
CUL 1 – BUILT ENVIRONMENT RESOURCES INTERIM TECHNICAL MEMORANDUM

**KERN RIVER NO. 1 HYDROELECTRIC PROJECT
*FERC PROJECT NO. 1930***

PREPARED FOR:



January 2025

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List of Acronyms

AGOL	ArcGIS Online
APE	Area of Potential Effects
BLM	Bureau of Land Management
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
CUL 1 TSP	CUL 1 – Built Environment Technical Study Plan
DPR	[California] Department of Parks and Recreation
FERC	Federal Energy Regulatory Commission
Forest Service	U.S. Forest Service
GIS	geographic information system
GLO	General Land Office
HAER	Historic American Engineering Record
HPMP	Historic Properties Management Plan
ITM	Interim Technical Memorandum
KR1	Kern River No. 1
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
Project	Kern River No. 1 Hydroelectric Project (FERC Project No. 1930)
SCE	Southern California Edison
SHPO	State Historic Preservation Officer
SPD	Study Plan Determination
SQF	Sequoia National Forest
TSP	Technical Study Plan
TWG	Technical Working Group
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This Interim Technical Memorandum (ITM) provides the methods and findings of desktop research and field surveys associated with the CUL 1 – Built Environment Technical Study Plan (CUL 1 TSP) (SCE 2024) in support of Southern California Edison’s (SCE) Kern River No. 1 (KR1) Hydroelectric Project (Project) relicensing, Federal Energy Regulatory Commission (FERC) Project No. 1930. The CUL 1 TSP was included in SCE’s Revised Study Plan filed on February 13, 2024 (SCE 2024). In its March 14, 2024 Study Plan Determination (SPD), FERC approved the CUL 1 TSP without modifications (FERC 2024).

The FERC-approved CUL 1 TSP requires documentation of built environment resources within the Area of Potential Effects (APE). A desktop and field background research was conducted, and a complete built environment inventory of resources within the APE was prepared. The field investigation was conducted in June 2024 and is described below. Additional work to complete this study are described in Section 7.0, Outstanding Study Plan Elements. The efforts described in Section 7.0 will occur in fall 2024 and continue into 2025. Study results will be included as part of the Draft/Final License Application and/or the Updated Study Report.

Definitions of technical terms, background information, and previous inventory and consultation efforts are included in Section 3.13, Cultural Resources of the Pre-Application Document (SCE 2023) and the CUL 1 TSP (SCE 2024).

