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2.0 ELEMENTS ANALYZED

The following describes elements analyzed in this Supplemental Filing including:

- Construction, operation, and maintenance of four Project gages and associated features proposed in Placer County Water Agency's (PCWA's) Application for New License (herein, referred to as the Final License Application [FLA]) for the Middle Fork American River Project (MFP or Project) (PCWA 2011);
- Instream flow and reservoir minimum pool conditions provided in the United States Department of Agriculture-Forest Service (USDA-FS) preliminary Section 4(e) conditions (USDA-FS 2011), California Department of Fish and Game (CDFG) Section 10(j) recommendations (CDFG 2011), and United States Department of the Interior (DOI) Section 10(a) recommendations (DOI 2011);
- Additional recreation enhancements (facilities and features) in the Recreation Plan provided in USDA-FS preliminary Section 4(e) conditions and CDFG Section 10(j) recommendations;
- Vegetation and pest management activities described in the revised Vegetation and Integrated Pest Management Plan (VIPMP) (Attachment 1A) agreed upon by the MFP stakeholders in November 2011;
- Road and trail maintenance activities described in the revised Transportation System Management Plan (TSMP) (Attachment 1B) agreed upon by MFP stakeholders in November 2011;
- Project effects on cultural resources with consideration of site-specific management measures and general procedural requirements described in the Draft Final Historic Properties Management Plan (HPMP) (Volume 3) agreed upon by MFP stakeholders in November 2011.

Project facilities and features, and Project recreation facilities and features included in this analysis are listed in Tables 2-1 and 2-2. Tables 2-3 through 2-7 include information related to routine facilities inspections, testing, and maintenance activities at Project facilities and features, Project roads and trails, and Project recreation facilities and features, respectively. The location of Project facilities and features and Project recreation facilities and features are depicted on Maps 2-1a-g and Maps 2-2a-g. Each element analyzed is described in detail below.

2.1 CONSTRUCTION, OPERATION, AND MAINTENANCE OF FOUR NEW PROJECT GAGES

The FLA identified four new gages and associated features to be constructed as part of PCWA's Proposed Action at the following locations:

- North Fork Long Canyon Creek below Diversion Dam;
- South Fork Long Canyon Creek below Diversion Dam;
- Middle Fork American River below Interbay Dam; and
- North Fork American River above American River Pump Station.

At the time of submittal of the FLA, the precise location of these gages had not been determined. In the FLA, Section 4.1.6.1, PCWA stated that “Project-specific National Environmental Policy Act (NEPA) analysis will be conducted at a later date and all necessary permits and approvals will be obtained prior to implementation of any construction activities”. Following submittal of the FLA, PCWA developed the necessary information to complete environmental analysis on the four new gages under NEPA, including: (1) identification of the specific location of the gages; (2) development of site-specific construction activities; (3) description of future operation and maintenance activities; and (4) identification of biological and cultural resources in the vicinity of the proposed new gages and associated features.

PCWA will be responsible for construction, operation, and maintenance of each new gage and its associated features. Refer to Appendix A – Modified or New Facilities Construction Activities and Concept Designs for detailed information on construction activities and schedule; associated Best Management Practices (BMPs) and avoidance and protection measures (AP) (as applicable); and concept design drawings and/or maps for each new facility. Refer to Table 2-3 for maintenance activities that will occur at each new gage.

Section 3.0 describes potential impacts on environmental and cultural resources from construction, operation, and maintenance of the new gages and associated features. This analysis is supported by supplemental biological and cultural surveys conducted by PCWA in spring and summer 2011 (Attachment 2A; Volume 3).

2.2 RESOURCE AGENCIES PRELIMINARY CONDITIONS AND RECOMMENDATIONS

The following provides details of the resource agencies preliminary conditions and recommendations analyzed in this Supplemental Filing.

2.2.1 Instream Flow and Reservoir Minimum Pool Conditions

Specific resource agencies instream flow and reservoir minimum pool conditions proposed in USDA-FS preliminary Section 4(e) conditions, CDFG Section 10(j) recommendations, and DOI Section 10(a) recommendations include:

USDA-FS Preliminary Section 4(e) Conditions and CDFG Section 10(j) Recommendations

- Condition No. 22 – Minimum Streamflows;
- Condition No. 23 – Pulse Flows;
- Condition No. 24 – Ramping Rates;
- Condition No. 25 – Outages;
- Condition No. 39 – Recreation Streamflows in the Middle Fork American River Below Oxbow Powerhouse; and
- Condition No. 37 – Reservoir Minimum Pool Elevations and Reservoir Levels Recreation Objectives.

DOI Preliminary Section 10(a) Recommendations

- b2. – Minimum Streamflows;
- b3. – Peaking Reach Ramping Rate and Oxbow Powerhouse Operations;
- b4. – Outages; and
- b5. – Recreation Streamflows in the Middle Fork American River below Oxbow Powerhouse.

Section 3.0 describes potential impacts on environmental and cultural resources from implementation of resource agencies instream flow and reservoir minimum pool conditions.

2.2.2 Recreation Plan

The Recreation Plan proposed in USDA-FS preliminary Section 4(e) conditions and CDFG Section 10(j) recommendations includes the following enhancements (facilities and features):

Existing Recreation Trails Added to MFP

- Poppy Trail;
- Hell Hole Reservoir Trail; and
- Middle Fork American River above Ralston Afterbay Trail.

PCWA will be responsible for routine operation and maintenance, and heavy maintenance of these trails.

New Recreation Facilities and Features

- French Meadows Reservoir Trail; and
- Ellicott Bridge Parking Area.

PCWA will be responsible for construction, routine operation and maintenance, and heavy maintenance of these recreation facilities and features.

Replacement of Existing Recreation Features

- French Meadows North Shore Water Supply; and
- French Meadows South Shore Water Supply.

PCWA will be responsible for construction, routine operation and maintenance, and heavy maintenance of these existing water supply lines. The FLA described these facilities as being repaired and maintained under “routine heavy maintenance” activities (i.e., “repair and maintenance of potable water tanks, supply and distribution lines, and

valves and faucets”). In resource agencies preliminary conditions and recommendations, both of the French Meadows water supply systems will undergo more extensive improvements than previously contemplated in the FLA, and therefore are considered construction projects rather than heavy maintenance activities.

Routine operation and maintenance activities and routine heavy maintenance activities at Project recreation facilities and features included under Alternative 1 are identified on Tables 2-6 and 2-7, respectively. Construction activities required to implement the Recreation Plan are provided in Appendix A – Modified or New Facilities Construction Activities and Concept Designs. Appendix A also identifies associated BMPs and AP measures (as applicable), and concept design drawings and/or maps for each new facility.

Section 3.0 describes potential impacts on environmental and cultural resources from construction, operation, and maintenance of the recreation facilities and features included in the Recreation Plan. This analysis is supported by supplemental biological and cultural surveys conducted by PCWA in spring and summer 2011.

2.3 STAKEHOLDER AGREED UPON MANAGEMENT PLANS

In November 2011, PCWA and MFP stakeholders reached consensus on revisions to the VIPMP (Attachment 1A), TSMP (Attachment 1B), and HPMP (Volume 3). It is anticipated that the resource agencies will be filing with FERC these revised stakeholder agreed upon management plans as modified preliminary terms and conditions for the MFP. The attached stakeholder agreed upon VIPMP, TSMP, and HPMP are analyzed in this Supplemental Filing. Each management plan is described below.

2.3.1 Vegetation and Integrated Pest Management Plan

The VIPMP includes: (1) Project facilities and features, Project roads and trails, and Project recreation facilities and features identified in PCWA’s Proposed Action where vegetation and pest management is implemented; and (2) additional recreation facilities and features identified in the Recreation Plan provided in USDA-FS preliminary Section 4(e) conditions and CDFG Section 10(j) recommendations.

The VIPMP describes vegetation management (i.e., trimming by hand or with equipment and use of herbicides, surfactants, and fungicides) and pest management activities (i.e., noxious weed management and rodent control) to be implemented at Project facilities and features, Project roads and trails, and Project recreation facilities and features, as well as measures for the enhancement and/or protection of environmental and cultural resources during implementation of these activities.

Pest management conducted under the VIPMP includes both noxious weed management and rodent control. The noxious weed management program includes manual/chemical treatment of noxious weeds, measures to reduce the introduction or spread of noxious weeds, and implementation of a noxious weed training program. This program will enhance habitat for native plant and wildlife species in the MFP and could

promote establishment of new special-status plant populations through improved habitat conditions by reducing competition with invasive noxious weeds.

Rodent control, which includes both physical control (e.g., snap traps) and rodenticide use (e.g., over-the-counter rodenticides and fumigants), is necessary to protect the structural integrity of dams and prevent rodent infestations in building interiors. The VIPMP includes specific rodenticide application methods to be used to protect water quality and prevent secondary effects on raptors and other scavengers.

The VIPMP also identifies several measures to avoid and protect environmental resources including special-status plant and noxious weed inventory surveys, Water Quality Monitoring for Chemical Treatment Program, Environmental Training Program (ETP), and annual consultation with resource agencies.

Section 3.0 describes potential impacts on environmental and cultural resources from implementation of vegetation and pest management activities in the VIPMP. This analysis is supported by supplemental biological and cultural surveys conducted by PCWA in spring and summer 2011.

2.3.2 Transportation System Management Plan

The TSMP includes: (1) Project roads, Project trails, and Project recreation facility access roads identified in the Proposed Action; and (2) additional Project trails and a Project recreation facility parking area identified in the Recreation Plan provided in USDA-FS preliminary Section 4(e) conditions and CDFG Section 10(j) recommendations.

The TSMP identifies PCWA's responsibilities over the term of the new license related to the operation and maintenance of: (1) Project roads and trails; and (2) Project recreation facility access roads. Specific commitments and measures identified in the TSMP include funding of land management agency administrative oversight activities, implementation of routine annual and periodic maintenance activities, documenting road and trail conditions, implementation of special road and trail projects, and conducting traffic counts. The TSMP also includes measures for the protection of environmental and cultural resources and consultation with appropriate land management agencies. Measures to protect cultural resources during road and trail maintenance activities are provided in the HPMP.

Section 3.0 describes potential impacts on environmental and cultural resources from implementation of road and trail maintenance activities in the TSMP. This analysis is supported by supplemental biological and cultural surveys conducted by PCWA in spring and summer 2011.

2.3.3 Draft Final Historic Properties Management Plan

The HPMP addresses Project operation, maintenance and construction activities at: (1) Project facilities and features, Project roads and trails, and Project recreation facilities and features identified in PCWA's Proposed Action; and (2) additional

recreation facilities and features identified in the Recreation Plan provided in USDA-FS preliminary Section 4(e) conditions and CDFG Section 10(j) recommendations.

The HPMP describes measures that PCWA will implement to manage the four properties located within the MFP Area of Potential Effect (APE) that are eligible for the National Register of Historic Places (NRHP). The HPMP also describes: (1) how PCWA will manage Project activities that may affect paleontological resources (although to date, none have been identified in the Project vicinity); and (2) monitoring of cultural resources within the APE over the term of the license. Measures to manage vegetation and pest management activities in the vicinity of potential traditional cultural properties (including traditional gathering areas) are included in the VIPMP.

Section 3.0 describes potential impacts on environmental and cultural resources from implementation of project activities included under Alternative 1. This analysis is supported by supplemental biological and cultural surveys conducted by PCWA in spring and summer 2011.

LITERATURE CITED

California Department of Fish and Game (CDFG). 2011. Response to Notice of Ready for Environmental Analysis, Federal Power Act Section 10(j) and 10(a) Recommendations, Middle Fork American River Project (FERC Project No. 2079-069). Filed with FERC August 5, 2011.

Placer County Water Agency (PCWA). 2011. Application for New License. Filed with FERC February 23, 2011.

