

### POTENTIAL RESOURCE ISSUE:

Preservation of properties listed or eligible for listing in the National Register of Historic Places (NRHP).

### PROJECT NEXUS:

Middle Fork American River Project (MFP or Project) operations and maintenance activities may affect objects, sites, buildings, structures, or districts that comprise archaeological and historical resources and traditional cultural properties/places that may qualify for listing in the NRHP (i.e., historic properties).

### POTENTIAL LICENSE CONDITION:

- Historic Properties Management Plan
  - Treatment (mitigation) of unavoidable adverse effects (impacts) to historic properties
  - Facility modifications
  - Public education and interpretation of historic properties.

### STUDY OBJECTIVES:

- Develop information about the occurrence of cultural resources that could potentially be affected by Project operation and maintenance activities.
- Determine the eligibility of cultural resources for listing in the NRHP.

### EXTENT OF STUDY AREA:

The study area includes all public and PCWA owned lands within the existing FERC Project boundary and within a 200-foot area surrounding any Project facility, feature, Project recreation facility, or dispersed concentrated use areas as identified in Tables CUL 1-1 and CUL 1-2 respectively. If additional Project facilities, features, recreation facilities, or dispersed concentrated use areas are identified, these areas will be surveyed consistent with this technical study plan.

The study area also includes all of the land areas associated with potential Project betterments, including new facilities, roads and trails, staging, and disposal sites, as identified on Table CUL 1-3.

Note that lands above tunnels and other subterranean facilities are not included in the study area.

### STUDY APPROACH:

The Federal Energy Regulatory Commission (FERC) is required to follow certain regulations that are designed to identify and address the potential effects that a hydroelectric project may have on cultural resources. These regulations are contained in Title 36 of the Code of Federal Regulations (CFR), Part 800 (36 CFR 800), and provide direction to federal agencies regarding the implementation of Section 106 of the National Historic Preservation Act (NHPA). Placer

County Water Agency (PCWA) will be required by FERC to carry out studies that are consistent with these regulations. Consequently, the CUL1 – Cultural Resources Technical Study Plan (TSP) outlined below follows the steps defined in the regulations and is applicable to all types of cultural resources that may be associated with the Project.

PCWA recognized the need to gather existing information to better inform the design of technical studies and to ensure that these studies would be completed within the limited schedule provided for in the FERC relicensing process. Accordingly, PCWA began developing cultural resources information in 2005, in accordance with the 2005–2006 Cultural Resources Inventory Study Plan (May 27, 2005). This Study Plan was developed in consultation with the USDA Forest Service (USDA-FS) and the Native American Tribes. The 2005–2006 Cultural Resources Study Plan involves two phases, as explained in the following.

Phase 1, completed in 2005, focused on retrieving, compiling, and reviewing existing information on cultural resources in an “expanded study area,” defined as the area within one-mile of existing Project facilities. Results of the Phase 1 effort are reported in the Final 2005 Cultural Resources Inventory Study Report (August 23, 2006). The report is available on PCWA’s relicensing website located at <http://relicensing.pcwa.net/techdocs.htm>.

Phase 2 of the Cultural Resources Inventory Study focuses on verifying the location and condition of known cultural resources and identifying previously unidentified and/or unreported cultural resources in the study area. The study area includes all public and PCWA owned lands within the existing FERC Project boundary and within a 200-foot area surrounding any Project facility or feature or Project recreation facility. The study area also includes all of the land areas associated with potential Project betterments, including new facilities, roads and trails, and staging sites. Field studies began in October 2006 and were completed in 2007. The results of work completed during 2006 were documented in a report titled Draft 2006 Cultural Resources Inventory Report and distributed to the stakeholders in April 2007. A final version of this report will be included in the Pre-Application Document. Field work completed in 2007 will be documented in a draft report that will be distributed in November 2007 and finalized in early 2008.