2.0 STUDY OBJECTIVES

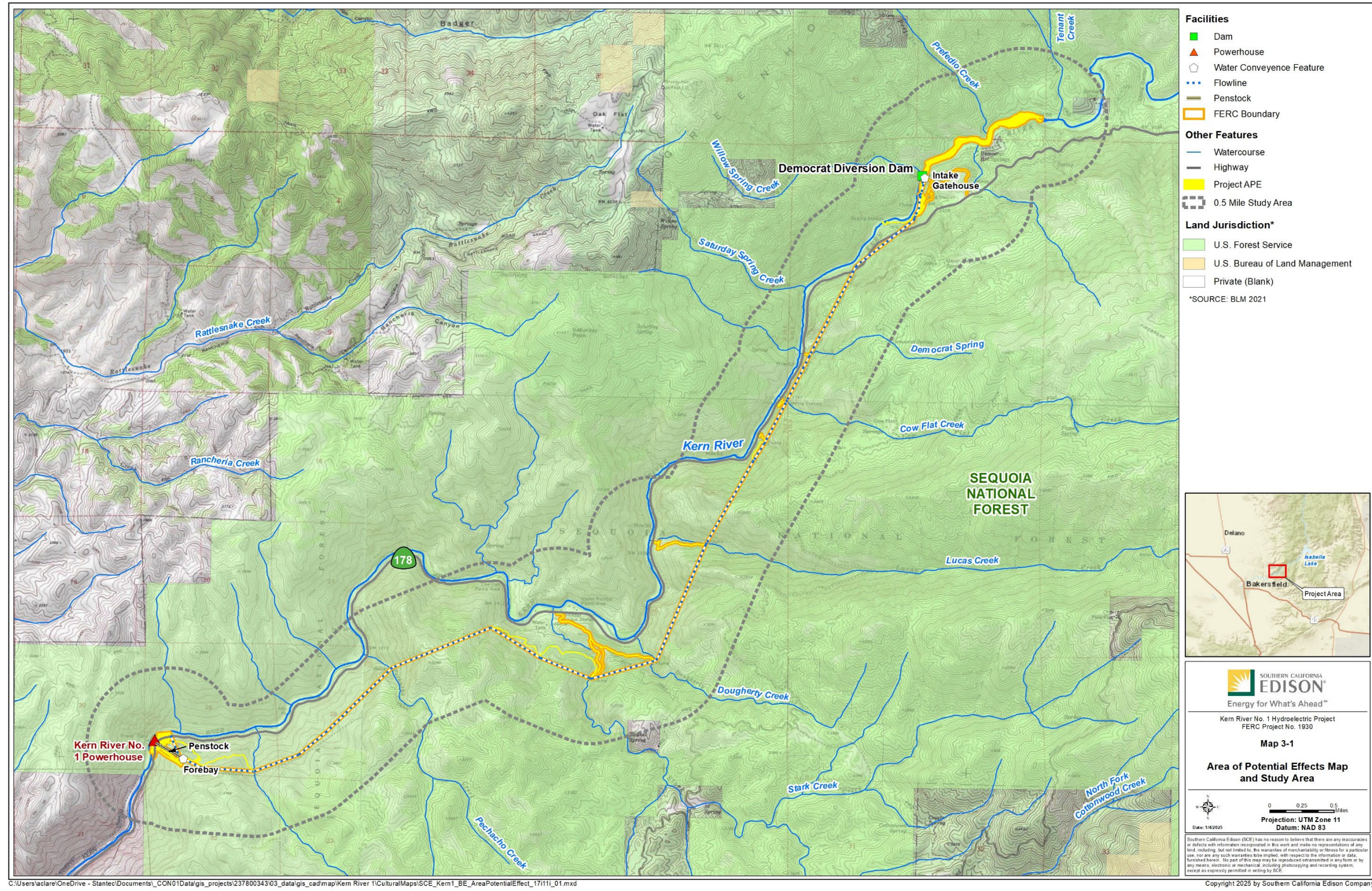
The objectives of the study, as outlined in the CUL 1 TSP (SCE 2024), include the following:

- Document all built environment cultural resources within the APE.
- Evaluate or, as appropriate, provide an updated evaluation under the Criteria of the National Register of Historic Places (NRHP) for built environment cultural resources in the APE to determine whether built environment historic properties may be affected by operations and maintenance of the Project.

3.0 AREA OF POTENTIAL EFFECTS AND STUDY AREA

The CUL 1 TSP (SCE 2024) defined the APE as “the area within the FERC Project boundary, a 25-foot buffer from centerline of the access trails located outside of the FERC boundary, and a 50-foot radius around FERC ancillary facilities such as gages located outside of the FERC boundary.”

For built environment resources, the study area includes the area within 0.5 mile of the APE (Map 3-1). The study area is used only for records searches and archival research to develop contextual and background information.



Map 3-1. Area of Potential Effects and Study Area

4.0 METHODS

Study implementation followed the methods described in the CUL 1 TSP (SCE 2024).

4.1 STUDY PLAN VARIANCES

There are no variances from the CUL 1 TSP approved in FERC’s SPD (FERC 2024).

4.2 REVIEW OF PREVIOUS STUDIES AND SITE RECORDS

Previous investigations, Historic American Engineering Records (HAERs), survey reports, and site records were reviewed to identify the methods and protocols used to inventory built environment resources in the APE and whether there are previously identified built environment resources that require updated documentation to align with current standards for adequacy.

4.3 ARCHIVAL RESEARCH

The background and archival research task included review of previous documentation to identify built environment resources in the study area, and identification and review of documents to develop an appropriate historical context for the Project. A records search was conducted utilizing the ArcGIS Online (AGOL) maintained by SCE and through the California Historical Resources Information System (CHRIS).