United States Department of Agriculture-Forest Service (USDA-FS). 2011. Preliminary Section 4(e) Terms and Conditions, Middle Fork American River Project, FERC No. 2079. Filed with FERC August 5, 2011.

United States Department of the Interior (DOI). 2011. Middle Fork American River Project, FERC No. 2079-069, Department of the Interior's Response to Commission's June 7, 2011, Notice that Project is Ready for Environmental Analysis. Filed with FERC August 5, 2011.

TABLES

Table 2-1. Alternative 1 - Project Facilities and Features.
 [Items in red represent a change from the No-Action Alternative]

Dams, Reservoirs, and Diversion Pools
Large Dams
French Meadows Dam and Outlet Works (modified)
Hell Hole Dam and Outlet Works (modified)
Medium Dams
Middle Fork Interbay Dam and Outlet Works (modified)
Ralston Afterbay Dam and Outlet Works
Small Dams
Duncan Creek Diversion Dam (modified)
North Fork Long Canyon Diversion Dam (modified)
South Fork Long Canyon Diversion Dam (modified)
Large Reservoirs
French Meadows Reservoir
Hell Hole Reservoir
Medium Reservoirs
Middle Fork Interbay
Ralston Afterbay
Small Diversion Pools
Duncan Creek Diversion Pool (modified)
North Fork Long Canyon Diversion Pool (modified)
South Fork Long Canyon Diversion Pool (modified)
Water Conveyance Systems
Tunnels
Duncan Creek - Middle Fork Tunnel
French Meadows - Hell Hole Tunnel
Hell Hole - Middle Fork Tunnel
Middle Fork - Ralston Tunnel
Ralston - Oxbow Tunnel
Diversion Pipes and Drop Inlets
North Fork Long Canyon Diversion Pipe and Drop Inlet
South Fork Long Canyon Diversion Pipe and Drop Inlet
Surge Shafts and Adits
Brushy Canyon Adit
Hell Hole - Middle Fork Tunnel Surge Shaft and Tank
Middle Fork - Ralston Tunnel Surge Shaft and Tank
Removable Sections and Portals
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
Intakes and Gatehouses
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 2-1. Alternative 1 - Project Facilities and Features.

[Items in red represent a change from the No-Action Alternative]

Water Conveyance Systems (continued)
Penstocks and Valve Houses
French Meadows Powerhouse Penstock and Butterfly Valve House
Middle Fork Powerhouse Penstock and Butterfly Valve House
Ralston Powerhouse Penstock and Butterfly Valve House
Powerhouses, Switchyards, and Substations
French Meadows Powerhouse and Switchyard
Hell Hole Powerhouse
Hell Hole Substation
Middle Fork Powerhouse and Upper and Lower Switchyards
Ralston Powerhouse and Switchyard
Oxbow Powerhouse and Switchyard
Gaging Stations and Weirs
Stream Gages and Weirs
Duncan Creek near French Meadows (USGS Gage No. 11427700) (interim) ¹
Duncan Creek below Diversion Dam (USGS Gage No. 11427750)
Middle Fork American River at French Meadows (USGS Gage No. 11427500)
Middle Fork American River at French Meadows Dam (new) ²
Rubicon River at Hell Hole Dam Spillway (HHDS) (new) ²
Rubicon River below Hell Hole Dam (USGS Gage No. 11428800) (interim) ¹
Rubicon River at Hell Hole Dam (new) ²
North Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433085) (interim) ¹
North Fork Long Canyon Creek below Diversion Dam (NFLCC) (new) ²
South Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433065) (interim) ¹
South Fork Long Canyon Creek below Diversion Dam (SFLCC) (new) ²
Middle Fork American River below Interbay Dam (USGS Gage No. 11427770) (interim) ¹
Middle Fork American River above Middle Fork Powerhouse (USGS Gage No. 11427760)
Middle Fork American River below Interbay Dam (MFARIB) (new) ²
Middle Fork American River near Foresthill (USGS Gage No. 11433300)
Middle Fork American River at Ralston Afterbay Dam (new) ²
Rubicon River above Ralston Powerhouse (RRRP) (existing, added to MFP) ³
North Fork American River above American River Pump Station (NFARPS) (new) ²
Rubicon River above Ellicott Bridge (RREB) (existing, added to MFP) ³
Diversion Gages
Duncan Creek Diversion Tunnel (DCDT) (new) ²
North Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433080) (modified)
South Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433060) (modified)
Reservoir Gages
French Meadows Reservoir (USGS Gage No. 11427400)
French Meadows Reservoir Staff Gage
Hell Hole Reservoir (USGS Gage No. 11428700)
Hell Hole Reservoir Staff Gage
Middle Fork Interbay Reservoir
Ralston Afterbay Reservoir
Powerhouse Gages
French Meadows Powerhouse (USGS Gage No. 11427200)
Middle Fork Powerhouse (USGS Gage No. 11428600)
Ralston Powerhouse (USGS Gage No. 11427765)
Oxbow Powerhouse (USGS Gage No. 11433212)
Oxbow Powerhouse Penstock (OXBPP) (new) ²

Table 2-1. Alternative 1 - Project Facilities and Features.

[Items in red represent a change from the No-Action Alternative]

Gaging Stations and Weirs (continued)
Leakage Weirs
French Meadows Dam Leakage Weirs Nos. 1-6
Hell Hole Dam Leakage Weir
Project Communication Lines and Powerlines
French Meadows Area
French Meadows Dam Generator Building to French Meadows Dam Outlet Works Powerline
French Meadows Dam Generator Building to French Meadows Dam Spillway Gates Powerline
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 below Hell Hole Dam Communication Line/Powerline
Hell Hole Dam Spillway Crest Gates Control Building Communication Line/Powerline (new)²
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 at Duncan Creek Gage near French Meadows
Photovoltaic Pole and Powerline at Duncan Creek Gage below Diversion Dam
Photovoltaic Pole and Powerline at Duncan Creek Gage at Diversion Tunnel (new)²
Photovoltaic Pole and Powerline at Middle Fork American River Gage at French Meadows
Photovoltaic Pole and Powerline at Middle Fork American River Gage above Middle Fork Powerhouse
Photovoltaic Pole and Powerline at Middle Fork American River Gage below Interbay Dam (new)²
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam (new)²
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam (new)²
Photovoltaic Pole and Powerline at Rubicon River Gage above Ralston Powerhouse (existing, added to MFP)⁴
Photovoltaic Pole and Powerline at Middle Fork American River Gage near Foresthill
Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new)²
Photovoltaic Pole and Powerline at Rubicon River Gage above Ellicott Bridge (existing, added to MFP)⁴
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 Areas
Duncan Creek Diversion Sediment Disposal Area
North Fork Long Canyon Crossing Sediment Disposal Area
Middle Fork Interbay Sediment Disposal Area

Table 2-1. Alternative 1 - Project Facilities and Features.
 [Items in red represent a change from the No-Action Alternative]

Disposal Areas (continued)
Ralston Ridge Sediment Disposal Area
Sediment Augmentation Areas
Middle Fork Interbay Augmentation Areas (new)
Junction Bar Augmentation Area (new)
Indian Bar Augmentation Area (existing, added to MFP) ⁴
Ancillary Facilities
French Meadows Dam Generator Building
French Meadows Dam Staging Area
Dormitory Facility
Dormitory and Cottages Water Supply Tank
Hell Hole Staging Areas
Operator Cottages and Shop
Hell Hole Dam Spillway Crest Gates Control Building (new) ²
Ralston Afterbay Dam Generator Building
Storage Building at Middle Fork - Ralston Tunnel Surge Shaft and Tank
Ralston Afterbay Sediment Removal Access Point (converted)⁵
Project Fences
Slope Fences
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
Ralston Powerhouse Penstock and Butterfly Valve House Slope Fences
Ralston Powerhouse Slope Fence
Oxbow Powerhouse Slope Fence
Public Safety Fences
Dormitory Facility Barrier Fence
Hell Hole Dam General Parking Area Barrier Fence
North Fork Long Canyon Crossing Removable Section Barrier Fence
Project Roads
Duncan Creek Area
Duncan Creek Diversion Intake Road
Duncan Creek Diversion Dam Road
Duncan Creek Diversion Pool Road
French Meadows Area
Duncan Creek - Middle Fork Tunnel Portal Road
French Meadows - Hell Hole Tunnel Gatehouse Road
French Meadows Dam Outlet Works and South Leakage Weir Road
French Meadows Dam Staging Area and Spillway West Access Road
French Meadows Spillway East Access Road
French Meadows Dam North Leakage Weir Road
French Meadows South Shore Water Supply Access Road (French Meadows Campground Water Supply Facility Access Road)
Hell Hole Area
Hell Hole Dam and Powerhouse Road
Rubicon River Gage below Hell Hole Dam Road
Hell Hole Dam Leakage Weir Road
Hell Hole Dam Spillway Northern Access Point Road

Table 2-1. Alternative 1 - Project Facilities and Features.
 [Items in red represent a change from the No-Action Alternative]

Project Roads (continued)
Hell Hole Area (continued)
French Meadows - Hell Hole Tunnel Portal Road
French Meadows Powerhouse Road
Hell Hole - Middle Fork Tunnel Gatehouse Road
Dormitory Facility Road
Operator Cottages and Shop Road
Spur on North Side of Operator Cottage
Spur on South Side of Operator Cottage
Hell Hole Dam Spillway Discharge Channel Road Spur to Communication Line/Powerline
Hell Hole Dam Spillway Discharge Channel Road
Big Meadows Campground Water Supply Facility Access Road
Hell Hole Dam Spillway Gates Road (new) ²
Long Canyon Area
North Fork Long Canyon Diversion North Road
North Fork Long Canyon Diversion South Road
North Fork Long Canyon Diversion Drop Inlet Road
South Fork Long Canyon Diversion and Drop Inlet Road
South Fork Long Canyon Diversion and Drop Inlet Cutoff Road
South Fork Long Canyon Diversion Drop Inlet Access Road
North Fork Long Canyon Crossing Removable Section North Road
North Fork Long Canyon Crossing Removable Section South Road
Middle Meadows Group Campground Water Supply Facility Access Road
Middle Fork Interbay Area
Middle Fork Interbay Dam Road
Middle Fork Interbay Dam to Powerhouse Road
Middle Fork Powerhouse Butterfly Valve House Road
Middle Fork Powerhouse Penstock and Butterfly Valve House Road
Middle Fork Powerhouse Upper Switchyard Road
Ralston - Oxbow Area
Brushy Canyon Adit Road
Ralston Powerhouse Butterfly Valve House Road
Ralston Afterbay Dam Access Road
Indian Bar Access Road
Oxbow Powerhouse Road
Ralston - Oxbow Tunnel Intake Road
Ralston Afterbay Private Boat Ramp Road
Ralston Afterbay Dam and Access Point Road
Project Trails
Duncan Creek Area
Duncan Creek Diversion Dam North Trail
Duncan Creek Diversion Dam South Trail
Photovoltaic Poles and Powerline at Duncan Creek Gage near French Meadows Trail
Duncan Creek Gage and Weir near French Meadows Trail
Duncan Creek Gage below Diversion Dam Access Trail
French Meadows Area
Poppy Trail (existing, added to MFP) ³
French Meadows Reservoir Trail (new) ²

Table 2-1. Alternative 1 - Project Facilities and Features.
 [Items in red represent a change from the No-Action Alternative]

Project Trails (continued)
Hell Hole Area
Hell Hole Reservoir Trail (existing, added to MFP) ³
Long Canyon Area
North Fork Long Canyon Creek Gage below Diversion Dam Trail (new) ²
South Fork Long Canyon Creek Gage below Diversion Dam Trail (new) ²
Middle Fork Interbay Area
Middle Fork American River Gage above Middle Fork Powerhouse Trail
Passive Microwave Reflector Station above Middle Fork Interbay Trail
Middle Fork American River Access Trail below Interbay Dam (new) ²
Ralston Afterbay Area
Passive Microwave Reflector Station above Ralston Afterbay Trail
Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP) ³
Middle Fork American River above Ralston Afterbay Access Trail (existing, added to MFP) ³
North Fork American River Gage above American River Pump Station Trail (new) ²

¹Existing gage to remain in place until infrastructure modification is complete.

