Environmental Assessment/ Initial Study for Camp Berryessa

Napa, California

U.S. Department of the Interior
Bureau of Reclamation

Napa County Regional Park and Open Space District

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Napa County Regional Park and Open Space District
Dedicated to the Preservation and Enjoyment of the Natural Resources of Napa County

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Acronyms

Acronym	Full Phrase
ADA	Americans with Disabilities Act
APCD	Air Pollution Control District
APE	area of potential effect
AQMD	Air Quality Management District
ATCM	air toxics control measure
BAAQMD	Bay Area Air Quality Management District
BLM	Bureau of Land Management
BMP	best management practice
BP	before present
CAA	Clean Air Act
CARB	California Air Resources Board
CDFFP	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2e	carbon dioxide equivalents
CWA	Clean Water Act
dBA	A-weighted decibel scale
DNL	day-night average sound level
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EA/IS	environmental assessment/initial study
EO	Executive Order
EPA	US Environmental Protection Agency
°F	degrees Fahrenheit
FR	*Federal Register*
GHG	greenhouse gas
GWP	global warming potential in carbon dioxide equivalents

Acronym	Full Phrase
HAP	Hazardous Air Pollutant
ITA	Indian Trust Assets
IPCC	Intergovernmental Panel on Climate Change
Kw	kilowatt
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
MTBE	methyl tertiary-butyl ether
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O&M	operation and maintenance
OWTS	on-site wastewater treatment system
PG&E	Pacific Gas and Electric Company
PL	Public Law
$PM_{2.5}$	fine particulate matter
PM_{10}	inhalable particulate matter
PRC	Public Resource Code
RAMP	Reservoir Area Management Plan
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROG	reactive organic gases
ROI	region of influence
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_x	sulfur oxides
SR	state route
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TCP	traditional cultural properties

Acronym	Full Phrase
USACE	US Army Corps of Engineers
USC	United States Code
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VSP	Visitor Services Plan
WQCP	Water Quality Control Plans

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1. Purpose of and Need for the Proposed Project

1.1 Introduction

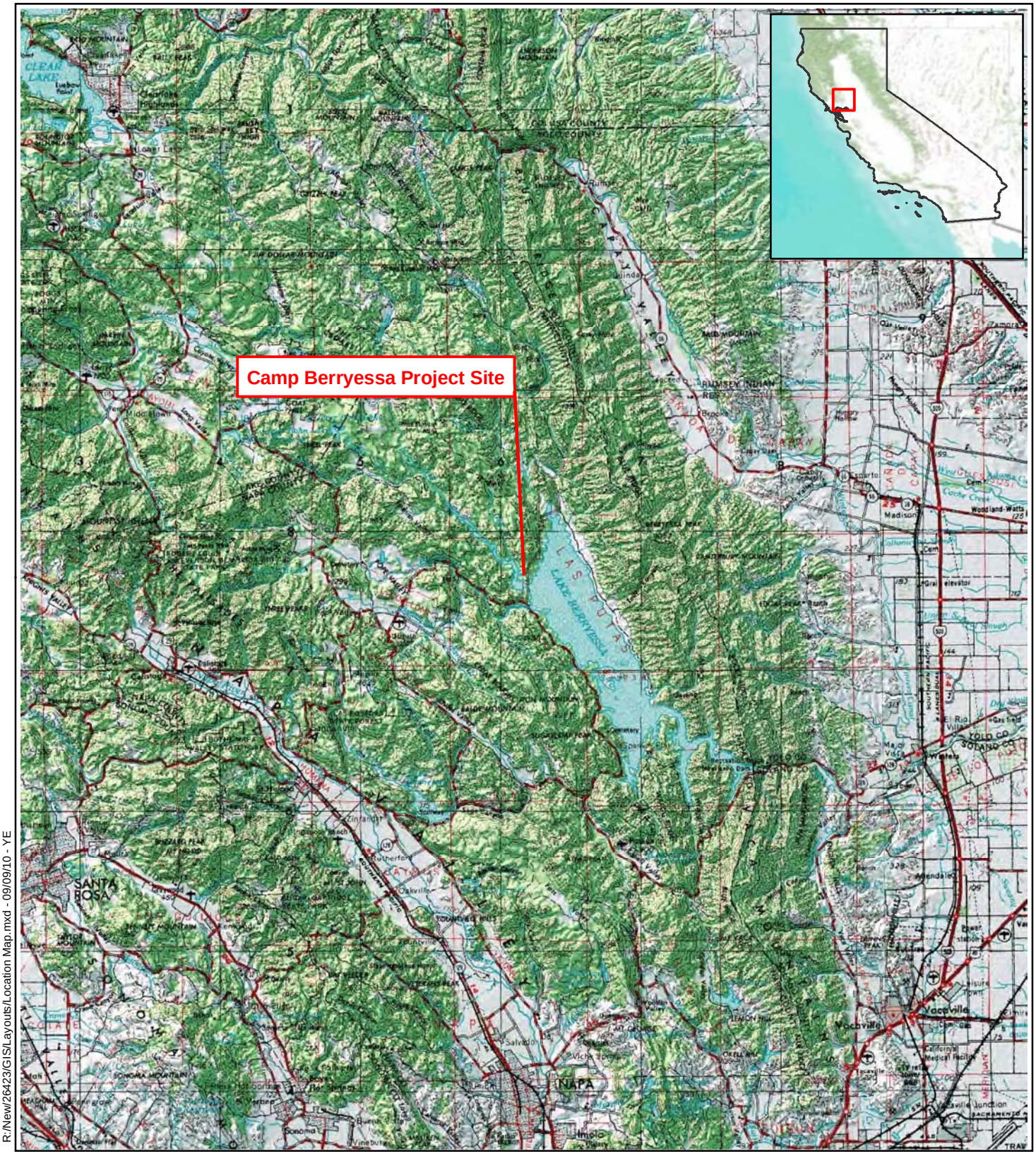
The Napa County Regional Park and Open Space District (the District) proposes to construct and operate recreation facilities and associated infrastructure on land at Lake Berryessa managed by the US Bureau of Reclamation (Reclamation). The District would develop and manage facilities, through a management agreement with Reclamation, that would serve a broad range of constituents, with a mix of outdoor education and recreation opportunities and a primary focus on students, youth organizations, and nonprofit organizations. Further, the project would focus on sustainable energy-efficient design, the use of natural and recycled materials, and resource conservation. The programs that would be offered as well as the facility itself would be self supporting to avoid fiscal impacts on the District and Reclamation.