Additional data sources reviewed included:

- Aerial photographs
- Bureau of Land Management (BLM) General Land Office (GLO) surveys and patents
- California Historical Landmarks
- California Register of Historical Resources (CRHR)
- California State Library, California History Room, Sacramento
- Huntington Library, SCE Records, and Photographs and Negatives Collection
- Kern County Library, Local History Room, Bakersfield
- Kern River Valley Historical Society, Kernville
- National Register of Historic Places (NRHP)
- Office of Historic Preservation (OHP) Historic Properties Directory
- Online research, including periodicals

- SCE engineering drawings and historical records
- U.S. Geological Survey Topographic Quadrangles

4.4 BUILT ENVIRONMENT INVENTORY

The built environment inventory and field survey was performed in accordance with the current professional standards defined in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983). Fieldwork was coordinated with SCE personnel.

The built environment field survey was conducted in June 2024. During the survey, representative photographs were taken throughout the APE. Locational data and observations were collected on an AGOL map of the Survey Area to record the progress of the survey. Areas within the APE that could not be accessed via an established access route or in a safe manner were not included in the survey.

4.4.1 Recordation Methods

For built environment resources, documentation included the following:

- All accessible previously recorded built environment resources within the APE were revisited. The survey included observations and notes, as well as digital single-lens reflex photographs of all resources, including both resources associated with the KR1 hydroelectric system and resources not recorded as associated with the system.
- For all surveyed resources associated with the KR1 hydroelectric system, including resources previously determined eligible for the NRHP as contributing to the KR1 Historic District, surveyors provided an updated physical description, described known alterations, assessed the current condition of the resource, and made eligibility recommendations based on current conditions.
- For resource features that are associated with the KR1 hydroelectric system but were inaccessible during the field survey, surveyors provided a summary of previous physical descriptions of the resource, described known alterations, and made eligibility recommendations based on current conditions, as provided by SCE personnel.
- All resources associated with the KR1 Hydroelectric Project were recorded in an updated California Department of Recreation (DPR) form, as appropriate. The resources were recorded in a single DPR 523D District Record for the KR1 Hydroelectric Project.
- Resources constructed after the historic period (1974 or later) are listed in the survey data summary table and are noted on maps of the Project but were not documented on the DPR form.

- Previously recorded resources not associated with the KR1 Hydroelectric Project, surveyors provided an updated physical description, described known alterations, assessed the current condition of the resource, and made eligibility recommendations based on current conditions. These resources were recorded in DPR forms separate from the KR1 Hydroelectric Project District Record.

5.0 RESULTS SUMMARY

As identified in Table 5-1, within the Project APE and study area there are seven previously recorded built environment resources. Of the previously recorded resources, two are associated with the Project, and five are not considered to be associated with the Project. Some of the previously recorded resources include multiple features or components (SCE 2023). The data summary includes all previously documented resources recorded in Section 2.4, Existing Project Facilities of SCE’S Pre-Application Document (SCE 2023).