²This facility or feature will be constructed under the new license.

³Existing gage or trail now required for Project operation and maintenance.

⁴Existing facility that has been added to the Project.

⁵Converted to Ralston Afterbay Sediment Removal Access Point Boat Ramp.

Table 2-2. Alternative 1 - Project Recreation Facilities and Features.
 [Items in red represent a change from the No-Action Alternative]

Duncan Creek Area
Duncan Creek Diversion Primitive Recreation Site (new)
French Meadows Area
Ahart Campground (reduce, enhance)
Coyote Group Campground (enhance)
Poppy Campground (reduce, enhance)
French Meadows Campground (reduce, enhance)
Gates Group Campground (enhance)
Lewis Campground (reduce, enhance)
French Meadows Picnic Area (reduce, enhance)
French Meadows Boat Ramp (enhance)
French Meadows RV Dump Station (enhance)
McGuire Picnic Area and Beach (convert) ¹
McGuire Group Campground (new)
McGuire Boat Ramp and Associated Parking (enhance, consolidate)
Poppy Trail (existing, added to MFP) ²
French Meadows Reservoir Trail (new) ³
Hell Hole Area
Big Meadows Campground (enhance)
Hell Hole Campground (enhance, potentially convert, potentially reduce)
Upper Hell Hole Campground (remove)
Hell Hole Vista (enhance)
Hell Hole Boat Ramp (enhance)
Hell Hole General Parking Area and Hell Hole Boat Ramp Parking Area (enhance)
Ellicott Bridge Parking Area (new) ³
Hell Hole Reservoir Trail (existing, added to MFP) ²
Long Canyon Area
Middle Meadows Group Campground
Ralston Afterbay Area
Ralston Picnic Area (reduce, enhance)
Ralston Afterbay Sediment Removal Access Point Boat Ramp (new) ⁴
Indian Bar Rafting Access (enhance)
Middle Fork American River above Ralston Afterbay Access Trail (existing, added to MFP) ²
Project Recreation Facility Water Supplies
French Meadows North Shore Water Supply (Dolly Creek Water Supply) (replace)
French Meadows South Shore Water Supply (French Meadows Campground Water Supply) (replace)
Big Meadows Campground Water Supply
Middle Meadows Group Campground Water Supply

¹This facility will be converted to the McGuire Group Campground.
²Existing trail now required for Project operation and maintenance.
³This facility or feature will be constructed under the new license.
⁴This facility replaces the Ralston Afterbay Sediment Removal Access Point.

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailrater Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Dams, Reservoirs, and Diversion Pools																					
Large Dams																					
French Meadows Dam and Outlet Works (modified)		A	A	A	X			X													
Hell Hole Dam and Outlet Works (modified)	A ²	A	A	A	X			X													
Medium Dams																					
Middle Fork Interbay Dam and Outlet Works (modified)		A	A					X													
Ralston Afterbay Dam and Outlet Works		A	A					X													
Small Dams																					
Duncan Creek Diversion Dam (modified)			A																		
North Fork Long Canyon Diversion Dam (modified)			A		X																
South Fork Long Canyon Diversion Dam (modified)			A																		
Large Reservoirs																					
French Meadows Reservoir																			X		
Hell Hole Reservoir																		I	X		
Medium Reservoir																					
Middle Fork Interbay												I		I ³			I	R	X		
Ralston Afterbay												I		I ³			I	R	X		

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailner Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Small Diversions		Medium Reservoirs		Gunitite (erosion control)	Rock Removal/Fence Repair	Large Woody Debris	Cleaning Trash Racks			Log Booms	
										Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment								Sediment Augmentation
Dams, Reservoirs, and Diversion Pools (continued)																					
Small Diversion Pools																					
Duncan Creek Diversion Pool																					
Pre-modification of diversion dam			A							+	I					R	*				
Post modification of diversion dam			A									I									
North Fork Long Canyon Diversion Pool																					
Pre-modification of diversion dam			A		X					+	I					R					
Post modification of diversion dam			A		X							I									
South Fork Long Canyon Diversion Pool																					
Pre-modification of diversion dam			A		X					+	I					R					
Post modification of diversion dam			A		X							I									
Water Conveyance Systems																					
Tunnels																					
Duncan Creek - Middle Fork Tunnel																					
French Meadows - Hell Hole Tunnel																					
Hell Hole - Middle Fork Tunnel																					
Middle Fork - Ralston Tunnel																					
Ralston - Oxbow Tunnel	A																				
Diversion Pipes and Drop Inlets																					
North Fork Long Canyon Diversion Pipe and Drop Inlet			A																		
South Fork Long Canyon Diversion Pipe and Drop Inlet			A																		

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management				Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit	
										Small Diversions		Medium Reservoirs									
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailner Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair	Large Woody Debris			Cleaning Trash Racks
Water Conveyance Systems (continued)																					
Penstocks and Valve Houses																					
French Meadows Powerhouse Penstock and Butterfly Valve House			A		A															I	
Middle Fork Powerhouse Penstock and Butterfly Valve House			A		A	X									I					I	
Ralston Powerhouse Penstock and Butterfly Valve House			A		A															I	
Powerhouses, Switchyards, and Substations																					
French Meadows Powerhouse and Switchyard	A		A		A	X	X	X													
Hell Hole Powerhouse	A		A			X	X	X													
Hell Hole Substation			A			X	X	X													
Middle Fork Powerhouse and Upper and Lower Switchyards	A		A		A	X	X	X													
Ralston Powerhouse and Switchyard	A		A		A	X	X	X													
Oxbow Powerhouse and Switchyard	A		A		A	X	X	X													
Gaging Stations and Weirs																					
Stream Gages and Weirs																					
Duncan Creek near French Meadows (USGS Gage No. 11427700) (interim) ⁴			A																		
Duncan Creek below Diversion Dam (USGS Gage No. 11427750)			A																		
Middle Fork American River at French Meadows (USGS Gage No. 11427500)			A																		

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																			
	Inspections & Maintenance		Vegetation Management			Pest Management				Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailrater Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Small Diversions		Medium Reservoirs		Guniting (erosion control)	Rock Removal/Fence Repair	Large Woody Debris	Cleaning Trash Racks	Log Booms		
										Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment							
Gaging Stations and Weirs (continued)																				
Stream Gages and Weirs (continued)																				
Middle Fork American River at French Meadows Dam (new) ⁵						X														
Rubicon River at Hell Hole Dam Spillway (HHDS) (new) ⁵																				
Rubicon River below Hell Hole Dam (USGS Gage No. 11428800) (interim) ⁴			A																	
Rubicon River at Hell Hole Dam (new) ⁵																				
North Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433085) (interim) ⁴			A			X														
North Fork Long Canyon Creek below Diversion Dam (NFLCC) (new) ⁵			A			X														
South Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433065) (interim) ⁴			A																	
South Fork Long Canyon Creek below Diversion Dam (SFLCC) (new) ⁵			A																	
Middle Fork American River below Interbay Dam (USGS Gage No. 11427770) (interim) ⁴			A			X														
Middle Fork American River above Middle Fork Powerhouse (USGS Gage No. 11427760)			A			X														

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management				Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit	
										Small Diversions		Medium Reservoirs									
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailner Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunite (erosion control)	Rock Removal/Fence Repair	Large Woody Debris			Cleaning Trash Racks
Gaging Stations and Weirs (continued)																					
Stream Gages and Weirs (continued)																					
Middle Fork American River below Interbay Dam (MFARIB) (new) ⁵			A			X															
Middle Fork American River near Foresthill (USGS Gage No. 11433300)			A																		
Middle Fork American River at Ralston Afterbay Dam (new) ⁵			A			X															
Rubicon River above Ralston Powerhouse (RRRP) (existing, added to MFP) ⁶			A			X															
North Fork American River above American River Pump Station (NFARPS) (new) ⁵			A			X															
Rubicon River above Ellicott Bridge (RREB) (existing, added to MFP) ⁶			A			X															
Diversion Gages																					
Duncan Creek Diversion Tunnel (DCDT) (new) ⁵																					
North Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433080) (modified)						X															
South Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433060) (modified)																					
Reservoir Gages																					
French Meadows Reservoir (USGS Gage No. 11427400)																					

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailner Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Gaging Stations and Weirs (continued)																					
Reservoir Gages (continued)																					
French Meadows Reservoir Staff Gage						X															
Hell Hole Reservoir (USGS Gage No. 11428700)																					
Hell Hole Reservoir Staff Gage																					
Middle Fork Interbay Reservoir						X															
Ralston Afterbay Reservoir																					
Powerhouse Gages																					
French Meadows Powerhouse (USGS Gage No. 11427200)						X															
Middle Fork Powerhouse (USGS Gage No. 11428600)						X															
Ralston Powerhouse (USGS Gage No. 11427765)						X															
Oxbow Powerhouse (USGS Gage No. 11433212)						X															
Oxbow Powerhouse Penstock (OXBPP) (new) ⁵						X															
Leakage Weirs																					
French Meadows Dam Leakage Weirs Nos. 1-6			A																		
Hell Hole Dam Leakage Weir			A			X															

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailrater Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Project Communication Lines and Powerlines																					
French Meadows Area																					
French Meadows Dam Generator Building to French Meadows Dam Outlet Works Powerline			A			X														S	
French Meadows Dam Generator Building to French Meadows Dam Spillway Gates Powerline			A																	S	
Hell Hole Area																					
French Meadows Powerhouse to French Meadows Powerhouse Penstock and Butterfly Valve House Communication Line/Powerline			A		A															S	
French Meadows Powerhouse and Switchyard to Hell Hole - Middle Fork Tunnel Gatehouse, Dormitory Facility, Operator's Cottages, and Hell Hole Powerhouse Communication Line/Powerline			A																	S	
Dormitory and Cottages Water Supply Tank Powerline			A																	S	
Hell Hole Powerhouse to Rubicon River Gage below Hell Hole Dam Communication Line/Powerline			A			X														S	
Hell Hole Dam Spillway Crest Gates Control Building Communication Line/Powerline (new) ⁵																					
Middle Fork Interbay Area																					
Middle Fork Powerhouse to Middle Fork Powerhouse Butterfly Valve House Communication Line/Powerline			A		A															S	

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailner Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Project Communication Lines and Powerlines (continued)																					
Middle Fork Interbay Area (continued)																					
Middle Fork Powerhouse Butterfly Valve House to Radio Repeater near Hell Hole - Middle Fork Tunnel Surge Tank (underground) Communication Line/Powerline			A			X														S	
Middle Fork Powerhouse to Middle Fork - Ralston Tunnel Intake and Gatehouse Communication Line/Powerline			A			X														S	
Middle Fork Powerhouse to Middle Fork American River Gage above Middle Fork Powerhouse Communication Line/Powerline			A			X														S	
Ralston - Oxbow Area																					
Ralston - Oxbow Tunnel Intake to Ralston Powerhouse Communication Line			A			X														S	
Ralston Powerhouse to Ralston Powerhouse Butterfly Valve House Communication Line/Powerline			A		A	X														S	
Ralston Afterbay Dam Generator Building to Ralston-Oxbow Tunnel Intake Communication Line/Powerline			A			X														S	
Oxbow Powerhouse to Ralston Afterbay Dam Generator Building Communication Line/Powerline			A			X														S	
Photovoltaic Poles and Powerlines																					
Photovoltaic Poles and Powerline at Duncan Creek Gage near French Meadows			A																		