Information developed as part of the Cultural Resources Inventory Study will serve the following purposes:

- Support permit applications required from the USDA-FS;
- Help ensure timely completion of other regulatory processes, for example Section 106 of the NHPA;
- Help facilitate early consultation efforts with the Tribes; and
- Support discussions with the resource agencies and the Tribes regarding the Area of Potential Effects (APE) as defined in 36 CFR 800.

The following Study Plan describes how PCWA will continue to build upon the inventory work completed to date. As previously noted, the study process follows the regulatory process required by FERC.

### Complete Cultural Resources Inventory Study

- Complete Phase 2 of the Cultural Resources Inventory Study as outlined in the Cultural Resources Inventory Study Plan (May 2005). The inventory study will include areas associated with potential Project betterments.
- Prepare a report that characterizes the cultural resources in the study area based on the results of the cultural resources inventory study. Sensitive information, including the specific locations of cultural resources or artifacts identified during field studies, will be documented in a separate, confidential report.

### Eligibility Assessment

- Utilize the results of the Cultural Resources Inventory Study to assess whether there are any cultural resources within the study area that are eligible to be included in the National Register of Historic Places per Section 106 of the NHPA. This assessment would be made in consultation with the USDA-FS, Tribes, and other stakeholders.
- If additional eligibility study(s) are needed, prepare an Eligibility Evaluation Plan that identifies the specific resources to be evaluated and the evaluation process. This plan would be developed in consultation with the USDA-FS, Tribes, and other stakeholders. Sensitive information, for example the specific locations of cultural resources or artifacts, will not be included in the Eligibility Evaluation Plan.

### Contingency Study(s) - Conduct Additional Eligibility Study(s)

- Conduct studies to evaluate the NRHP eligibility of appropriate cultural resources in the study area, including consulting with stakeholders and others regarding the historical significance of affected cultural resources, conducting archaeological test excavations, analyzing recovered archaeological materials and reporting analytical results, conducting focused historical research pertaining to specific resources, and consulting with the Tribes regarding traditional cultural properties/places.
- Prepare a report describing the results of the eligibility evaluation. Consult with the USDA-FS, Tribes, and other stakeholders as appropriate regarding the results and conclusions. Sensitive information will be documented in a separate, confidential report.
- Provide the inventory and evaluation results to the State Historic Preservation Officer (SHPO) for review and comment.

## CUL 1 – Cultural Resources Technical Study Plan

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Schedule:

<b>Date</b>	<b>Activity</b>
<b>Complete Cultural Resources Inventory Study</b>	
March through July 2007	Amend Archaeological Investigation (AI) permit and complete inventory field work
August through October 2007	Analyze data and prepare draft Inventory Report
November 2007	Distribute draft report to the USDA-FS, tribes, and TWG participants
November 2007 through January 2008	USDA-FS, tribes and TWG participants review and provide comments on draft report
February and March 2008	Resolve comments and prepare final report
March 2008	Distribute final Inventory Report
<b>Assess Eligibility</b>	
November and December 2007	Determine whether there are any sites that may be eligible for inclusion on the NRHP or eligible for evaluation under Section 106 of the NHPA. Develop recommendation re: need for evaluation studies.
January and February 2008	Consult with USFS and Tribes re: recommendations
March 2008	Prepare draft Eligibility Evaluation Plan
April 2008	Distribute draft Eligibility Evaluation Plan to USDA-FS, Tribes and TWG participants for review
April and May 2008	USDA-FS, and tribes review and provide comments on draft Eligibility Evaluation Plan
June and July 2008	Resolve comments and prepare final Eligibility Evaluation Plan
July 2008	Distribute Final Eligibility Evaluation Plan
<b>Contingency Study – Conduct Evaluation Study</b>	
June through July 2008	Amend Archaeological Investigation (AI) permit to cover Evaluation Studies
August 2008 through July 2009	Conduct evaluation studies, data analysis and report production.

### REFERENCES:

Placer County Water Agency (PCWA). 2005-2006 Cultural Resources Inventory Study Plan. May 27, 2005.

PCWA. Final 2005 Cultural Resources Inventory Study Report. August 23, 2006.

PCWA. Draft 2006 Cultural Resources Inventory Study Report. April, 2007.