This environmental assessment/initial study (EA/IS) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 USC, §4321 et seq.; the Council on Environmental Quality (CEQ) regulations for implementing NEPA, 40 CFR, Parts 1500-1508; and the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) of 1970. Through the process of creating the EA/IS, Reclamation and the District will determine the potential for the occurrence of adverse environmental effects. The process also serves as a method of informing the public about project alternatives and allows for public input on the proposed project. Reclamation is the lead agency under NEPA, and the District is the lead under CEQA.

Many concepts are common between NEPA and CEQA, but the laws sometimes have differing terminology for common concepts. Since the project is on Reclamation land, the preparers of this document have used NEPA standard language where terminology differs between NEPA and CEQA.

1.2 Project Background

Camp Berryessa is a former Boy Scout Camp on Lake Berryessa, along the east shore of Putah Creek (Figure 1-1). Lake Berryessa and most of its shoreline areas and hillslopes immediately above this (including Camp Berryessa) are owned by the federal government and are operated under the jurisdiction of Reclamation, which maintains a



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Location Map
Camp Berryessa

Napa County, California

Figure 1-1

branch office at the lake. Lake Berryessa, located approximately 30 miles northeast of Napa, is a reservoir that was formed when Reclamation built Monticello Dam on Putah Creek in 1957. In addition to acting as flood control, the lake is used for agricultural irrigation and drinking water and is one of the largest bodies of freshwater in California. It is also a major recreation destination, serving the San Francisco Bay Area and the Sacramento Valley, and offers opportunities for boating and water sports, camping, fishing, hiking, and other outdoor recreation.

The Camp Berryessa site includes approximately 10 acres of land suitable for development, on a peninsula that extends into the Putah Creek arm of Lake Berryessa. Approximately half the site contains oak woodland, with the remainder containing chaparral scrub vegetation. The site is closed to public access and secured by a locked gate at the entrance on Berryessa-Knoxville Road. The improvements and infrastructure that served the former Boy Scout camp have been removed. The site is surrounded by water on three sides, with sandy gravel beaches. Camp Berryessa has direct access to adjacent Reclamation lands, as well as nearby lands managed by the California Department of Fish and Game (CDFG) and the US Bureau of Land Management. The site's location offers the potential for both extensive water-based and trail-based outdoor recreation; however, its primary recreational feature is its potential for water-based activities, including swimming and nonmotorized boating, especially during the spring and summer.

With the termination of Reclamation's long-term concessionaire resort leases in 2008, there has been a gap in public recreation at and access to the Lake, as well as new opportunities to construct sustainably designed facilities. Since the site's former infrastructure has largely been demolished, the proposed project represents a unique opportunity to design and develop facilities that reflect environmentally sound design and to provide visitor-serving facilities to a range of user groups that can generate revenues sufficient for ongoing operations and maintenance.

The project site also provides a unique setting for water-related recreation in a sheltered water area, such as swimming, kayaking, and canoeing. In addition, the setting and topography present a unique opportunity to design the site to maximize access for users of all abilities, with the potential to increase usage for groups with unique needs and disabilities.

Planning for recreational land use and operations on federal lands at Lake Berryessa is subject to the Future Recreation Use and Operations of Lake Berryessa FEIS (Visitor Services Plan), identified in the federal Record of Decision (ROD) in 2006 (Reclamation 2006). The goal of the Visitor Services Plan is to support traditional, short-term, and diverse outdoor recreation opportunities for the public (Reclamation 2005). The Visitor Services Plan prescribes basic management principles to guide and support lake-wide integration of government and commercial operations (concessionaires) in the best interests of the visiting public. According to the ROD, Camp Berryessa should be developed, operated, and managed as a group camp and activity area on a reservation basis. Facilities may be developed for use by a range of groups and will include covered

dining, meeting and educational spaces, and showers and laundry facilities. Camp Berryessa will have a nonmotorized boat launch ramp to facilitate kayak and canoe use and a buoy line to separate boaters from swimmers. Camp Berryessa will be developed through partnership agreements with organizations and local agencies. Development will involve minimum federal appropriations.

1.3 Purpose and Need for the Project

The Proposed Action is to construct and operate recreation facilities, utilities, and transportation infrastructure on Reclamation-managed federal land at Camp Berryessa under a long-term lease. The purpose of the Proposed Action is to accomplish the following main objectives:

- Facilitate and support outdoor recreation, environmental education, research and restoration serving students, youth groups, and nonprofit organizations and

- Facilitate and support other forms of outdoor recreation and nature-based activities, to the extent that they are compatible with and support the goal above.

The District wishes to establish a facility that employs sustainable development techniques, maximizes energy efficiency, maintains a rustic character, is financially self sufficient, and serves a diverse and flexible array of users.

The Proposed Action is needed to meet the public demand for access to the lake as well as recreation and education opportunities. Meeting these objectives at Camp Berryessa will help Reclamation achieve the overall management goal for recreational use at Lake Berryessa, in accordance with Reclamation's Visitor Services Plan. This EA/IS evaluates the most extensive of a phased construction approach that would fulfill the purpose and need for the project.

1.4 Regulatory Framework

Development of the Camp Berryessa site would be subject to review and approval of Reclamation and Napa County. The Proposed Action may require the approval of several federal, state, and local agencies, which would generally be granted in the form of permits. The approval of discretionary permits by federal, state, regional, and local agencies for the Proposed Action would be based in large part on information contained within the EA/IS. However, these agencies may require additional data before granting permits. Table 1-1 describes the permits that may be needed for this project.

Table 1-1
Potentially Required Permits and Approvals

Permits and Approvals	Agency
Section 401, Clean Water Act (CWA) water quality certification	Regional Water Quality Control Board (RWQCB)
Section 402, National Pollution Discharge Elimination System, general construction permit	State Water Resources Control Board (SWRCB)
Section 404, Clean Water Act	US Army Corps of Engineers (USACE)
Section 1602, Streambed Alteration Agreement	CDFG
Porter-Cologne Water Quality Control Act consultation	RWQCB
ESA Section 7 consultation	US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS)
CESA consultation	CDFG
Section 106, National Historic Preservation Act consultation	California State Historic Preservation Office (SHPO) and Reclamation
National Register of Historic Places (NRHP) evaluation	SHPO
Local permits/inspections: • Grading permit • Building permit • Water well and wastewater system disposal permit	Napa County Department of Public Works Napa County Department of Conservation, Development and Planning - Building Division Napa County Department of Environmental Management

1.4.1 Federal Legal Authorities

NEPA (42 USC, Section 4321 et seq.)

Under NEPA, federal agencies must consider the environmental consequences of proposed major actions. The spirit and intent of NEPA is to protect and enhance the environment through well-informed federal decisions, based on sound science. NEPA is premised on the assumption that providing timely information to the decision maker about the potential environmental consequences of proposed actions would improve the quality of federal decisions. Thus, the NEPA process includes the systematic interdisciplinary evaluation of potential environmental consequences expected to result from implementing a proposed action. The CEQ sets forth regulations implementing NEPA. This document is intended to fulfill the requirements of NEPA and the CEQ regulations.