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailrater Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Project Communication Lines and Powerlines (continued)																					
Photovoltaic Poles and Powerlines (continued)																					
Photovoltaic Pole and Powerline at Duncan Creek Gage below Diversion Dam			A																		
Photovoltaic Pole and Powerline at Duncan Creek Gage at Diversion Tunnel (new) ⁵			A		X																
Photovoltaic Pole and Powerline at Middle Fork American River Gage at French Meadows			A		X																
Photovoltaic Pole and Powerline at Middle Fork American River Gage above Middle Fork Powerhouse			A																		
Photovoltaic Pole and Powerline at Middle Fork American River Gage below Interbay Dam (new) ⁵			A		X																
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam			A																		
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam (new) ⁵			A		X																
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam			A																		
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam (new) ⁵			A																		
Photovoltaic Pole and Powerline at Rubicon River Gage above Ralston Powerhouse (existing, added to MFP) ⁷			A																		

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature [Items in red represent a change from the No-Action Alternative]	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management			Sediment Management				Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retirofit		
									Small Diversions		Medium Reservoirs										
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tailrater Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Project Communication Lines and Powerlines (continued)																					
Photovoltaic Poles and Powerlines (continued)																					
Photovoltaic Pole and Powerline at Middle Fork American River Gage near Foresthill			A																		
Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new) ⁵			A		X																
Photovoltaic Pole and Powerline at Rubicon River Gage above Ellicott Bridge (existing, added to MFP) ⁷			A		X																
Microwave Reflectors and Radio Towers																					
Passive Microwave Reflector Station above Middle Fork Interbay			I																		
Radio Communications Tower near French Meadows - Hell Hole Tunnel Gatehouse			I																		
Radio Communications Tower and Repeater near Hell Hole - Middle Fork Tunnel Surge Shaft and Tank			I																		
Passive Microwave Reflector Station above Ralston Afterbay			I		X																
Disposal Areas																					
Duncan Creek Diversion Sediment Disposal Area																					
North Fork Long Canyon Crossing Sediment Disposal Area					X																
Middle Fork Interbay Sediment Disposal Area					X																
Ralston Ridge Sediment Disposal Area					X																

Table 2-3. Alternative 1 - Description of Routine Facility Inspections, Testing, and Maintenance Activities at Project Facilities and Features.

Project Facility or Feature <i>[Items in red represent a change from the No-Action Alternative]</i>	Inspections, Testing, and Maintenance Activities																				
	Inspections & Maintenance		Vegetation Management			Pest Management				Sediment Management			Slope Stabilization (Falling Rock Control)		Debris Management			Facility Painting	Pole Replacement/Retrofit		
	Tunnel and Powerhouse Inspection, Testing, and Maintenance	Spillway & Tainter Gate Testing	Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ¹	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Gunitite (erosion control)	Rock Removal/Fence Repair			Large Woody Debris	Cleaning Trash Racks
Project Fences																					
Slope Fences																					
Long Canyon Crossing Slope Fence			I													A					
Middle Fork Powerhouse Upper Switchyard Slope Fence					I	X										A					
Middle Fork Interbay Dam Slope Fence																A					
Ralston Powerhouse Penstock and Butterfly Valve House Slope Fences					I	X										A					
Ralston Powerhouse Slope Fence					I	X										A					
Oxbow Powerhouse Slope Fence					I	X										A					
Public Safety Fences																					
Dormitory Facility Barrier Fence																A					
Hell Hole Dam General Parking Area Barrier Fence						X										A					
North Fork Long Canyon Crossing Removable Section Barrier Fence						X										A					

A = Activity occurs on an annual basis.

I = Activity occurs on an infrequent basis.

R = Completed as-needed during diversion season.

S = Scheduled retrofit or replacement.

X = Activity occurs or ancillary facility is present.

¹Indicates areas where manual and chemical treatment of target noxious weed populations will be implemented. Manual and chemical treatments may be completed at other locations during the term of the license if new target noxious weed populations are identified during inventory surveys.

²Inspection of 1,000 feet of outlet conduit.

³Sediment augmentation will be implemented at Middle Fork Interbay Augmentation Areas, Junction Bar Augmentation Area, and Indian Bar Augmentation Area; and sediment disposal will occur at Project sediment disposal areas or other agency-approved disposal areas.

⁴Existing gage to remain in place until infrastructure modification is complete.

⁵This facility or feature will be constructed under the new license.

⁶Existing gage or trail now required for Project operation and maintenance.

⁷Existing facility that has been added to the Project.

⁸Material excavated from medium reservoirs will be placed at this sediment augmentation area.

⁹Converted to Ralston Afterbay Sediment Removal Access Point Boat Ramp. This facility is addressed under Project Recreation Facilities and Features.

Table 2-4. Alternative 1 - Description of Routine Maintenance at Project Roads and Trails.

Project Road or Trail [Items in red represent a change from the No-Action Alternative]	Annual Road and Trail Maintenance ¹	Vegetation Management			Pest Mgmt	Periodic Road and Trail Maintenance ³
		Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ²	
Project Roads						
Duncan Creek Area						
Duncan Creek Diversion Intake Road	X	A	A		X	X
Duncan Creek Diversion Dam Road	X	A	A			X
Duncan Creek Diversion Pool Road	X	A	A			X
French Meadows Area						
Duncan Creek - Middle Fork Tunnel Portal Road	X	A	A		X	X
French Meadows - Hell Hole Tunnel Gatehouse Road	X	A	A	I		X
French Meadows Dam Outlet Works and South Leakage Weir Road	X	A	A	A	X	X
French Meadows Dam Staging Area and Spillway West Access Road	X	A	A		X	X
French Meadows Spillway East Access Road	X	A	A		X	X
French Meadows Dam North Leakage Weir Road	X	A	A		X	X
French Meadows South Shore Water Supply Access Road (French Meadows Campground Water Supply Facility Access Road)	X	A	A		X	X
Hell Hole Area						
Hell Hole Dam and Powerhouse Road	X	A		A	X	X
Rubicon River Gage below Hell Hole Dam Road	X	A	A		X	X
Hell Hole Dam Leakage Weir Road	X	A	A		X	X
Hell Hole Dam Spillway Northern Access Point Road	X	A	A		X	X
French Meadows - Hell Hole Tunnel Portal Road	X	A	A			X
French Meadows Powerhouse Road	X	A	A		X	X
Hell Hole - Middle Fork Tunnel Gatehouse Road	X	A	A			X

Table 2-4. Alternative 1 - Description of Routine Maintenance at Project Roads and Trails.

Project Road or Trail [Items in red represent a change from the No-Action Alternative]	Annual Road and Trail Maintenance ¹	Vegetation Management			Pest Mgmt	Periodic Road and Trail Maintenance ³
		Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ²	
Project Roads (continued)						
Hell Hole Area (continued)						
Dormitory Facility Road	X	A	A			X
Operator Cottages and Shop Road	X	A	A			X
Spur on North Side of Operator Cottage	X	A	A		X	X
Spur on South Side of Operator Cottage	X	A	A		X	X
Hell Hole Dam Spillway Discharge Channel Road Spur to Communication Line/Powerline	X	A	A			X
Hell Hole Dam Spillway Discharge Channel Road	X	A	A			X
Big Meadows Campground Water Supply Facility Access Road	X	A	A		X	X
Hell Hole Dam Spillway Gates Road (new) ⁴	X					X
Long Canyon Area						
North Fork Long Canyon Diversion North Road	X	A	A			X
North Fork Long Canyon Diversion South Road	X	A	A			X
North Fork Long Canyon Diversion Drop Inlet Road	X	A	A			X
South Fork Long Canyon Diversion and Drop Inlet Road	X	A	A			X
South Fork Long Canyon Diversion and Drop Inlet Cutoff Road	X	A	A			X
South Fork Long Canyon Diversion Drop Inlet Access Road	X	A	A			X
North Fork Long Canyon Crossing Removable Section North Road	X	A	A		X	X
North Fork Long Canyon Crossing Removable Section South Road	X	A	A		X	X
Middle Meadows Group Campground Water Supply Facility Access Road	X	A	A		X	X

Table 2-4. Alternative 1 - Description of Routine Maintenance at Project Roads and Trails.

Project Road or Trail [Items in red represent a change from the No-Action Alternative]	Annual Road and Trail Maintenance ¹	Vegetation Management			Pest Mgmt	Periodic Road and Trail Maintenance ³
		Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ²	
Middle Fork Interbay Area						
Middle Fork Interbay Dam Road					X	
Middle Fork Interbay Dam to Powerhouse Road	X	A	A		X	X
Middle Fork Powerhouse Butterfly Valve House Road	X	A	A			X
Middle Fork Powerhouse Penstock and Butterfly Valve House Road	X	A	A	A	X	X
Middle Fork Powerhouse Upper Switchyard Road	X	A	A		X	X
Ralston - Oxbow Area						
Brushy Canyon Adit Road	X	A	A		X	X
Ralston Powerhouse Butterfly Valve House Road	X	A	A	A	X	X
Ralston Afterbay Dam Access Road	X	A	A		X	X
Indian Bar Access Road	X	A	A		X	X
Oxbow Powerhouse Road	X	A	A		X	X
Ralston - Oxbow Tunnel Intake Road	X	A	A		X	X
Ralston Afterbay Private Boat Ramp Road	X	A	A			X
Ralston Afterbay Dam and Access Point Road	X	A	A		X	X
Project Trails						
Duncan Creek Area						
Duncan Creek Diversion Dam North Trail	X	A				X
Duncan Creek Diversion Dam South Trail	X	A				X
Photovoltaic Poles and Powerline at Duncan Creek Gage near French Meadows Trail	X	A				X
Duncan Creek Gage and Weir near French Meadows Trail	X	A				X
Duncan Creek Gage below Diversion Dam Access Trail	X	A		I		X

Table 2-4. Alternative 1 - Description of Routine Maintenance at Project Roads and Trails.

Project Road or Trail [Items in red represent a change from the No-Action Alternative]	Annual Road and Trail Maintenance ¹	Vegetation Management			Pest Mgmt	Periodic Road and Trail Maintenance ³
		Trimming by Hand	Trimming w/Equipment	Herbicide Use	Noxious Weed Management ²	
French Meadows Area						
Poppy Trail (existing, added to MFP) ⁵	X	A				X
French Meadows Reservoir Trail (new) ⁴	X	A				X
Hell Hole Area						
Hell Hole Reservoir Trail (existing, added to MFP) ⁵	X	A			X	X
Long Canyon Area						
North Fork Long Canyon Creek Gage below Diversion Dam Trail (new) ⁴	X	A			X	X
South Fork Long Canyon Creek Gage below Diversion Dam Trail (new) ⁴	X	A				X
Middle Fork Interbay Area						
Middle Fork American River Gage above Middle Fork Powerhouse Trail	X	A			X	X
Passive Microwave Reflector Station above Middle Fork Interbay Trail	X	A				X
Middle Fork American River Access Trail below Interbay Dam (new) ⁴	X	A			X	X
Ralston Afterbay Area						
Passive Microwave Reflector Station above Ralston Afterbay Trail	X	A			X	X
Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP) ⁵	X	A			X	X
Middle Fork American River above Ralston Afterbay Access Trail (existing, added to MFP) ⁵	X	A			X	X
North Fork American River Gage above American River Pump Station Trail (new) ⁴	X	A			X	X

A = Activity occurs on an annual basis.

I = Activity occurs on an infrequent basis.

X = Activity occurs or ancillary facility is present.

¹Annual maintenance generally includes, but is not limited to, the following types of activities: debris removal; vegetation management; noxious weed control; basic repairs, including filling of potholes; maintenance of erosion control features such as culverts, drains, ditches, and water bars; repair, replacement, or installation of access control structures such as posts, cables, rails, gates, and barrier rock; repair and replacement of signage; and snow removal and sanding.