**TABLES**

**Table CUL 1-1. Existing Project Facilities and Features.**

<b>Dams, Reservoirs, and Diversion Pools</b>	
<b>Large Dams</b>	
French Meadows Dam and Outlet Works	
Hell Hole Dam and Outlet Works	
<b>Medium Dams</b>	
Middle Fork Interbay Dam	
Ralston Afterbay Dam	
<b>Small Dams</b>	
Duncan Creek Diversion Dam	
North Fork Long Canyon Diversion Dam	
South Fork Long Canyon Diversion Dam	
<b>Large Reservoirs</b>	
French Meadows Reservoir	
Hell Hole Reservoir	
<b>Medium Reservoirs</b>	
Middle Fork Interbay	
Ralston Afterbay	
<b>Small Diversion Pools</b>	
Duncan Creek Diversion Pool	
North Fork Long Canyon Diversion Pool	
South Fork Long Canyon Diversion Pool	
<b>Water Conveyance Systems</b>	
<b>Tunnels</b>	
Duncan Creek – Middle Fork Tunnel	
French Meadows – Hell Hole Tunnel	
Hell Hole – Middle Fork Tunnel	
Middle Fork – Ralston Tunnel	
Ralston – Oxbow Tunnel	
<b>Diversion Pipes and Drop Inlets</b>	
North Fork Long Canyon Diversion Pipe and Drop Inlet	
South Fork Long Canyon Diversion Pipe and Drop Inlet	
<b>Surge Shafts and Adits</b>	
Brushy Canyon Adit	
Hell Hole – Middle Fork Tunnel Surge Shaft and Tank	
Middle Fork – Ralston Tunnel Surge Shaft and Tank	
<b>Removable Sections and Portals</b>	
Duncan Creek – Middle Fork Tunnel Portal	
French Meadows – Hell Hole Tunnel Removable Section	
Hell Hole – Middle Fork Tunnel Removable Section	
Middle Fork – Ralston Tunnel Removable Section	
North Fork Long Canyon Crossing Removable Section	
<b>Intakes and Gatehouses</b>	
Duncan Creek – Middle Fork Tunnel Intake	
French Meadows – Hell Hole Tunnel Gatehouse	
French Meadows – Hell Hole Tunnel Intake	
Hell Hole – Middle Fork Tunnel Gatehouse	
Hell Hole – Middle Fork Tunnel Intake	
Middle Fork – Ralston Tunnel Intake and Gatehouse	
Ralston – Oxbow Tunnel Intake	