Table 5-1. Built Environment Resources within the Area of Potential Effects

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
	FS 05-13-54-838	Kern River No. 1 Historic District	Determined Eligible for the NRHP/CRHR (SHPO Ref. No. FHWA881212A)	Eligible for the NRHP/CRHR
Diversion Dam				
P-15-001927 CA-KER-1977H	FS 05-13-54-237 FS 05-13-54-838	Intake Dam (Democrat Dam)	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
Impoundment				
		Democrat Dam Impoundment	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
Water Conveyance System				
P-15-001927	FS 05-13-54-838	Sandbox	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
P-15-001927	FS 05-13-54-838	Tunnels	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
P-15-001927	FS 05-13-54-838	Flumes	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Conduits (Bypass Conduit)	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
		Adits	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
	FS 05-13-54-838	Forebay	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
		Forebay Overflow Spillway	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
	FS 05-13-54-838	Force Main ¹	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
Powerhouse and Switchyard				
P-15-003544	FS 05-13-54-838	Kern River No. 1 Powerhouse	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
	FS 05-13-54-838	Powerhouse Turbines	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
	FS 05-13-54-838	Powerhouse Generators	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
HAER No. CA-165-A	FS 05-13-54-838	Powerhouse Exciters	Contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Powerhouse Tailrace	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
	FS 05-13-54-838	Powerhouse Switchboard	Contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Powerhouse Transformers	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
		Kern River No. 1 Switchyard	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
Access Roads				
		Willow Spring Creek Road (Democrat Dam Road)	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Powerline Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Flume No. 1 Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Dougherty Creek Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
		Stark Creek Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Forebay Operations Area Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Lower Powerhouse Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Upper Powerhouse Road	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Access Trails				
		Democrat Gage Trail	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Conduit No. 3 Trail	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Cow Flat Creek Trail	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Steel Flume Trail	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Lucas Creek Trail	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Dougherty Creek Trail	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Stark Creek Trail	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Adit No. 17 & 18 Trail	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Overflow Spillway Trail	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Skip Hoist/Forebay Trail	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
Communication and Power Lines				
		Intake Gatehouse to Flume No. 1 Powerline	Not evaluated for the NRHP/CRHR	Not evaluated
		Powerhouse to Forebay Communication/Powerline	Not evaluated for the NRHP/CRHR	Not evaluated
Gages and Stilling Wells				
		Kern River near Democrat Springs (USGS Gage No. 11192500 / SCE Gage No. 409)	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Kern River No. 1 Conduit near Democrat Springs (USGS Gage No. 11192000 / SCE Gage No. 410)	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Kern River near Democrat Springs (USGS Gage No. 11192501; calculated 11192500+11192000)	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Stilling Well No. 1	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Stilling Well No. 2	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Ancillary and Support Facilities				
Democrat Dam Area				
		Buoy Line in Democrat Dam Impoundment	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Democrat Dam Intake Gatehouse	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
		Democrat Dam Intake Gate	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
		Democrat Dam Drainage Tower	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Democrat Dam Drainage Tunnel	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Democrat Dam Drainage Tunnel Outlet	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Democrat Dam Access Walkway	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Sandbox Drainage Channel	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Gaging Cableway	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Water Conveyance				
		Flume No. 6 Access Platform	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Forebay Operations Area				
	FS 05-13-54-838	Old Administration Building/Boarding House	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
		Garage No. 1	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
		Garage No. 2	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
		Old Ice House	Non-contributing to the KR1 Historic District	Non-contributing to the KR1 Historic District
		Water Tank	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Aerial Cable Towers	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
		Tram ² House and Lower Landing	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
	FS 05-13-54-838	Tram ² Cables and Cart	Contributing to the KR1 Historic District	Contributing to the KR1 Historic District
		Tram ² Upper Landing	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Tram ² Upper Landing to Forebay Catwalk	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Communication Site	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Forebay Operations Area Perimeter Fence	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Forebay Perimeter Fence	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Powerhouse Area				
		Machine Shop	Not evaluated for the NRHP/CRHR	Contributing to the KR1 Historic District
		Office/Lunchroom	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Restroom	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
		Powerhouse and Switchyard Perimeter Fence	Not evaluated for the NRHP/CRHR	Non-contributing to the KR1 Historic District
Non-Project Resources				
P-15-010562 / P-15-015251		Kern River No. 1- Los Angeles 66KV Transmission Line	Not Eligible for the NRHP/CRHR (SHPO Ref. No. FERC_2012_1003_001)	Not evaluated
P-15-015664 CA-KER-8646H	FS-05-13-54-862	Concrete culvert and water basin PL-B-5	Not evaluated for the NRHP/CRHR	Not evaluated

Primary Number / (Trinomial)	Forest Service Number or Temporary Number	Historic Name(s) / Current Name(s)	Previous NRHP Eligibility	Current NRHP Recommendations
P-15-015665 CA-KER-8647H	FS-05-13-54-863	Concrete culvert PL-B-6	Not evaluated for the NRHP/CRHR	Not evaluated
P-15-015666 CA-KER-8648H	FS-05-13-54-864	Concrete culvert PL-B-7	Not evaluated for the NRHP/CRHR	Not evaluated/not observed during survey
P-15-020317		Kern Canyon Road / CA-178	Recommended Eligible for the NRHP/CRHR	Eligible for listing in the NRHP and eligible as contributing to the KR1 Historic District

Notes:

¹ This resource was recorded as the Penstock in some previous documentation.