²Indicates areas where manual and chemical treatment of target noxious weed populations will be implemented. Manual and chemical treatments may be completed at other locations during the term of the license if new target noxious weed populations are identified during inventory surveys.

³Periodic maintenance generally includes, but is not limited to, the following types of activities: placement or replacement of culverts and other drainage features; bridge deck or ford replacement; major road repairs; grading; sealing; resurfacing; road replacement; and hazard tree removal.

⁴This facility or feature will be constructed under the new license.

⁵Existing gage or trail now required for Project operation and maintenance.

Table 2-5. Alternative 1 - Description of Routine Maintenance at Project Recreation Facilities and Features.¹

Recreation Facility or Feature [Items in red represent a change from the No-Action Alternative]	Routine Maintenance ²	Vegetation Management		Pest Mgmt	Heavy Maintenance ⁴
		Trimming by Hand	Fungicide Use	Noxious Weed Management ³	
Duncan Area					
Duncan Creek Diversion Primitive Recreation Site (new)	X	A			X
French Meadows Area					
Ahart Campground (reduce, enhance)	X	A	I		X
Coyote Group Campground (enhance)	X	A	I		X
Poppy Campground (reduce, enhance)	X	A	I		X
French Meadows Campground (reduce, enhance)	X	A	I		X
Gates Group Campground (enhance)	X	A	I		X
Lewis Campground (reduce, enhance)	X	A	I		X
French Meadows Picnic Area (reduce, enhance)	X	A	I		X
French Meadows Boat Ramp (enhance)	X	A	I	X	X
French Meadows RV Dump Station (enhance)	X			X	X
McGuire Picnic Area and Beach (convert)⁵	X				X
McGuire Group Campground (new)	X	A	I		X
McGuire Boat Ramp and Associated Parking (enhance, consolidate)	X	A	I		X
Poppy Trail (existing, added to MFP) ⁶	X	A			X
French Meadows Reservoir Trail (new) ⁷	X	A			X
Hell Hole Area					
Big Meadows Campground (enhance)	X	A	I	X	X
Hell Hole Campground (enhance, potentially convert, potentially reduce)	X	A	I		X
Upper Hell Hole Campground (remove)	X	A	I		X
Hell Hole Vista (enhance)	X	A	I		X
Hell Hole Boat Ramp (enhance)	X	A		X	X
Hell Hole General Parking Area and Hell Hole Boat Ramp Parking Area (enhance)	X	A		X	X
Ellicott Bridge Parking Area (new) ⁷	X	A		X	X
Hell Hole Reservoir Trail (existing, added to MFP) ⁶	X	A		X	X
Long Canyon Area					
Middle Meadows Group Campground	X	A	I	X	X
Ralston Afterbay Area					
Ralston Picnic Area (reduce, enhance)	X	A		X	X
Ralston Afterbay Sediment Removal Access Point Boat Ramp (new) ⁸	X	A		X	X
Indian Bar Rafting Access (enhance)	X	A		X	X
Middle Fork American River above Ralston Afterbay Access Trail (existing, added to MFP) ⁶	X	A		X	X
Project Recreation Facility Water Supplies and Associated Maintenance Trails					
French Meadows North Shore Water Supply (Dolly Creek Water Supply) (replace)	X	I			X
French Meadows South Shore Water Supply (French Meadows Campground Water Supply) (replace)	X	I			X
Big Meadows Campground Water Supply	X	I			X
Middle Meadows Group Campground Water Supply	X	I		X	X

A = Activity implemented annually throughout the year.

I = Activity implemented on an infrequent basis.

X = Activity is implemented.

¹Project recreation facility and feature maintenance includes maintenance of the recreation facility access roads at Project recreation facilities.²Refer to Table 2-6 for a description of activities identified as routine maintenance.³Indicates areas where manual and chemical treatment if target noxious weed populations will be implemented. Manual and chemical treatments may be completed at other locations during the term of the license if new target noxious weed populations are identified during inventory surveys.⁴Refer to Table 2-7 for a description of activities identified as heavy maintenance.⁵This facility will be converted to the McGuire Group Campground.⁶Existing trail now required for Project operation and maintenance.⁷This facility or feature will be constructed under the new license.⁸This facility replaces the Ralston Afterbay Sediment Removal Access Point.

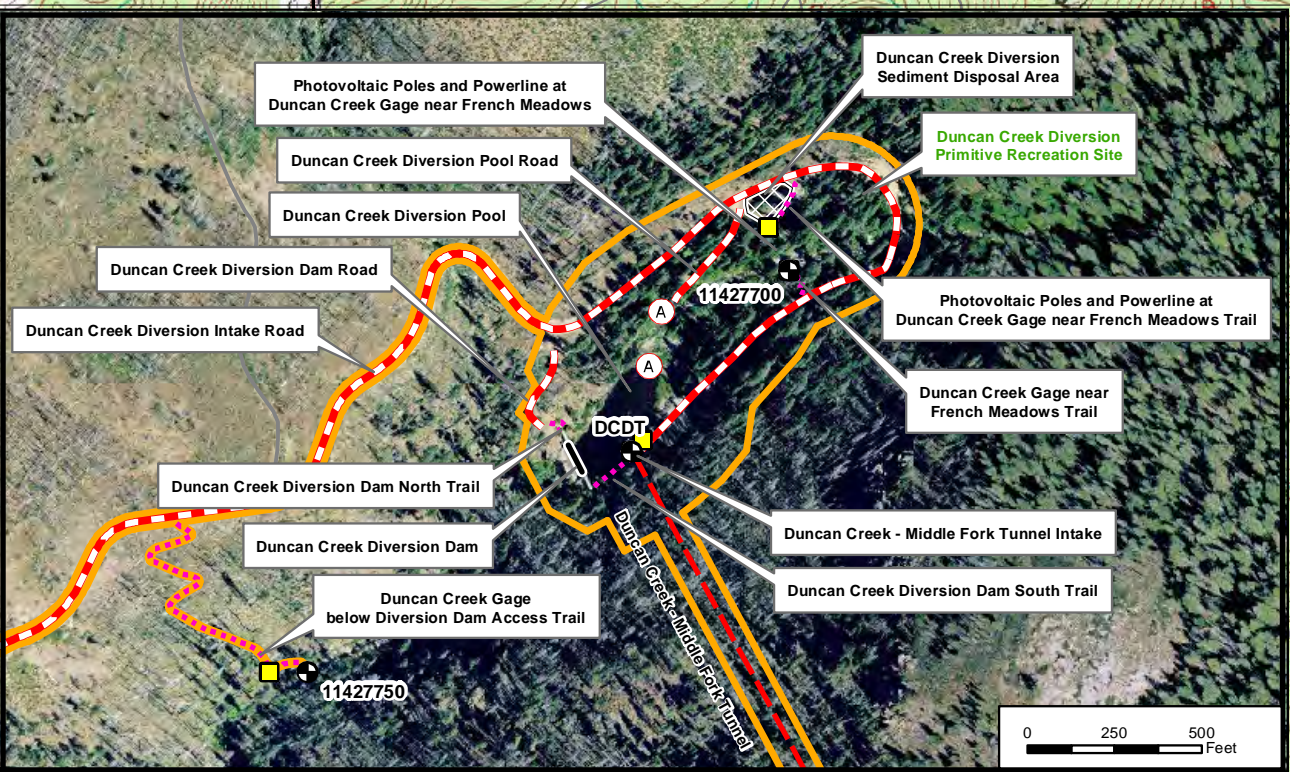
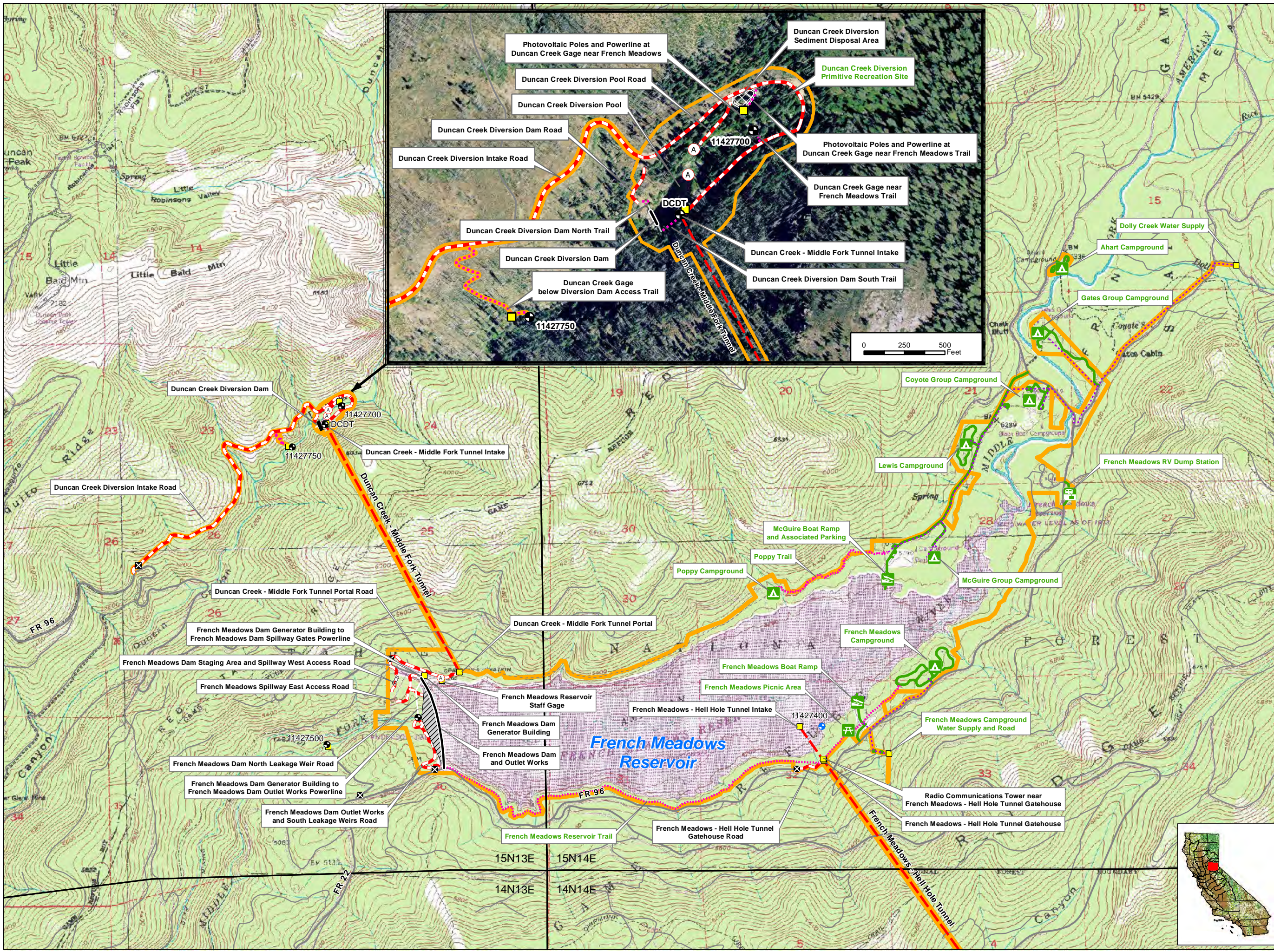
Table 2-6. Specific Routine Operation and Maintenance Activities to be Implemented at Project Recreation Facilities and Features.