**Table CUL 1-1. Existing Project Facilities and Features (continued).**

<b>Water Conveyance Systems (continued)</b>	
<b>Penstocks and Valve Houses</b>	
French Meadows Powerhouse Penstock and Butterfly Valve House	
Middle Fork Powerhouse Penstock and Butterfly Valve House	
Ralston Powerhouse Penstock and Butterfly Valve House	
<b>Powerhouses, Switchyards, and Substations</b>	
French Meadows Powerhouse and Switchyard	
Hell Hole Powerhouse	
Middle Fork Powerhouse and Upper and Lower Switchyards	
Ralston Powerhouse and Switchyard	
Oxbow Powerhouse and Switchyard	
Hell Hole Substation	
<b>Gaging Stations and Weirs</b>	
<b>Stream Gages and Weirs</b>	
Duncan Creek Gage and Weir above Diversion Dam (USGS Gage and Weir No. 11427700)	
Duncan Creek Gage and Weir below Diversion Dam (USGS Gage and Weir No. 11427750)	
Middle Fork American River Gage and Weir below French Meadows Dam (USGS Gage and Weir No. 11427500)	
Middle Fork American River Gage at Interbay Dam (USGS Gage No. 11427770)	
Middle Fork American River Gage above Middle Fork Powerhouse (USGS Gage No. 11427760)	
Middle Fork American River Gage below Oxbow Powerhouse (USGS Gage No. 11433300)	
North Fork Long Canyon Gage and Weir at Diversion Dam (USGS Gage and Weir No. 11433085)	
South Fork Long Canyon Gage and Weir at Diversion Dam (USGS Gage and Weir No. 11433065)	
Rubicon River Gage and Weir below Hell Hole Dam (USGS Gage and Weir No. 11428800)	
<b>Diversion Gages</b>	
North Fork Long Canyon Gage at Diversion Dam (USGS Gage No. 11433080)	
South Fork Long Canyon Gage at Diversion Dam (USGS Gage No. 11433060)	
<b>Reservoir Gages</b>	
French Meadows Reservoir Gage (USGS Gage No. 11427400)	
French Meadows Reservoir Staff Gage	
Hell Hole Reservoir Gage (USGS Gage No. 11428700)	
Hell Hole Reservoir Staff Gage	
Middle Fork Interbay Reservoir Gage	
Ralston Afterbay Reservoir Gage	
<b>Powerhouse Gages</b>	
French Meadows Powerhouse Gage (USGS Gage No. 11427200)	
Middle Fork Powerhouse Gage (USGS Gage No. 11428600)	
Oxbow Powerhouse Gage (USGS Gage No. 11433212)	
Ralston Powerhouse Gage (USGS Gage No. 11427765)	
<b>Leakage Weirs</b>	
French Meadows Dam Leakage Weirs Nos. 1–6	
Hell Hole Dam Leakage Weir	
<b>Project Communication Lines and Powerlines</b>	
<b>French Meadows Area</b>	
French Meadows Dam Generator Building to French Meadows Dam Outlet Works Powerline	
French Meadows Dam Generator Building to French Meadows Dam Spillway Gates Powerline	

**Table CUL 1-1. Existing Project Facilities and Features (continued).**

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**Project Communication Lines and Powerlines (continued)**

**Hell Hole Area**

French Meadows Powerhouse to French Meadows Powerhouse Penstock and Butterfly Valve House Communication Line/Powerline

French Meadows Powerhouse and Switchyard to Hell Hole – Middle Fork Tunnel Gatehouse, Dormitory Facility, Operator’s Cottages, and Hell Hole Powerhouse Communication Line/Powerline

Dormitory and Cottages Water Supply Tank Powerline

Hell Hole Powerhouse to Rubicon River Gage and Weir below Hell Hole Dam Communication Line/Powerline

**Middle Fork Interbay Area**

Middle Fork Powerhouse to Middle Fork Powerhouse Butterfly Valve House Communication Line/Powerline

Middle Fork Powerhouse Butterfly Valve House to Radio Repeater near Hell Hole – Middle Fork Tunnel Surge Tank (underground) Communication Line/Powerline

Middle Fork Powerhouse to Middle Fork – Ralston Tunnel Intake and Gatehouse Communication Line/Powerline

Middle Fork Powerhouse to Middle Fork American River Gage above Middle Fork Powerhouse Communication Line/Powerline

**Ralston – Oxbow Area**

Ralston – Oxbow Tunnel Intake to Ralston Powerhouse Communication Line

Ralston Powerhouse to Ralston Powerhouse Butterfly Valve House Communication Line/Powerline

Ralston Afterbay Dam Generator Building to Ralston – Oxbow Tunnel Intake Communication Line/Powerline

Oxbow Powerhouse to Ralston Afterbay Dam Generator Building Communication Line/Powerline

**Photovoltaic Poles and Powerlines**

Photovoltaic Poles and Powerline to Duncan Creek Gage above Diversion Dam

Photovoltaic Pole and Powerline at Duncan Creek Gage below Diversion Dam

Photovoltaic Pole and Powerline at Middle Fork American River Gage below French Meadows Dam

Photovoltaic Pole and Powerline at Middle Fork American River Gage above Middle Fork Powerhouse

Photovoltaic Pole and Powerline at North Fork Long Canyon Gage at Diversion Dam

Photovoltaic Pole and Powerline at South Fork Long Canyon Gage at Diversion Dam

Photovoltaic Pole at Middle Fork American River Gage below Oxbow Powerhouse

**Microwave Reflectors and Radio Towers**

Passive Microwave Reflector Station above Middle Fork Interbay

Radio Communications Tower near French Meadows – Hell Hole Tunnel Gatehouse

Radio Communications Tower and Repeater near Hell Hole – Middle Fork Tunnel Surge Shaft and Tank