Clean Water Act of 1972 (33 USC, Section 1251 et seq.) and Implementing Regulations (33 CFR, Parts 320-330 and 335-338, and 40 CFR, Parts 104-140, 230-233, and 401-471)

The CWA, Public Law (PL) 92-500, employs a variety of regulatory and nonregulatory tools to protect surface water quality in the US. Permits for the proposed project are required under Sections 401, 402, and 404 of the CWA. Section 404 establishes a program to regulate the discharge of dredge and fill material into waters of the US, including wetlands. The EA/IS has described the potential effects of the Proposed Action

on wetlands and other waters. The EPA has veto power over USACE Section 404 permit decisions, and the USFWS and the NMFS have consultation rights. Section 401 requires that anyone who wishes to obtain a Section 404 permit must first obtain a state water quality certification to ensure that the proposed project would comply with state water quality standards.

Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges of pollutants into waters of the US. An NPDES permit sets specific discharge limits, establishes monitoring and reporting requirements, and defines any special conditions. In California, the NPDES permit program is administered by the SWRCB.

Clean Air Act (42 USC, Section 7401 et seq.)

The principal federal law protecting air quality is the Clean Air Act (CAA), which is enforced by the EPA. The CAA regulates air emissions from area, stationary, and mobile sources. Under this law, the EPA establishes National Ambient Air Quality Standards (NAAQS) for each state in order to protect public health and the environment (EPA 2008). The CAA requires areas with unhealthy levels of ozone, carbon monoxide, nitrogen oxide, sulfur oxide, and inhalable particulate matter to develop State Implementation Plans, describing how they will attain NAAQS in accordance with 40 CFR, 52.220.

Federal ESA (16 USC, Sections 1531-1544) and Implementing Regulations (50 CFR, Parts 17, 401-424, and 450-453)

Under the ESA, all federal agencies, in consultation with the Secretary of the Interior, must take all necessary precautions to ensure that their actions do not jeopardize federally listed endangered or threatened species or destroy or degrade their habitats. The ESA provides a program for conserving threatened and endangered plants and animals and the habitats in which they are found. It is designed to protect critically imperiled species from extinction due to "the consequences of economic growth and development untempered by adequate concern and conservation."

Federal Migratory Bird Treaty Act (MBTA) of 1918 and Amendments (16 USC, Sections 703-712)

The MBTA prohibits the take, harm, or trade of any migratory bird species and requires that an agency must have a policy in place to prevent harm to such species as a result of that agency's actions. The USFWS is the agency charged with administering and enforcing the MBTA. A 1972 amendment to the act included owls, hawks, and other birds of prey.

National Historic Preservation Act of 1966 (NHPA) (16 USC, Sections 470-470x-6)

The NHPA requires federal agencies to consider historic preservation values when planning their activities. Each federal agency must establish a preservation program for identifying, evaluating, and protecting properties under its ownership or control that are eligible for listing on the NRHP. In the Section 106 process, a federal agency must

identify historic properties that may be affected by its actions, must evaluate the proposed action's effects, and then must explore ways to avoid or mitigate those effects.

Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990 and 1995 (29 USC, Section 794)
These laws require that access to federal facilities be provided for persons with disabilities.

Executive Order (EO) 11990: Protection of Wetlands (42* Federal Register *[*FR*] 26961, May 25, 1977)
This order requires agencies to minimize destruction of wetlands when managing lands, when administering federal programs, or when undertaking construction. Agencies are also required to consider the effects of federal actions on the health and quality of wetlands.

EO 11988: Floodplain Management (42* FR *26951, May 24, 1977)
This order requires federal agencies to regulate development in floodplains and preserves their natural and beneficial values.

EO 11593: Protection and Enhancement of the Cultural Environment (36* FR *8921, January 15, 1971)
This order requires federal agencies to inventory historic properties on federal lands and to document historic properties altered or demolished through federal action.

EO 13112: Invasive Species (64* FR *6183, February 3, 1999)
This order directs federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. To do this, the EO established the National Invasive Species Council.

EO 12898: Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (59* FR *7629, February 11, 1994)
This order requires that federal agencies identify and address any disproportionately high and adverse human health or environmental effects of federal actions on minority and low-income populations and to ensure that federal actions do not directly or indirectly discriminate on the basis of race, color, or national origin.

1.4.2 State Legal Authorities

California Environmental Quality Act (Public Resource Code 21000 et seq.)
CEQA was closely modeled on NEPA and requires public agencies to consider and disclose to the public the environmental implications of proposed actions. CEQA applies to all discretionary activities that are proposed or approved by California public agencies, including state, regional, county, and local agencies, unless an exemption applies. Unlike NEPA, CEQA imposes an obligation to implement measures or project alternatives to

mitigate significant adverse environmental effects, when feasible. When avoiding or mitigating environmental damage is not feasible, CEQA requires that agencies prepare a written statement of the overriding considerations that resulted in the approval of a project that would cause significant adverse effects on the environment. Under the direction of CEQA, the California Resources Agency has adopted regulations, known as the *Guidelines for Implementation of the California Environmental Quality Act* (CCR Title 14, Section 15000), which provide detailed procedures that agencies must follow to implement the law.

Streambed Alteration Agreement (Fish and Game Code, Section 1602)

Section 1602 states that a Streambed Alteration Agreement is required if the CDFG determines that a proposed project that would modify a river, stream, or lake could have a substantial adverse effect on fish and wildlife. The Streambed Alteration Agreement includes measures to protect fish and wildlife resources during the proposed project.

California Endangered Species Act (Fish and Game Code, Sections 2050, et seq.)

CESA operates in a similar fashion to the federal ESA but is administered by the CDFG. Certain species that are listed under the ESA may not be listed under the CESA or may have different listing status.

Conservation of Wildlife Resources (Fish and Game Code, Section 1800, et seq.)

This portion of the Fish and Game Code makes it the policy of the State of California to maintain and perpetuate wildlife and habitat and to provide for diversified beneficial uses of wildlife, including sport hunting, as appropriate. This portion of the code acknowledges the CDFG as trustee for the state's fish and wildlife resources and grants it jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary to sustain populations of these species.

Porter-Cologne Water Quality Control Act of 1970 (California Water Code, Section 13000 et seq.)