- Clean up related to dispersed use in the immediate vicinity of the MFP recreation facilities;
- Conducting patrols in and around the Project recreation facilities;
- Addressing sanitation issues in the immediate vicinity of Project recreation facilities;
- On-site public contact;
- Enforcement of rules and regulations;
- Responding to emergencies;
- Assisting in search and rescue efforts;
- Vehicle use;
- Site cleaning;
- Garbage clean up and disposal;
- Repair and maintenance of water systems, including: potable water tanks, supply and distribution lines, water valves, faucets, and drains;
- Repair and maintenance of septic systems, including septic tanks and lines ;
- Repair of site/facility amenities including picnic tables, benches, fire rings, grills, bear resistant food boxes, bear resistant garbage containers, and recycling containers;
- Minor repair and maintenance of boat ramps and retaining walls and removal of debris from boat ramps;
- Maintenance and/or replacement of information and regulatory signage;
- Toilet cleaning and restocking of supplies;
- Toilet pumping;
- Removal or painting over graffiti;
- Basic maintenance of MFP recreation facility pathways and trails including: brushing, raking, sweeping, filling holes and repairing or replacing steps, treads and railings;
- Routine testing of potable water supplies;
- Water permits;
- Annual winterizing activities, including shutting off water supplies, draining water lines and water tanks, locking structures and gates, and removing and storing, or covering signage;
- Annual opening activities, including turning on water systems, preparing campsites, removing debris, and dealing with damage that may have occurred over the winter;
- Removal of trees that pose a hazard to the public or their property;
- Fuels reduction, including brushing and thinning, within 100 feet of any site feature such as bathrooms and parking areas;
- Fire prevention;
- Conducting maintenance at facilities that are not operated by a concessionaire;
- Implementing resource protection measures contained in REC Table 3;
- Routine maintenance and basic repair of recreation facility loop roads, spurs, and parking areas, including signage;
- Minor repair of gates and other traffic and parking barriers;
- Restriping paved parking areas and facility roadways;
- Routine maintenance of trails, including brushing, leveling and obstacle removal;
- Painting buildings;
- Painting pre-cast concrete vault toilets and other buildings every 3-5 years;
- Equipment maintenance; and
- Supplies and materials, including paint, cleaning supplies, trash bags, tools, and other materials that are used specifically for the operation and maintenance of MFP facilities.

Table 2-7. Specific Routine Heavy Maintenance Activities to be Implemented at Project Recreation Facilities.

- Resurfacing of parking areas and spurs;
- Regrading gravel parking lots and installing additional crushed rock;
- Replacement of road related drainage features such as culverts and ditches as specified in the revised Transportation System Management Plan (TSMP);
- Replacement of barrier structures and devices, including: fencing, posts and rails, barrier rock, and gates;
- Replacement of site/facility amenities including picnic tables, benches, fire rings, grills, bear resistant food boxes, bear resistant garbage containers, and recycling containers;
- Replacement of damaged signage, information boards, and fee tubes;
- Replacement or retrofitting of bathrooms;
- Replacing the composting unit on composting toilets;
- Replacement of potable water tanks, supply and distribution lines, valves and faucets;
- Replacement of septic systems, including leach fields;
- Replacement or major repair of boat ramps and retaining walls; and
- Site leveling and removal of obstacles, where feasible.

MAPS



PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail

Project Recreation Facilities

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

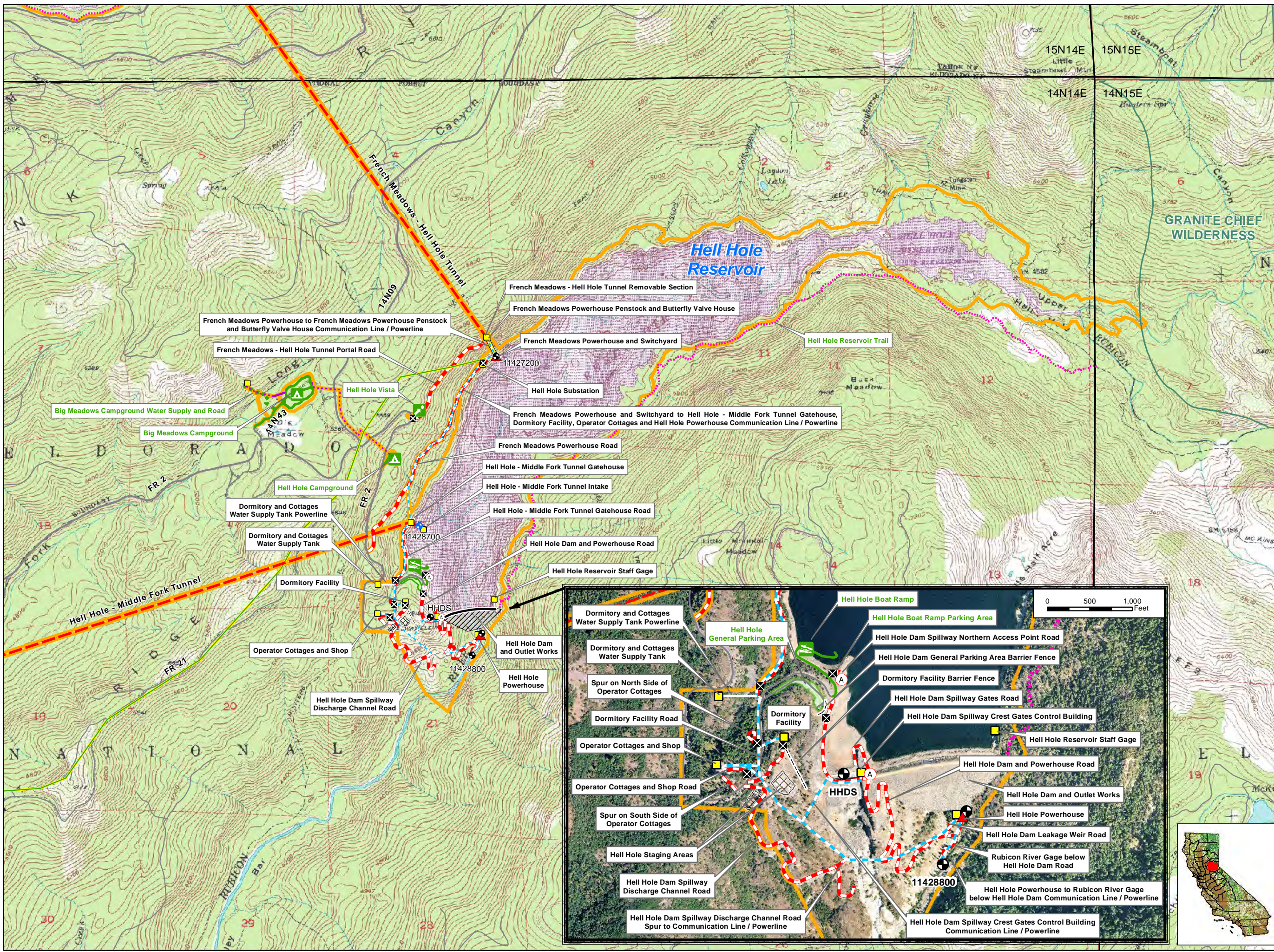
PG & E Transmission Lines:

- 230 kV
- 60 kV

PCWA
Placer County Water Agency
Middle Fork American River Project

Map 2-1a
Duncan Creek, French Meadows Area

0 0.25 0.5 Miles
Projection: Ca. Stateplane, Zone 2
Datum: NAD 83
Date: 10/20/11



PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail

Project Recreation Facilities

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

PG & E Transmission Lines:

- 230 kV
- 60 kV

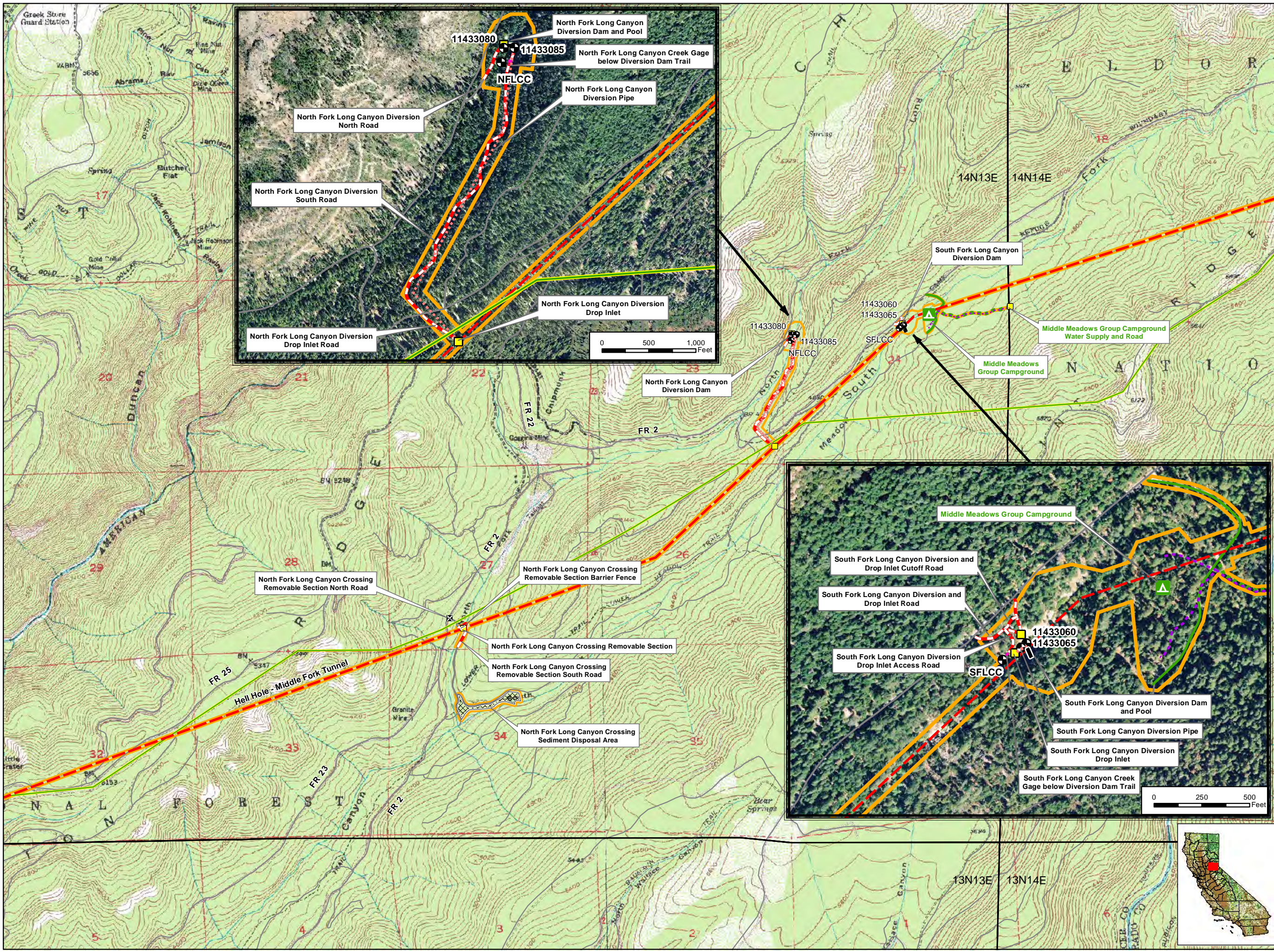
PCWA

Placer County Water Agency
Middle Fork American River Project


Map 2-1b
Hell Hole Area

0 0.25 0.5 Miles
Projection: Ca. Stateplane, Zone 2
Datum: NAD 83

Date: 10/20/11

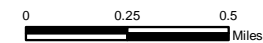


- PCWA Facilities and Features**
- Dam
 - Ancillary and Other Facilities
 - Powerhouse
 - Gage
 - Reservoir Gage
 - Penstock
 - Tunnel
 - Pipeline
 - Gate
 - Access Point
 - Public Safety Fence
 - FERC Boundary
- Project Power and Communication Lines:**
- Communication
 - Power
 - Power (underground)
 - Communication/Power
 - Communication/Power (underground)
- Transportation**
- Road
 - Project Road
 - Project Trail
 - Recreation Access Road
 - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
 - Boat Ramp
 - Scenic Viewpoint
 - Developed Campground
 - Trailer Sanitary Station
 - Water Supply Line (Above ground)
 - Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
 - 60 kV