Passive Microwave Reflector Station above Ralston Afterbay

**Disposal Sites**

Duncan Diversion Dam Sediment Disposal Area

North Fork Long Canyon Crossing Sediment Disposal Area

Middle Fork Interbay Sediment Disposal Area

Ralston Ridge Sediment Disposal Area

Indian Bar Sediment Disposal Area

**Ancillary Facilities**

French Meadows Dam Generator Building

French Meadows Dam Staging Area

Dormitory Facility

Dormitory and Cottages Water Supply Tank



**Table CUL 1-1. Existing Project Facilities and Features (continued).**

<b>Ancillary Facilities (continued)</b>
Hell Hole Staging Areas
Operator Cottages and Shop
Ralston Afterbay Dam Generator Building
Storage Building at Middle Fork – Ralston Tunnel Surge Shaft and Tank
Wabena Meadows Snow Course
Miranda Cabin Snow Course
Diamond Crossing Snow Course
Talbot Camp Snow Course
<b>Project Fences</b>
<b>Slope Fences</b>
French Meadows Powerhouse Penstock Rock Fence
French Meadows Powerhouse Slope Fence
Long Canyon Crossing Slope Fence
Middle Fork Powerhouse Upper Switchyard Slope Fence
Middle Fork Interbay Dam Slope Fence
Oxbow Powerhouse Slope Fence
Ralston Powerhouse Penstock and Butterfly Valve House Slope Fences
Ralston Powerhouse Slope Fence
<b>Public Safety Fences</b>
Dormitory Facility Barrier Fence
Hell Hole Dam General Parking Area Barrier Fence
North Fork Long Canyon Crossing Removable Section Barrier Fence
<b>Project Roads and Access Points</b>
<b>Duncan Creek Area</b>
Duncan Creek Diversion Intake Road and Diversion Pool Access Point
Duncan Creek Diversion Dam Road
Duncan Creek Diversion Pool Road and Access Point
<b>French Meadows Area</b>
Duncan Creek – Middle Fork Tunnel Portal Road and Spillway Access Point
French Meadows – Hell Hole Tunnel Gatehouse Road
French Meadows Dam Outlet Works and Leakage Weirs Road
French Meadows Dam Staging Area Road
Middle Fork American River Gage and Weir below French Meadows Dam Road
<b>Hell Hole Area</b>
Hell Hole Dam and Powerhouse Road and Spillway Southern Access Point
Rubicon River Gage and Weir below Hell Hole Dam Road
Hell Hole Dam Leakage Weir Road
Hell Hole Dam Spillway Northern Access Point
French Meadows – Hell Hole Tunnel Portal Road
French Meadows Powerhouse Road
Hell Hole – Middle Fork Tunnel Gatehouse Road
Dormitory Facility Road
Hell Hole Dam Spillway Discharge Channel Road
<b>Long Canyon Area</b>
North Fork Long Canyon Diversion North Road
North Fork Long Canyon Diversion South Road
North Fork Long Canyon Diversion Drop Inlet Road

