.

We initiated Section 106 consultation with your office in a December 15, 2010 letter. In accordance with 36 CFR §800.4, we are seeking your concurrence with the delineation of the Area of Potential Effect and identification of historic properties for the proposed undertaking to replace the utilities in the Mineral Headquarters area of Lassen Volcanic National Park.

### Project Purpose and Need

The purposes of this project are to improve NPS staff and community safety, protect cultural resources that are listed or eligible for listing on the National Register for Historic Places (NRHP), and reduce labor and budgetary costs associated with the park's utility infrastructure. The utility system (electrical power, water, wastewater, gas, telecommunications, and site lighting) is ineffective, inefficient, outdated, and difficult to repair. In particular, above-ground power lines are susceptible to frequent damage during winter storms, while water and wastewater pipes suffer from chronic leaking.

The utility system is not adequate to withstand current conditions. Prolonged power outages resulting from utility inadequacies compromise the health and safety of the park staff and resident community, as well as increase the risk of damage to buildings in the headquarters area. The ineffectiveness, inefficiency, and repair difficulty associated with the current utility infrastructure places a burden on park operations. In addition, leaking water and wastewater pipes result in drafting of excessive water and potential contamination issues. The use of individual propane tanks at each building requires increased maintenance and involves greater risk of damage and subsequent explosions. The current telecommunications network and site lighting are also considered outdated and unreliable. The existing on-site utilities require

constant repair, and a significant number of emergency labor hours have been dedicated to repairing the systems to prevent failure.

#### Area of Potential Effect and Potentially Affected Historic Properties

The Area of Potential Effect (APE) for the proposed undertaking is the area commonly referred to as the Mineral Headquarters area (see enclosed map). The Mineral Headquarters area is located along California State Highway 36, approximately one-half mile west of the town of Mineral, in Tehama County, California and is located in Township 29N/Range 3E Sections 25 and 26. At an elevation of 4,850, the headquarters area encompasses eighty acres of forest and meadow.

Historic properties identified within the APE include the Lassen Volcanic National Park Headquarters Historic District, Mineral Headquarters Historic District Cultural Landscape, and two archeological sites.

The Lassen Volcanic Mineral Headquarters Historic District, listed on the National Register of Historic Places in 1994, is listed under Criteria A and C due to its association with early NPS Rustic design, with 38 of its 45 surveyed elements listed as contributing to the district's eligibility. The designation includes most of the older buildings dating from the late 1920s to the mid-1940s, some of which were built by the Civilian Conservation Corps (CCC). According to the National Register nomination form, many of the buildings were modified after construction; however, these modifications took place during the district's period of significance (1927-1943) and are therefore historic in their own right.

The district was primarily developed immediately after the NPS' landscape and architectural planning and design philosophy had been implemented in the 1920s. According to the nomination form, the Lassen Volcanic National Park Mineral Headquarters is "an outstanding example of planned development in a National Park based on this design philosophy, which was a cohesive style of landscape design that 'subordinated all built features to the natural and often cultural influences of the environment where they were placed.'" The nomination goes on to state that, "it is an excellent collection of rustic style buildings and landscape features, designed to harmonize with the alpine landscape.... Although on a much smaller scale, the development of Lassen Volcanic National Park can be compared with similar projects undertaken during the same time period in other national parks, specifically in: Sequoia National Park, General Grant (Kings Canyon) National Park, Yosemite National Park, Grand Canyon National Park, Yellowstone National Park, and Crater Lake National Park."

The Mineral Headquarters area is also a historic designed landscape with a period of significance that extends from 1928 to 1943. This timeframe encompasses the period of original development and the presence of the CCC. The historic designed landscape includes the administration building, residences, garages and associated structures, as well as the residential area road and the maintenance yard. It also includes features associated with the CCC such as stone walls, stone-lined drainage ditches, and remnants of a split-rail fence system.