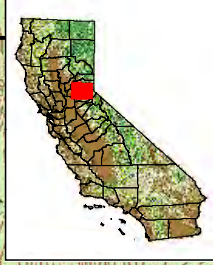
Placer County Water Agency
Middle Fork American River Project

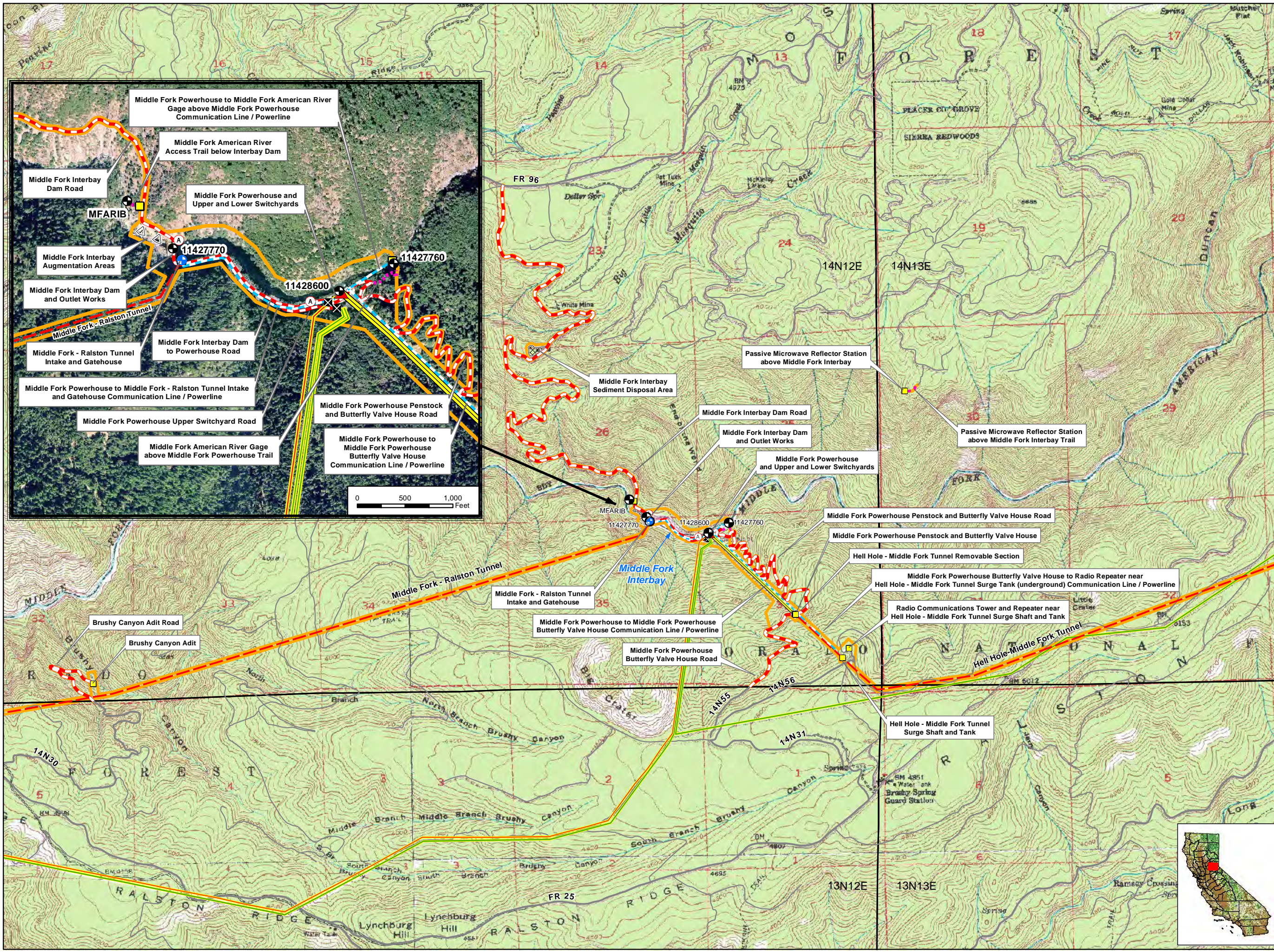
Map 2-1c
Long Canyon Area



Projection: Ca. Stateplane, Zone 2
Datum: NAD 83

Date: 10/20/11





- PCWA Facilities and Features**
- Dam
 - Ancillary and Other Facilities
 - Powerhouse
 - Gage
 - Reservoir Gage
 - Penstock
 - Tunnel
 - Pipeline
 - Gate
 - Access Point
 - Public Safety Fence
 - FERC Boundary
- Project Power and Communication Lines:**
- Communication
 - Power
 - Power (underground)
 - Communication/Power
 - Communication/Power (underground)
- Transportation**
- Road
 - Project Road
 - Project Trail
 - Recreation Access Road
 - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
 - Boat Ramp
 - Scenic Viewpoint
 - Developed Campground
 - Trailer Sanitary Station
 - Water Supply Line (Above ground)
 - Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
 - 60 kV

PCWA

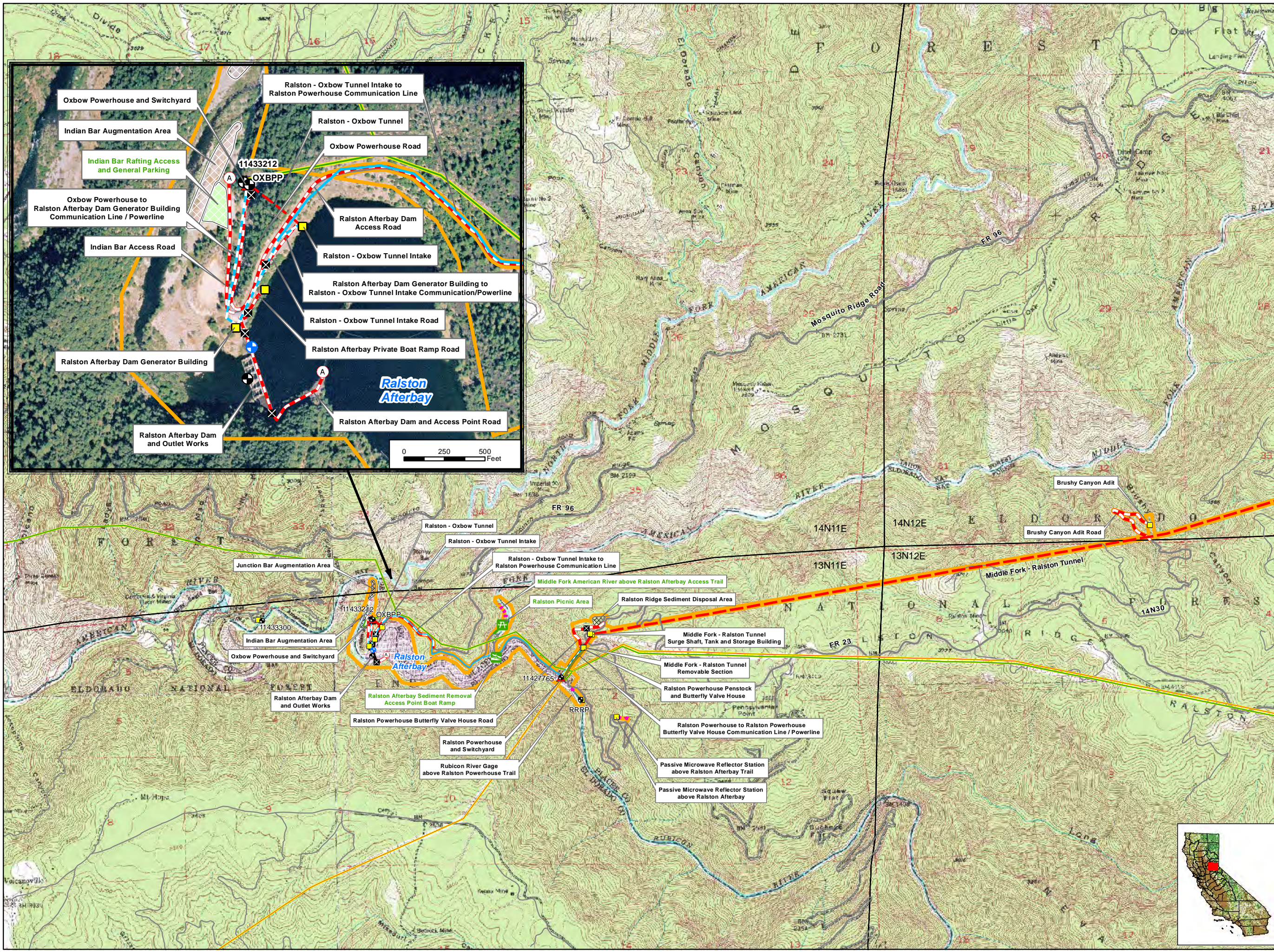
Placer County Water Agency
Middle Fork American River Project

Map 2-1d
Middle Fork Interbay Area

0 0.25 0.5 Miles

Projection: Ca. Stateplane, Zone 2
Datum: NAD 83

Date: 10/20/11



- PCWA Facilities and Features**
- Dam
 - Ancillary and Other Facilities
 - Powerhouse
 - Gage
 - Reservoir Gage
 - Penstock
 - Tunnel
 - Pipeline
 - Gate
 - Access Point
 - Public Safety Fence
 - FERC Boundary
- Project Power and Communication Lines:**
- Communication
 - Power
 - Power (underground)
 - Communication/Power
 - Communication/Power (underground)
- Transportation**
- Road
 - Project Road
 - Project Trail
 - Recreation Access Road
 - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
 - Boat Ramp
 - Scenic Viewpoint
 - Developed Campground
 - Trailer Sanitary Station
 - Water Supply Line (Above ground)
 - Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
 - 60 kV