In 1967, the Porter-Cologne Act established the SWRCB and nine regional water quality control boards as the primary state agencies with regulatory authority over California water quality and appropriative surface water rights allocations. The SWRCB administers the Porter-Cologne Act, which provides the authority to establish Water Quality Control Plans (WQCP) that are reviewed and revised periodically. The Porter-Cologne Act also provides the SWRCB with the authority to establish statewide plans. The nine RWQCBs carry out SWRCB policies and procedures throughout the state, along with sections of the CWA, administered by the EPA, including the NPDES permitting process for point source discharges and the CWA Section 303 water quality standards program. WQCPs, also known as basin plans, designate beneficial uses for specific surface water and groundwater resources and establish water quality objectives to protect those uses. These plans can be developed at the SWRCB or the RWQCB level. RWQCBs issue waste discharge requirements for the major point-source waste dischargers, such as municipal wastewater treatment plants and industrial facilities. In acting on water rights applications, the SWRCB may establish terms and conditions in a permit to carry out WQCPs.

1.5 Document Organization

In this EA/IS, the environmental effects of the Proposed Action and the No Action Alternative are identified, evaluated, and documented. Chapter 2 is a description of the Proposed Action, alternatives development, and the No Action Alternative. The existing resource conditions and project impacts are described in Chapter 3, Affected Environment and Environmental Consequences. Mitigation measures are identified for any impact determined to be significant in order to minimize the impact. Along with information presented for the No Action Alternative, the existing conditions described in the Affected Environment constitute the baseline for analyzing the effects of the Proposed Action.

This document analyzes direct impacts (those caused by a project and occurring at the same time and place) and indirect impacts (those caused by a project but occurring later or farther away but at a reasonably foreseeable time or place). The cumulative impacts, which are the impacts of the Proposed Action when added to other past, present, and reasonably foreseeable future projects, are also addressed.

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2. Alternatives Overview and Evaluation

2.1 Regulatory Compliance

This EA/IS has been prepared in compliance with various federal and state environmental regulations and relevant laws. Applicable regulations and laws are discussed in detail in Section 1.4.

2.2 California Environmental Quality Act Requirements for Alternatives

An Initial Study has been prepared to satisfy requirements of CEQA (Appendix A). CEQA does not require the evaluation of alternatives in a Negative Declaration (Section 15071 of the State CEQA guidelines).

2.3 Alternatives Evaluation Methodology

The alternatives evaluation process consists of three steps:

1. Identify the basic objectives of the proposed project and be consistent with the Visitor Services Plan ROD;

2. Identify the primary environmental issues associated with the construction of the proposed project; and

3. Identify a reasonable range of potential alternatives and evaluate each alternative using the following criteria:

    a. Feasibility in relation to the proposed project's purpose and need and be cost neutral to Reclamation, and

    b. Potential to provide a clear environmental advantage over other alternatives.

Both NEPA and CEQA require that there be a reasonable range of proposed alternatives, that they be feasible and implementable, and that they differ enough from the other alternatives that they can be considered distinct. Alternatives that met both evaluation criteria of Step 3 were carried forward for detailed analysis in this EA/IS.

2.4 Summary of Screening Results

This section describes the alternatives creation process and summarizes the alternatives that were carried forward for detailed analysis in the EA/IS. The No Action Alternative, which does not meet the project purpose and need, is described in Section 2.9 and was considered in this EA/IS, as required by NEPA.

Four initial development scenarios for Camp Berryessa were evaluated in a Feasibility Study and Master Plan (Questa Engineering 2010), as follows:

- **Rustic.** This alternative would have approximately 12 group sites, each with a space for tents and a shade structure with picnic tables, water spigot, utility sink, and cooking grill. Each cluster of four group sites would be served by a composting toilet structure. Each group site would accommodate 8 to 12 campers. Campers would provide their own sleeping pads, bedding, and towels and would be responsible for all food preparation equipment, cooking, and cleaning. Rinse-off stations would be provided at each toilet. A day-use area, activity center, amphitheatre, and shower facilities would also be provided, as well as a nonmotorized boat launch, swimming platforms, and other recreation facilities. The facility would be managed by a volunteer camp host, with any needed maintenance by private contractors.

- **Enhanced Rustic.** This alternative would have approximately 25 to 30 tent cabins for sleeping (up to four beds per cabin), arranged in pairs, with each pair of tent cabins sharing a covered cooking and eating pavilion and utility sink with freshwater faucet. Composting toilets would be provided for clusters of tent cabins. Campers would provide their own sleeping bags and towels, but tent cabins would include mattresses; campers would be responsible for all food preparation equipment, cooking, and cleaning. Rinse-off stations would be provided at each toilet. Recreation facilities would be similar to the Rustic Alternative. The facility would be managed by a volunteer camp host, with any needed maintenance by a part-time maintenance employee and additional repairs by private contractors.

- **Enhanced Rustic with Central Facilities.** This alternative would have 25 to 30 tent cabins, as well as a central (potentially air-conditioned) cooking, dining, and meeting facility. The central facility would also have showers and a restroom with flush toilets. Recreation facilities would be similar to the Rustic and Enhanced Rustic Alternatives. Food preparation and cleaning would be the responsibility of those using the facility. The facility would be managed by a volunteer camp host, with a small maintenance staff.

- **Enhanced Rustic with Central Facilities and Services.** This alternative is similar to the Enhanced Rustic with Central Facilities but includes paid staff that prepare and serve food, provide cleaning and laundry services, and provide more complete management of the site. This alternative would include permanent

sleeping quarters, including dormitories and wood cabins that could be used by staff and guests.

The Rustic and Enhanced Rustic Alternatives would not adequately meet the purpose and need for the project because most schools and special use groups are seeking full-service programs. As such, under the Rustic and Enhanced Rustic Alternatives, the camp would likely be underused (as determined by estimated occupancy rates) and therefore would be less likely to be economically feasible (Chuck Nozicka Consulting 2009). For all alternatives, estimated occupancy rates were based on data derived from selected comparable facilities and from occupancy rates for a range of recreation accommodations, from primitive camp sites to commercial rustic lodging properties (Chuck Nozicka Consulting 2009).

The Enhanced Rustic with Central Facilities Alternative could meet the purpose and need for the project but would still lack some of the facilities and amenities provided at other comparable facilities in the region. Occupancy would be higher than under the Rustic and Enhanced Rustic Alternatives, but high user fees would be required in order to balance operating and maintenance costs (Chuck Nozicka Consulting 2009).