The Mineral Headquarters cultural landscape is a picturesque collection of small-scale, rustic-styled houses and buildings encircling a clearing in the woods. The headquarters buildings and structures were designed in the rustic style and the landscape was developed along

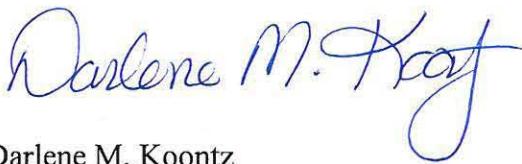
naturalistic principles. Native materials and construction techniques employed in the buildings and structures referred to local vernacular building traditions. Its setting in a mountainous area amidst the pine forest provided a natural context to apply the principles of rustic architecture and landscape development appropriate to the site. Buildings were designed with steeply pitched gable roofs to shed snow, wood siding stained a dark shade of brown (tobacco) to blend in with the forest, and native rock veneers on foundations. These design elements repeated the materials and forms of the surrounding landscape: the towering conifers, the mountains, and volcanic rock outcrops. Roads, buildings, and other structures were located in the landscape to conform to and enhance natural topographic qualities.

Two archeological sites are documented within the headquarters area: CA-TEH-14/CA-TEH-609 (same site with two different site numbers) and the Pioneer Gravesite. CA-TEH-14/609 is a prehistoric site which was first surveyed by A.E. Treganza in 1962, and later resurveyed and rerecorded by A.K. Smith and J.P. Eidsness in 1987. It is located in the north-central portion of the headquarters area and consisted of midden with sparse lithic material on the surface when it was surveyed (approximately six obsidian secondary flakes, one obsidian Desert side-notched projectile point (collected in 1962), and one basalt flake noted in 1987).

The second archeological site consists of a small cluster of graves where three pioneer settlers are buried. It is located in the wooded area northeast of the Science Center building and is not considered a contributing element to the historic district because it predates the development of the Mineral Headquarters area.

If you or your staff have any questions, concerns or need clarification please contact our Cultural Resource Program Manager, Juanita Bonnifield, at (530) 595-6182.

Sincerely,



Darlene M. Koontz  
Superintendent





- Archeological Site
- Lassen Volcanic National Park Headquarters Historic District
- Area of Potential Effect

**Mineral Headquarters Utility EA  
Area of Potential Effect**

0 75 150 300 450 600 Feet

0 25 50 100 150 200 Meters





**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

1725 23<sup>rd</sup> Street, Suite 100  
SACRAMENTO, CA 95816-7100  
(916) 445-7000 Fax: (916) 445-7053  
calshpo@parks.ca.gov  
www.ohp.parks.ca.gov



February 8, 2012

In reply refer to: NPS101217B

Darlene M. Koontz, Superintendent  
National Park Service  
Lassen Volcanic National Park  
P.O. Box 100  
Mineral, CA 96063-0100

Re: Mineral Headquarters Utility Replacement Project, Lassen Volcanic National Park, CA

Dear Ms. Koontz:

Thank you for your letter dated December 16, 2011, requesting my review and comment with regard to the proposed undertaking at Lassen Volcanic National Park. You are consulting with me in order to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation at 36 CFR Part 800. Along with your consultation letter, you also provided a map representing the Area of Potential Effect (APE) for this consultation.

The proposed undertaking, as I understand it, involves replacing the current utility infrastructure, including aerial and underground utilities, at the Mineral Headquarters Area. NPS proposes an APE that encompasses the entire headquarters area. Known historic properties exist within this APE, including the Lassen Volcanic Mineral Headquarters Historic District, which is also a historic designed landscape. Two archaeological sites have been identified within the APE: CA-THE-14 / CA-THE-609, a prehistoric site that has two site numbers; and the Pioneer Gravesite. Your letter states that you are requesting comments on the sufficiency of the APE and concurrence that historic properties have been properly identified and evaluated.

After reviewing the information submitted, I offer the following comments.

- I concur that this action qualifies as a federal undertaking as defined in 36 CFR 800.
- What tribal consultation has / will happen for this consultation? None is mentioned in your letter.
- If the utility replacement project does not extend to the Caltrans yard west of the Mineral Headquarters Area, then the APE appears to be sufficient pursuant to 36 CFR 800.4.
- I agree that the Park has identified known resources sufficiently. However, the most recent archaeological survey mentioned in your letter is from 1987. Prior to proceeding to the next step in the project planning process, the APE should be fully surveyed to re-locate and evaluate the known sites and identify previously unknown resources.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Mark Beason, Project Review Unit Historian, at (916) 445-4047 or [mbeason@parks.ca.gov](mailto:mbeason@parks.ca.gov).

Sincerely,

A handwritten signature in cursive script that reads "Susan K. Stratton for".

Milford Wayne Donaldson, FAIA  
State Historic Preservation Officer

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