² This resource was recorded as the Skip Hoist in some previous documentation.

Key: CRHR = California Register of Historical Resources
 NRHP = National Register of Historic Places
 SHPO = State Historic Preservation Officer

6.0 STUDY SPECIFIC CONSULTATION

The following study specific consultation has been conducted:

- SCE conducted a Cultural Technical Working Group (TWG) meeting on June 29, 2023, to provide an overview of the Project, review the existing information included in the Pre-Application Document, review the cultural and Tribal TSPs, and the study schedule.
- On July 16, 2024, SCE submitted a letter to the State Historic Preservation Officer (SHPO) requesting concurrence on the proposed APE for the Project. On August 30, 2024, SHPO sent a letter to SCE concurring on the APE.

This ITM will be distributed to the TWG for review and comment in January 2025.

7.0 OUTSTANDING STUDY PLAN ELEMENTS

The outstanding study plan elements include:

- Review of the ITM by the Cultural TWG and preparation of the Final Technical Memorandum.

- NRHP Evaluation
 - SCE shall utilize the results of the inventories to prepare, in collaboration with the Sequoia National Forest, Tribes, and other relicensing participants, an Evaluation Plan that will be executed to evaluate the eligibility of potential historic properties (i.e., built environment resources) for the NRHP. The Evaluation Plan will include an assessment of past, present, and reasonably foreseeable Project effects on potential historic properties, and will describe the methods of evaluation to be implemented. The Evaluation Plan will be submitted to the TWG, as appropriate, for review 30 days prior to submittal to the OHP.
- Historic Properties Management Plan (HPMP)
 - SCE anticipates FERC will enter into a programmatic agreement with the Advisory Council on Historic Preservation, OHP, and any other agencies or entities FERC elects to include. SCE anticipates that one of the programmatic agreement stipulations will be the completion and implementation of an HPMP during the new license term.
 - The HPMP will consider direct and indirect effects of continued Project operations and maintenance on NRHP-listed or eligible built environment resources and will require avoidance and protection of specified resources, whenever possible. Processes and procedures will be developed for general and site-specific treatment measures, including minimization and mitigation measures to be taken should license implementation create unavoidable adverse effects to historic properties.
- Coordination with Other Studies
 - To the extent feasible, SCE will coordinate built environment resources field studies with other Project-related environmental studies (e.g., archaeological resources, Tribal resources, and habitat surveys) and conduct them in a manner that does not affect other sensitive natural resources. When conducting built environment resources or other investigations, SCE and/or their contractors should not violate other federal or state laws or regulations protecting natural resources, including but not limited to the Endangered Species Act and the Clean Water Act. SCE should consider that Tribes may utilize natural resources for subsistence or specific ceremonial uses and should avoid affecting those uses or events while conducting studies.

The anticipated schedule to complete the outstanding study plan elements are identified in Table 7-1.

Table 7-1. Schedule for Completion of Outstanding Study Plan Elements

Date	Activity
January 2025	Distribute ITM to TWG
February–April 2025	TWG review and provide comments on ITM
April–June 2025	Resolve comments and prepare Final Technical Memorandum
April–October 2025	Develop Draft HPMP
December 2025	Distribute Final Technical Memorandum and Draft HPMP in Draft License Application

Source: SCE 2024

Key: HPMP = Historic Properties Management Plan
 ITM = Interim Technical Memo
 TWG = Technical Working Group

8.0 REFERENCES

FERC (Federal Energy Regulatory Commission). 2024. Study Plan Determination for the Kern River No. 1 Hydroelectric Project. March 14.

NPS (National Park Service, Department of the Interior). 1983. Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines. National Park Service. <https://www.nps.gov/subjects/historicpreservation/upload/standards-guidelines-archeology-historic-preservation.pdf>.

SCE (Southern California Edison). 2023. Pre-Application Document for the Kern River No. 1 Hydroelectric Project (FERC Project No. 1930). May 5.

_____. 2024. Kern River No. 1 Hydroelectric Project (FERC Project No. 1930) Revised Study Plan. February 13.