The Enhanced Rustic with Central Facilities and Services Alternative would best meet the purpose and need for the project because it provides the level of facilities that are most likely to attract schools and other groups for outdoor recreation and environmental education programs. Under this alternative, Camp Berryessa would be most comparable to other facilities in the region that presently attract these groups. This alternative was also determined to be the most economically feasible over the long term in terms of the facility meeting the objective of being self sufficient (Chuck Nozicka Consulting 2009). This feasibility depends on a range of assumptions, including market penetration and visitation growth, adequate fee structure, professional management, an active marketing program, and the capacity to build relationships with educators and other stakeholders in the region. Both operations and maintenance costs and facility replacement costs were considered in revenue projection comparisons (Chuck Nozicka Consulting 2009). Because this is the highest development alternative, a phased construction approach was proposed to minimize the expense and associated short-term risk in the initial start up period. The phased approach would allow Camp Berryessa management the opportunity to generate grants and other capital development funding, build stakeholder partnerships, establish programming, and build the user base (Chuck Nozicka Consulting 2009). While this alternative would provide more permanent fixed structures and services than the Enhanced Rustic with Central Facilities, it would be expected to have similar environmental impacts of only slightly greater magnitude. Accordingly, only the Enhanced Rustic with Central Facilities and Services Alternative was carried forward for detailed analysis in this EA/IS.

2.5 Project Background

Lake Berryessa is a large, multipurpose irrigation, flood control, municipal, and recreation reservoir. It was constructed in the 1950s behind Monticello Dam. Lake Berryessa is ringed by 165 miles of shoreline and a number of boat-oriented, recreational resort facilities operated largely by private concessionaires. There are seven concession facilities at Lake Berryessa. Four of concession areas are currently open to the public, with amenities that range from primitive camping to fully developed. The remaining three concession areas will be re-opened by the 2011 summer season. Camp Berryessa, a former Boy Scout camp, is one of the facilities that have served the recreational needs of specific segments of the multicounty area.

With the termination of Reclamation's long-term concessionaire resort leases in 2008, there has been a gap in public recreation and access at the Lake, as well as new opportunities to construct sustainably designed facilities.

The District entered into an agreement with Reclamation to study the site and its potential to more broadly serve public outdoor education and recreation needs. The District prepared a Feasibility Study and Master Plan (Questa Engineering 2010) to explore the physical and economic viability of a public use facility with a primary goal of facilitating and supporting outdoor recreation, environmental education, research and environmental restoration and of serving students, youth groups, and nonprofit organizations at Camp Berryessa.

The Feasibility Study and Master Plan identified three primary project goals for future development of Camp Berryessa:

1. The Camp Berryessa project would develop facilities that would serve a range of constituents, with a mix of outdoor education and recreation opportunities and with a primary focus on students, youth organizations, and nonprofit organizations.

2. Site development would focus on sustainable energy-efficient design, the use of natural or recycled materials, or both, and resource conservation.

3. Programs and infrastructure would be self-supporting to avoid fiscal impacts on the District and Reclamation.

The Feasibility Study and Master Plan included a variety of general design criteria and specific proposals to meet these goals, as follows:

- Camp amenities should be simple and compatible with the natural environmental setting and should reflect the site's scenic value. To preserve the viewshed, views of and from the surrounding areas should be considered when siting buildings, utilities, and storage areas. Buildings should be in scale with the tree canopy, which is relatively low.

- Painted surfaces should be limited, with a focus on a neutral color palette that reflects the wooded landscape and minimizes the built elements of the site. Generally, unfinished wood siding, earth-tone concrete surfacing or nonreflective galvanized sheeting is preferred.

- Shade structures and outdoor gathering areas should be a basic component of the design. Group dining facilities and meeting areas should be designed to maximize ventilation and access to outdoor spaces.

- Structures should be consolidated within similar rooflines and structural forms.

- Parking, maintenance, and storage areas should be located away from the main camp area.

- Multiple access points should be provided for water-oriented recreation.

- Impervious surfaces should be avoided.

- Rainwater harvesting should be implemented for the central facilities area.

- Graywater use for nonpotable water needs should be maximized.

- Camp operations should be energy self sufficient through a combination of energy conservation measures and solar energy units and potentially a wind generator.

- Rustic or recycled elements should be used for site furnishings, such as galvanized feeders for planters, galvanized silos for utility and storage elements, and other simple structures consistent with the rustic setting.

- Native plant species should be used for landscape planting, shade, and ecological restoration and to provide buffers and screening, where appropriate.

- Planting and design should consider clear zones for fire suppression and management.

- Earthwork and grading should be minimized, with structures fit into the natural topography rather than placed on graded pads.

- Water consumption should be minimized.

- Convenient recycling and composting features should be incorporated into the design and operation of the camp.

- Composting toilets should be considered to reduce water usage and sewage generation.

- Camp facility design should flexibly accommodate a range of user groups.

- The facility should be constructed in phases to keep initial costs in line with initial revenues, while allowing for expansion over time to match financial resources and demand for facilities.

The Feasibility Study and Master Plan outlined four alternatives for future development of recreational and visitor services facilities at the Camp Berryessa site, as discussed in Section 2.4. The alternatives discussed in the study essentially cover the same site footprint and represent a range of development: Rustic, Enhanced Rustic, Enhanced Rustic with Central Facilities, and Enhanced Rustic with Central Facilities and Services. Since the alternatives are basically additive in terms of permanence, facilities, and level of services, the Proposed Action for this EA/IS is based on the full buildout of the Enhanced Rustic with Central Facilities and Services Alternative, with the understanding that it is likely that the anticipated development would occur in phases as funding becomes available.

2.6 Previous Studies

Lake Berryessa Reservoir Area Management Plan

The Reservoir Area Management Plan (RAMP) (Reclamation 1992) includes several land, water surface, and concession management plans for Lake Berryessa. It established development and use priorities for specific areas in and around the lake. Before the RAMP was implemented, the demand for day-use and other short-term facilities had increased, while most of the development at the lake was still oriented toward long-term use. Additional concerns included demand for usable recreational lands and a greater number and variety of opportunities; land and water use zoning and restrictions to avoid conflicting uses; wildlife management and resource protection to preserve the natural setting of the lake; a larger law enforcement presence; resort master planning that achieves the goals of the RAMP; protection of existing improvements and avoidance of construction in the floodplain; and evaluation of fee assessments. The preferred alternative in the RAMP's EIS called for 41 actions aimed at addressing such problems as the lack of short-term recreation opportunities, the preponderance of long-term exclusive uses, and mitigation within the floodplain. The terms of the1992 RAMP specify that it remain the guiding management document for Lake Berryessa until such time as the existing concession contracts expire or are cancelled. The RAMP was amended by the Visitor Services Plan, described below.

Visitor Services Plan/Future Recreation Use and Operations of Lake Berryessa EIS

In this EIS (Reclamation 2005), Reclamation analyzed amending the 1992 RAMP by preparing a Visitor Services Plan (VSP). The VSP was designed to support traditional, short-term and diverse outdoor public recreation opportunities. Additionally, the VSP prescribes basic management principles to guide and support lake-wide integration of government and commercial operations (concessionaires) in the best interests of the visiting public. The preferred alternative in the EIS permanently removed all private

long-term exclusive-use trailer sites and provided increased and improved short-term use opportunities.