**Table CUL 1-1. Existing Project Facilities and Features (continued).**

<b>Project Roads and Access Points (continued)</b>
<b>Long Canyon Area (continued)</b>
South Fork Long Canyon Diversion and Drop Inlet Road
North Fork Long Canyon Crossing Removable Section North Road and Parking Area
North Fork Long Canyon Crossing Removable Section South Road
<b>Middle Fork Interbay Area</b>
Middle Fork Powerhouse Butterfly Valve House Road
Middle Fork Powerhouse Penstock and Butterfly Valve House Road
Middle Fork Interbay Dam and Powerhouse Road and Interbay Access Points
Middle Fork Powerhouse Upper Switchyard Road
<b>Ralston–Oxbow Area</b>
Brushy Canyon Adit Road
Oxbow Powerhouse Road
Ralston Powerhouse Butterfly Valve House Road
Ralston – Oxbow Tunnel Intake Road
Ralston Afterbay Road and Boat Ramp
Ralston Afterbay Dam Road and Afterbay Access Point
Ralston Afterbay Sediment Removal Access Point
<b>Project Trails</b>
<b>Duncan Creek Area</b>
Duncan Creek Diversion Dam North Trail
Duncan Creek Diversion Dam South Trail
Photovoltaic Poles and Powerline to Duncan Creek Gage above Diversion Dam Trail
Duncan Creek Gage and Weir above Diversion Trail
Duncan Creek Gage and Weir below Diversion Trail
<b>French Meadows Area</b>
Middle Fork American River Gage and Weir below French Meadows Dam Trail
<b>Middle Fork Interbay Area</b>
Middle Fork American River Gage above Middle Fork Powerhouse Trail
Passive Microwave Reflector Station above Middle Fork Interbay Trail
<b>Ralston Afterbay Area</b>
Passive Microwave Reflector Station above Ralston Afterbay Trail
Middle Fork American River Gage below Oxbow Powerhouse Trail

**Table CUL 1-2. Project Recreation Areas.**

<b>Project Recreation Facilities</b>
<b>French Meadows Area</b>
Ahart Campground
Coyote Group Campground
Poppy Campground
French Meadows Campground
Gates Group Campground
Lewis Campground
French Meadows Picnic Area
McGuire Picnic Area
French Meadows Boat Ramp
McGuire Boat Ramp
Dolly Creek Water Supply
French Meadows Campground Water Supply
<b>Hell Hole Area</b>
Big Meadows Campground
Hell Hole Campground
Upper Hell Hole Campground
Hell Hole Vista
Hell Hole General Parking Area
Hell Hole Boat Ramp Parking Area
Hell Hole Boat Ramp
Big Meadows Campground Water Supply
<b>Ralston Afterbay Area</b>
Ralston Picnic Area
Ralston Picnic Area Cartop Boat Ramp
Indian Bar Rafting Access and General Parking
<b>Long Canyon Area</b>
Middle Meadows Group Campground
Middle Meadows Group Campground Water Supply
<b>Dispersed Concentrated Use Areas</b>
<b>French Meadows Reservoir Area</b>
Area near French Meadows-Hell Hole Tunnel Gatehouse
Area immediately downstream of French Meadows Dam (both sides of river)
Area located immediately northwest of French Meadows Dam
Area near bridge over the Middle Fork American River, upstream French Meadows Reservoir
<b>Duncan Creek Diversion Dam Area</b>
Area on north side of Duncan Creek Diversion Dam
Area near Duncan Creek Gage and Weir, upstream of Duncan Creek Diversion Dam
Area near new bridge crossing Duncan Canyon on the road to the Grizzly, etc.
<b>Hell Hole Reservoir Area</b>
Area on west side of Hell Hole Reservoir, between dam and Hell Hole Boat Ramp
Grey Horse Area
<b>Long Canyon Area</b>
Area surrounding South Fork Long Canyon Diversion Dam
Areas along South Fork Long Canyon Creek, downstream of South Fork Long Canyon Diversion Dam
<b>Middle Fork Interbay Area</b>
Shoreline area surrounding Middle Fork Interbay
<b>Ralston Afterbay Area</b>
Ralston Afterbay Sediment Disposal Area

**Table CUL 1-2. Project Recreation Areas (continued).**

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**Dispersed Concentrated Use Areas (continued)**

**Ralston Afterbay Area (continued)**

Shoreline area surrounding Ralston Afterbay

Area along Middle Fork American River, between Ralston Picnic Area and the new gage

Area at confluence of North Fork of the Middle Fork American River and Middle Fork American River

Indian Bar, Willow Bar, and Junction Bar Areas

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**Table CUL 1-3. Potential Project Betterments.**