The VSP ROD (Reclamation 2006) limits future development of the concession areas to facilities that support the intent of the VSP and included the demolition and removal of private facilities from federal property at Lake Berryessa. It also commits Reclamation to partner with other government agencies, private landowners, and private organizations to design and construct a regional trail system for nonmotorized recreation and to include a multipurpose shoreline trail.

According to the VSP ROD, Camp Berryessa would be developed and operated as a group-camp and activity area on a reservation basis, with facilities that would be developed for use by a range of groups. The site would have a nonmotorized boat launch ramp for kayakers and a swimming area. The VSP ROD further stipulates that Camp Berryessa be developed through partnership agreements with organizations and local agencies.

The VSP ROD carries forward key recreation-related provisions from the VSP EIS and RAMP ROD and includes a range of mitigation measures. The decision of the VSP ROD is summarized as follows:

- The VSP ROD prescribes basic recreation program management principles designed to guide and support lake-wide integration of government operations and commercial operations in the best interests of the visiting public. In that regard, Reclamation will work to establish and sponsor a forum of public agencies, with meetings open to the public, to promote communication and collaboration in implementing the VSP ROD and addressing issues of mutual concern.

- The VSP ROD limits future development of the lake's concession areas to facilities that support short-term, traditional, nonexclusive, and diverse recreation. Prospective contractors would be allowed greater flexibility in formulating and submitting proposals that meet this primary objective, subject to additional site-specific environmental analysis as appropriate. All facilities must be constructed or installed, operated, and maintained by the concession contractors. All privately owned trailers, mobile homes, and associated personal property must be removed from federal property at Lake Berryessa.

- The VSP ROD specifies the types of facilities that may be developed within each of three geographic locations at each of the lake's concession areas. The locations correspond with elevations above mean sea level (MSL) related to critical reservoir operations. Specifically, 440′ MSL represents the top of the active conservation pool for water supply and water quality purposes, and the elevation between 440′ and 455′ MSL is the reservoir surcharge capacity for flood control purposes.

- The VSP ROD defines three different types of occupancy for facilities within each sector of the lake. In addition to day-use occupancy and short-term occupancy, the decision allows annual occupancy in certain circumstances of units constructed or installed, operated, and maintained by the concession contractors.

- The VSP ROD identifies a range of potential mitigation measures to reduce the impact of the decision on existing concession contractors, current trailer and mobile home owners, current contractor employees, and others. No immediate mitigation measures were necessary for construction and development.

- Requirements in the RAMP ROD governing water surface carrying capacity and vessel occupancy were also applied to the VSP ROD, and certain areas of the lake are reserved for nonmotorized watercraft and motorized trolling watercraft. In addition, the VSP ROD requires signs to comply with Reclamation's Visual Identity Program and commits Reclamation to work with partner agencies and new contractors to expand and maintain a trail system for nonmotorized recreation in or around federal property at Lake Berryessa.

Camp Berryessa, Master Plan and Feasibility Study, Market and Economic Feasibility Analysis

This master plan and feasibility study (Chuck Nozicka Consulting 2009) investigates the market demand and provides an economic analysis for development of the project site. The characteristics of the site, in combination with market demand factors, indicate that the Camp Berryessa site is an ideal location for a science education camp and a group use destination facility for student and group markets in Napa and adjacent counties. The feasibility study also identified a potential for visitation from the Sacramento Valley and San Francisco Bay Area county markets.

Given the necessary use levels, fees, and associated development alternative operations and maintenance costs, the most likely scenario for long-term success is found in the Proposed Action. This level of development would require significant investment and some associated risk in the short term, given the investment needs and annual operations and maintenance costs. As a result, phased construction would allow the District and Reclamation the opportunity to build programming, to identify potential education partners or users, and to begin assessing the extent to which the facility may attract special group users other than education-specific groups.

Camp Berryessa Operations, Design, and Preliminary Engineering Study

This study (Questa Engineering 2010) provides the baseline data, planning, and design recommendations in several areas to facilitate the primary goals for future development at Camp Berryessa. The purpose of this study was to identify the extent of infrastructure needed to support such a facility, to estimate facility capital improvement costs, to provide an economic analysis of market demand, to evaluate the likelihood of competing with existing and planned facilities, and to assess the fiscal viability of long-term operations and management of such a facility.

This study provides a blueprint for appropriate uses, development, and management of the site. It includes a review of baseline conditions, constraints, and opportunities and provides projections of visitor education and youth group use and demand, financial viability analysis, regional and historic context, relationship to existing and future park facilities, and management options. The study also includes an evaluation of environmental review and permitting requirements, capital construction and annual operations and maintenance costs, and potential project phasing to implement the master plan.

The preliminary camp design and site development has focused on minimizing impacts on existing wildlife and plant and water resources, thereby minimizing environmental impacts. Study objectives and work tasks are as follows:

- Identifying the site's "carrying capacity." The study evaluated the site's historic use, water supply viability, wastewater disposal options, energy needs, and potential users in order to define a mix of development/infrastructure options to determine the optimal site configuration and

- Reviewing well records and records of the former on-site, wastewater disposal system, in addition to performing field studies. These were used to determine utility infrastructure needs.

The plan provides the framework for site development and identifies planned site elements, based on the preferred alternatives developed as part of the market and economic analysis. The plan reflects a desire to provide environmental education opportunities at the site that allow for flexibility in accommodating a variety of user interests, facilities that serve groups of varying sizes, and a design that incorporates maintenance and management efficiency. Several building styles are provided (tent cabins, wood cabins, dormitories) that meet visitor needs, while providing flexibility considering the potential range of users. The focus of all built elements will be to use local and renewable materials to the maximum extent feasible to promote sustainability.

On-Site Wastewater Feasibility Study for Camp Berryessa

The purpose of the on-site wastewater feasibility study (Questa Engineering 2009) was to inform the District of the feasibility of developing an on-site wastewater treatment system (OWTS) at Camp Berryessa. The report presents the results of preliminary field investigations and parameters relating to the capacity, sizing, and recommendations for the design of a potential OWTS.

Questa Engineering investigated the site soil conditions to understand the dispersal of wastewater that would be generated by the proposed new facilities and to determine the carrying capacity of the project site. The work entailed the following:

- A site investigation to evaluate soil, groundwater, and percolation characteristics in different areas of the property for on-site wastewater disposal suitability;

- Preliminary analysis of wastewater disposal capacity and OWTS design options, based on site conditions and potential uses of the property; and

- Preparation of a conceptual design and preliminary report, including our findings and recommendations, as well as a cost estimate.

The study found that the project site has limitations on wastewater disposal due to shallow soils and somewhat slow percolation rates. A 200-foot setback from the high-water line of Lake Berryessa and the presence of very shallow serpentine soils in the hilltop area further limit the available soil disposal area. A shallow mound subsurface drip dispersal system was recommended as the preferred disposal option.

Wastewater loading rates will vary considerably throughout the year, depending on the kinds of facility users and their water needs. Construction of a full kitchen/cafeteria and shower facilities would substantially increase wastewater loading. Provided that wastewater is carefully managed, Questa Engineering concluded that the proposed facility could routinely handle a user population of 80 to 100 people, with a peak special event user population for rare events of up to 200 people.

2.7 Summary of Alternatives

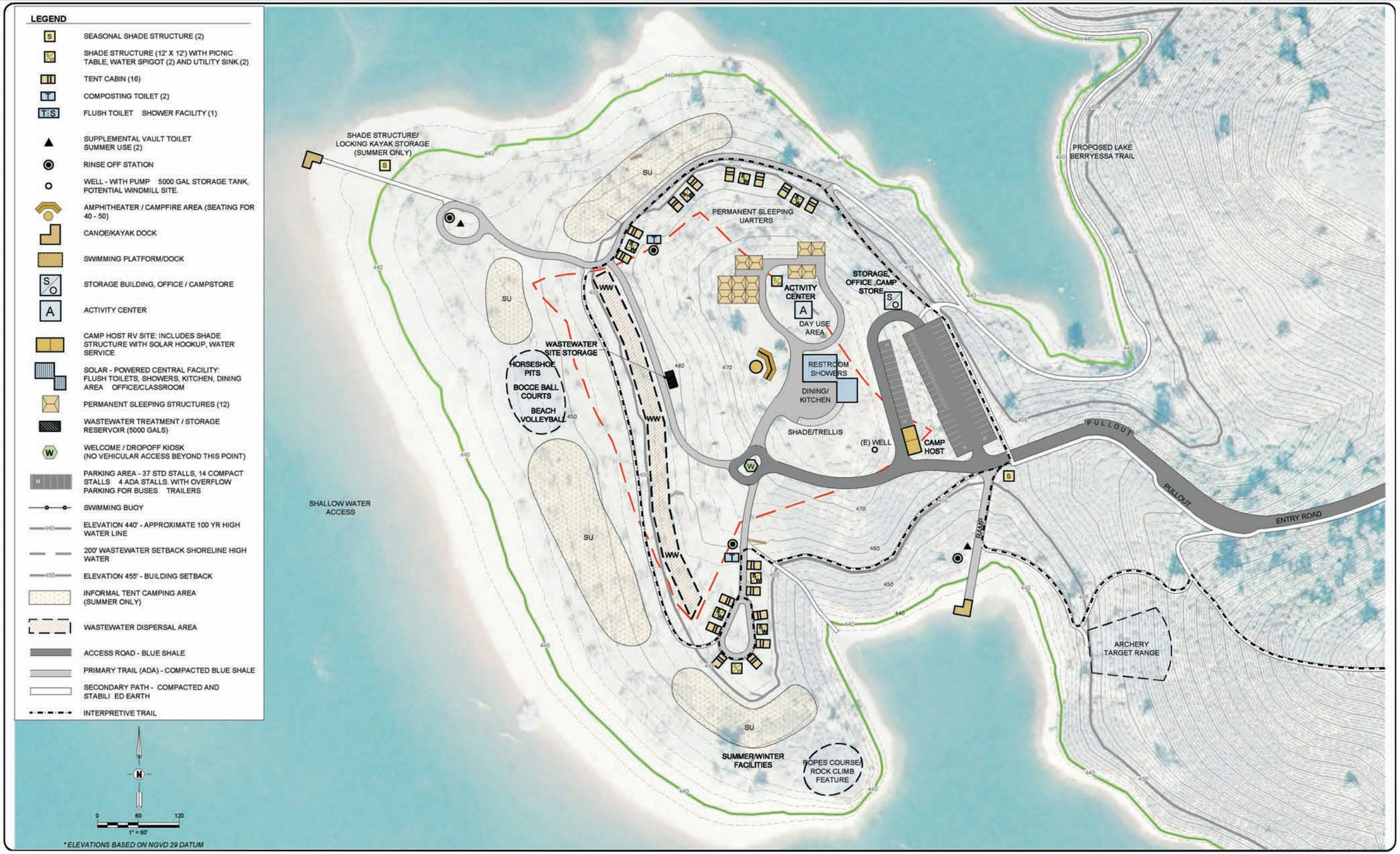
Two alternatives are analyzed in the EA/IS: the Proposed Action and the No Action Alternative. Under the Proposed Action, the District, in cooperation with Reclamation, would construct and operate recreation facilities, utilities, and transportation infrastructure on Reclamation-managed federal land at Camp Berryessa under a long-term lease. Phased construction and full buildout of the project would occur over approximately ten years, beginning in late 2011, with the timing depending on funding and market demand. A site plan for the Proposed Action is depicted in Figure 2-1. Under the No Action Alternative these facilities would not be constructed and use of the Camp Berryessa site would remain unchanged and available for other potential uses.

2.8 Proposed Action

The Camp Berryessa site includes approximately 10 acres of land suitable for development, on a peninsula that extends into the Putah Creek arm of Lake Berryessa. The site is disturbed from past uses, most recently as a Boy Scout camp. When the camp was closed in 2004, all structures were removed; the water well was decommissioned in 2008. The only infrastructure remaining at the site are gravel roads, disconnected electrical service, and several utility poles equipped with lights.

2.8.1 Phased Development

Project implementation would be completed in separate phases, depending on funding commitments, permitting, and market demand. Initial development would likely include basic utility and transportation infrastructure, such as well development and the water



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Proposed Action Site Plan
Camp Berryessa

Napa County, California

TETRA TECH

Figure 2-1

system, wastewater improvements, electrical system, roads, parking, trails, and the camp host site and storage building. Camping facilities, such as the tent cabins and recreation amenities, would be added incrementally. The major central facility, large flush toilet restroom/shower facility, permanent dormitories for paid staff, and wood cabins would be considered as part of the later development phases.

2.8.2 Major Buildings and Structures

Proposed major buildings and structures to be constructed under the full buildout scenario include a 4,000-square-foot central facility with kitchen, an indoor dining area that can be additionally used as a meeting room and classroom or museum, and an outdoor, trellised, eating patio. A separate classroom and laboratory may be considered for a later phase. A small office would be provided for permanent staff, as well as a small storage area for teaching materials. Depending on the final design, these facilities could be constructed as small individual buildings or as part of one large building that expands over time as the facility is built out. The central facility is assumed to be custom designed, although a pre-engineered structure may be used.

Small, self-contained compost facilities for use by campers and for kitchen wet garbage would be provided at the central facility.