**Hell Hole Reservoir Seasonal Storage Increase**

<b>Hell Hole Dam</b>
<b>Modified Facilities</b>
Hell Hole Dam Spillway Crest Gates
Hell Hole Dam Parapet Walls
<b>New Facilities</b>
Hell Hole Dam Spillway Crest Gates Control Building
Hell Hole Dam Spillway Crest Gates Control Building Powerline
<b>Temporary Construction and Staging Areas</b>
Hell Hole Dam Spillway Crest Gates Construction Road
Hell Hole Dam Spillway Crest Gates Construction Work Area
Hell Hole Dam Spillway Crest Gates and Control Building Construction Staging Area
Hell Hole Dam Parapet Wall Construction Staging and Work Area
Hell Hole Dam Spillway Crest Gates Control Building Construction Work Area
Hell Hole Dam Spillway Crest Gates Control Building Powerline Construction Work Area
Hell Hole Dam Spillway Crest Gates Control Building Powerline Construction Staging Area
<b>Hell Hole-Middle Fork Tunnel Gatehouse</b>
<b>Modified Facilities</b>
Hell Hole - Middle Fork Tunnel Gatehouse Parapet Wall
<b>Temporary Construction and Staging Areas</b>
Hell Hole-Middle Fork Tunnel Gatehouse Parapet Wall Construction Staging and Work Area
<b>French Meadows Powerhouse</b>
<b>Modified Facilities</b>
French Meadows Powerhouse Parapet Wall
<b>Temporary Construction and Staging Areas</b>
French Meadows Powerhouse Parapet Wall Construction Staging and Work Area
<b>South Fork Long Canyon Diversion</b>
<b>Modified Facilities</b>
South Fork Long Canyon Diversion Dam Crest Gates
<b>New Facilities</b>
South Fork Long Canyon Diversion Dam Crest Gates Generator Building
<b>Temporary Construction and Staging Areas</b>
South Fork Long Canyon Diversion Dam Crest Gates and Generator Building Construction Staging and Work Area

**French Meadows Powerhouse Capacity Upgrade**

<b>French Meadows Reservoir</b>
<b>Modified Facilities</b>
French Meadows - Hell Hole Tunnel Intake Trash Rack
<b>Temporary Construction and Staging Areas</b>
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Staging Area
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Work Area
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Road
<b>French Meadows Powerhouse</b>
<b>Modified Facilities</b>
French Meadows Powerhouse Switchyard
<b>New Facilities</b>
French Meadows Powerhouse

**Table CUL 1-3. Potential Project Betterments (continued).**

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**French Meadows Powerhouse Capacity Upgrade**

<b>French Meadows Powerhouse (continued)</b>
French Meadows Powerhouse Penstock
French Meadows - Hell Hole Tunnel Surge Shaft/Tank
French Meadows - Hell Hole Tunnel Surge Pipeline
French Meadows - Hell Hole Tunnel Surge Shaft or Pipeline Road
<b>Temporary Construction and Staging Areas</b>
French Meadows Powerhouse/Switchyard Construction Work Area
French Meadows Powerhouse/Switchyard Construction Staging Area
French Meadows Powerhouse Penstock Construction Work Area
French Meadows Powerhouse Penstock Construction Staging Areas
French Meadows - Hell Hole Tunnel Surge Shaft/Tank or Pipeline Construction Staging Areas
French Meadows - Hell Hole Tunnel Surge Shaft/Tank Construction Work Area
French Meadows - Hell Hole Tunnel Surge Pipeline Construction Work Area
French Meadows - Hell Hole Tunnel Surge Shaft or Pipeline Road Construction Staging and Work Area
<b>Non-Project Facilities Modified During Construction</b>
Forest Road 14N09A
Forest Road 14N09A Construction Staging and Work Area
<b>Middle Fork Powerhouse</b>
<b>Modified Facilities</b>
Middle Fork Powerhouse Upper and Lower Switchyard

**Ralston Powerhouse Capacity Upgrade**

<b>Ralston Powerhouse</b>
<b>Modified Facilities</b>
Ralston Powerhouse
<b>Temporary Construction and Staging Areas</b>
Ralston Powerhouse Construction Staging Area