A central shower and restroom facility would be provided. The pre-engineered large restroom facility would be fully plumbed and connected to the wastewater facility. At a minimum, there would be two four-stall restrooms, with six separated individual shower rooms at the back of the building.

2.8.3 Overnight Lodging and Camping Facilities

Proposed camping facilities include up to 25 to 30 campsites, consisting initially of tent sites and small tent cabins and progressing to some wood-sided and permanently roofed cabins and dorm cabins at full buildout. Additional facilities would include shade shelters with utility sinks, picnic tables, rinse-off stations, and permanent compost and portable toilets. Most of these minor structures are pre-engineered and can be erected on site. The tent cabins and wood-sided cabins would be located on slopes and therefore would have an elevated wood deck and small porch.

Also included as part of the full buildout are larger dorm cabins that could accommodate 12 to 16 campers. The dorm cabins and small individual or family-style cabins could be either pre-engineered or custom designed and built on site. Electricity would be provided to the tent cabins and buildings. To encourage water conservation, water spigots would be located near tent cabins and wood-sided cabins, but indoor plumbing would not be provided. Two composting toilets would be near the tent cabins and shade shelters. Conventional (low) flush toilets would be provided at the central restroom facility. Two supplemental portable toilets would be provided for summer use near the nonmotorized boat launch areas.

2.8.4 Recreation Facilities

Proposed facilities to be constructed would include day-use picnic/BBQ areas, activity center, amphitheatre, two nonmotorized boat launches, swimming platforms, archery target range, rope course, rock-climbing feature, volleyball court, bocce ball courts, horseshoe pits, a camp store, and trails.

2.8.5 Water Supply System

Based on a review of current well information and other information relevant to the project site, a new 250-foot-deep well would need to be drilled and completed near the existing well, with a pump, pressure tank, water treatment system, and large storage tank or tanks of 5,000- to 7,000-gallon capacity. Depending on the results of the well drilling, an additional well could be installed on the north side of the site, north of the perimeter access road, that would draw from a different local fractured rock aquifer system. The water supply system also would include installation of 4,000 linear feet of 1-inch water lines and a roof rainwater runoff capture system. A simple rain barrel system is assumed for the storage building and a more elaborate, commercial vendor, pre-engineered system for the proposed central facilities.

2.8.6 Wastewater Treatment and Disposal System

The proposed system includes a large septic tank and an underground overflow reservoir for storage during special events, a small sand filter treatment system, and a subsurface drip disposal system, contained within a low landscape mound. The wastewater system would also require controllers and a pump system for delivering the wastewater to the subsurface disposal system. Shallow monitoring wells would be needed to verify that the system is working correctly. Although it would be more cost effective in the long term to build a larger capacity system that meets the needs of the full buildout, the initial capital construction costs would be lower if the wastewater system were sized and constructed in phases.

2.8.7 Electrical and Energy System

The existing electrical system consists of a single phase service to a residential service meter and a separate well pump meter. Utility poles are in place from the connection at Berryessa-Knoxville Road to the project site. The system would need to be updated and improved to accommodate the service demands of an institutional or commercial facility, with new overhead lines and a panel. An additional upgrade would be warranted for full facility buildout. Solar power and solar hot water heaters are included as part of the shade shelters for tent cabins. An on-site solar power system is also planned, including solar panels on the host site and storage building, as well as on the central facilities when built. At full buildout, an approximate 20-kilowatt (kW) to 26-kW solar energy system is anticipated.

2.8.8 Service Areas

An approximate 2,000-square-foot storage and maintenance facility would be located next to the parking area. The building may also contain a small office for staff and a small camp store. The storage and maintenance building could be either pre-engineered or custom designed and built on-site.

A camp host site, consisting of a self-contained trailer, utility pad with hookups, a shade structure, and an outdoor private area, would be located near the maintenance and storage area.

2.8.9 Roads, Trails, and Parking Areas

Minor improvements, such as pullouts and new gravel, are proposed for the main camp access road from Berryessa-Knoxville Road to the existing parking area and camp host site. Within the site, the camp access road would be improved, from the parking area west to a proposed welcome kiosk and drop-off point. No public vehicles would be allowed beyond the kiosk. Primary and secondary trails would be established for access to facilities within the central portion of the site and would be suitable for emergency access. The internal circulation system would be designed to provide a firm and stable surface with slopes and cross slopes, in compliance with regulations for Americans with Disabilities Act (ADA) accessibility and to allow for emergency access. An interpretive loop trail around the site, with stations on the flora, fauna, and history of the area, and sustainability concepts would be created. Trails and roads would include connections to trail segments at Berryessa-Knoxville Road.

Roads and parking areas would be constructed of compacted gravel, quarry fines, or other semipermeable surfacing materials. The parking area would have 50 to 60 spaces and would provide for bus parking and emergency access circulation. Primary trails would be constructed of quarry fines, local blue shale gravel, or other permeable surface, combined with soil cement or other stabilizer in areas where ADA compliance is needed. The primary trail system would provide access to group facilities and sleeping areas and would be wide enough (eight to ten feet) to accommodate service vehicles, bicycles, and pedestrians. Secondary pedestrian paths would be compacted earth paths, with access to some camping areas stabilized to fully meet ADA requirements; these paths would be four to six feet wide. Borders and barriers, such as downed logs and boulders, would be incorporated into the design of roads and trails to keep users on the trails and to prevent trampling and disturbing understory vegetation.

2.8.10 Vegetation Management

Significant landscape planting is not proposed but some plants may be installed to provide shade, visual screening, and buffering of utility areas and to separate campsites, for edible gardening, and for education. Use of native plant species would be emphasized, and where possible, plants would be installed so as to facilitate fire suppression and weed management.

2.8.11 Site Preparation/Construction

All applicable permits and environmental and planning requirements would be obtained before construction. The layout of the site improvements would be surveyed and staked. Final siting of facilities would be determined working with the site topography, avoiding established trees, protecting water quality and complying with approved plan requirements. Site work would include clearing and grubbing, limited tree removal and trimming, minor earthwork and grading for roads, trails, parking and building pads, miscellaneous landscaping and fencing, and preparation and implementation of the

stormwater pollution prevention plan and erosion control plan. Excavations would be required for the wastewater and water facilities and distribution systems. Workers, equipment, and supplies would access the project site via Berryessa-Knoxville Road and the existing camp access road. Equipment and materials would be staged in disturbed areas on the project site.

2.9 No Action Alternative

In accordance with CEQ regulations implementing NEPA (40 CFR, 1502.14), a No Action Alternative must be evaluated. This is the basis for comparison with other alternatives and is a description of the most likely future condition that could occur if the Proposed Action were not implemented.

Under the No Action Alternative, the proposed project would not be implemented and the recreational improvements contemplated would not occur. The site would remain unused until other projects for site use were developed.

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