PCWA

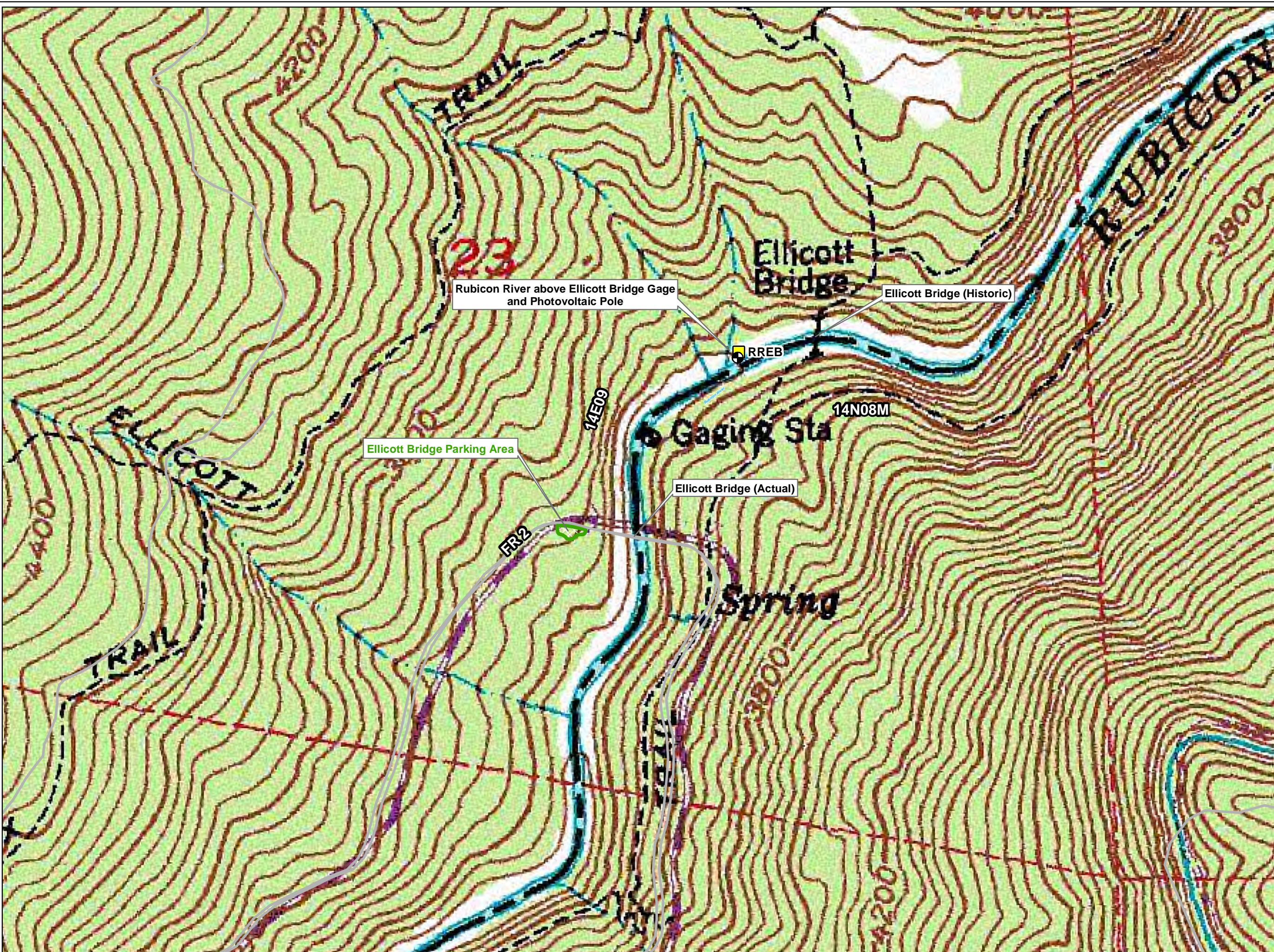
Placer County Water Agency
Middle Fork American River Project

Map 2-1e
Ralston, Oxbow Area

0 0.25 0.5 Miles

Projection: Ca. Stateplane, Zone 2
Datum: NAD 83

Date: 10/20/11



- PCWA Facilities and Features**
- Dam
 - Ancillary and Other Facilities
 - Powerhouse
 - Gage
 - Reservoir Gage
 - Penstock
 - Tunnel
 - Pipeline
 - Gate
 - Access Point
 - Public Safety Fence
 - FERC Boundary
- Project Power and Communication Lines:**
- Communication
 - Power
 - Power (underground)
 - Communication/Power
 - Communication/Power (underground)
- Transportation**
- Road
 - Project Road
 - Project Trail
 - Recreation Access Road
 - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
 - Boat Ramp
 - Scenic Viewpoint
 - Developed Campground
 - Trailer Sanitary Station
 - Water Supply Line (Above ground)
 - Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
 - 60 kV

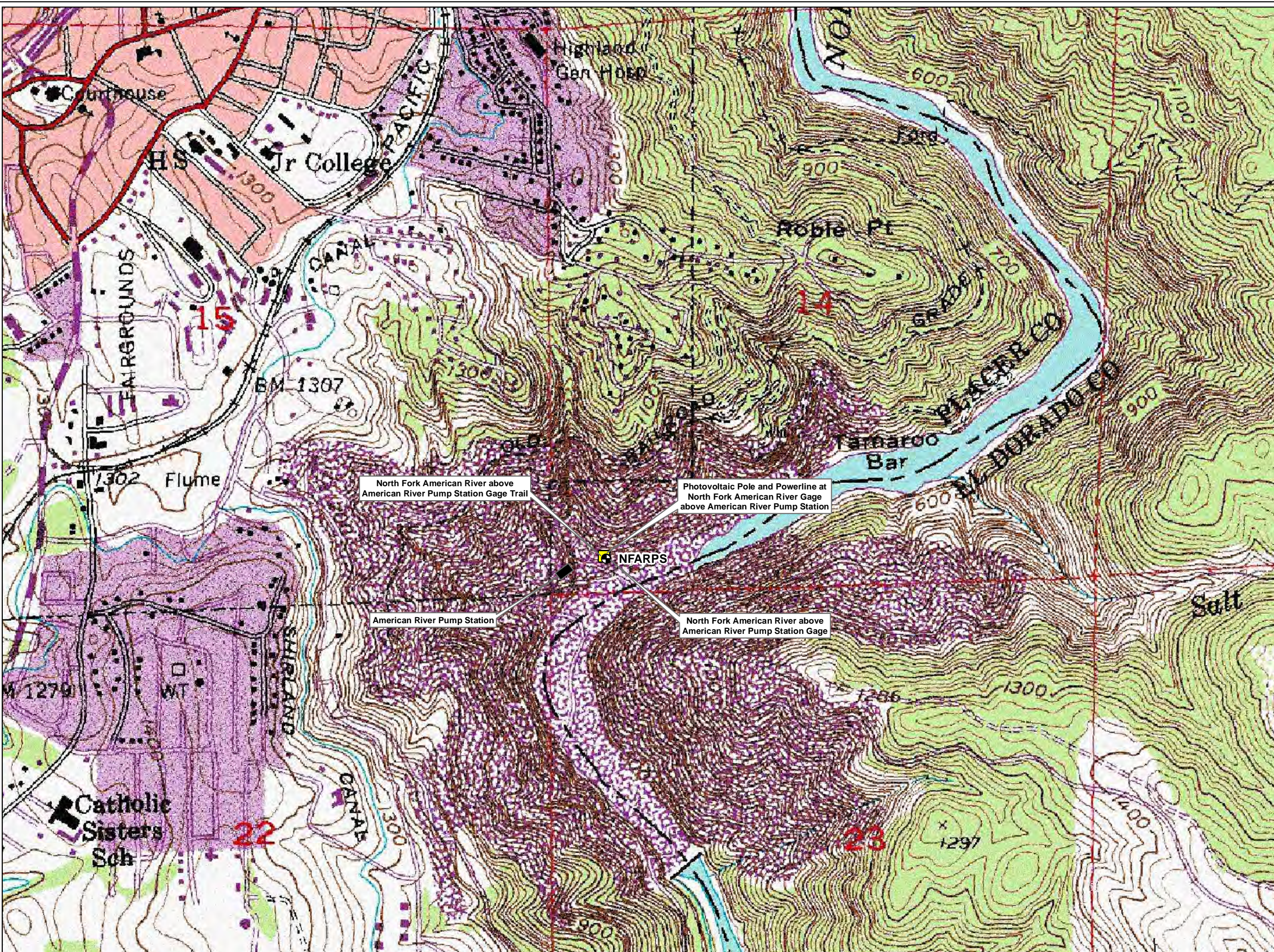
PCWA

Placer County Water Agency
Middle Fork American River Project

Map 2-1f
Ellicott Bridge Area

Date: 10/28/11

Projection: Ca. Stateplane, Zone 2
Datum: NAD 83



- PCWA Facilities and Features**
- Dam
 - Ancillary and Other Facilities
 - Powerhouse
 - Gage
 - Reservoir Gage
 - Penstock
 - Tunnel
 - Pipeline
 - Gate
 - Access Point
 - Public Safety Fence
 - FERC Boundary
- Project Power and Communication Lines:**
- Communication
 - Power
 - Power (underground)
 - Communication/Power
 - Communication/Power (underground)
- Transportation**
- Road
 - Project Road
 - Project Trail
 - Recreation Access Road
 - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
 - Boat Ramp
 - Scenic Viewpoint
 - Developed Campground
 - Trailer Sanitary Station
 - Water Supply Line (Above ground)
 - Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
 - 60 kV

PCWA

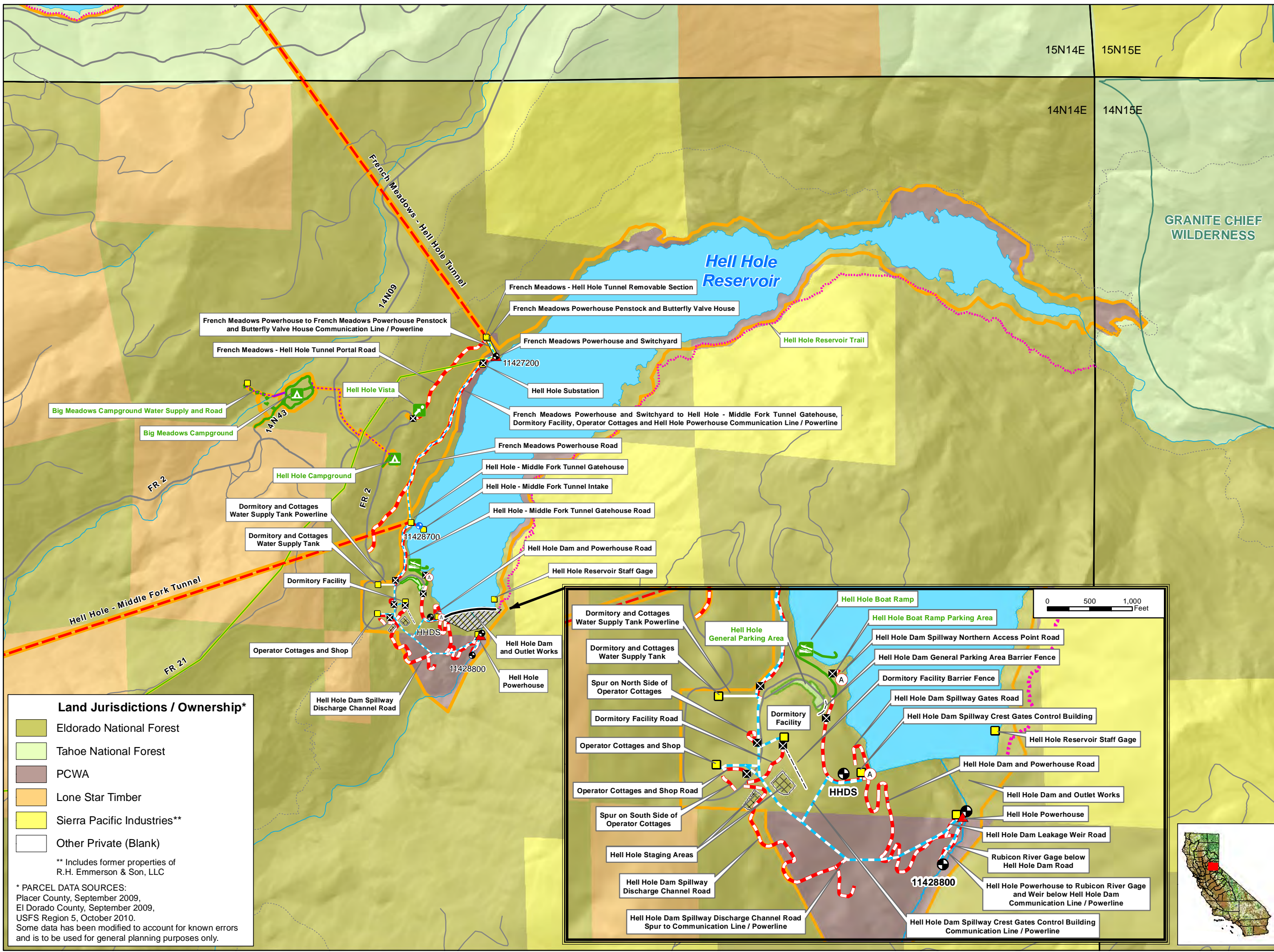
Placer County Water Agency
Middle Fork American River Project

Map 2-1g

**North Fork American River above
American River Pump Station Area**

Projection: Ca. Stateplane, Zone 2
Datum: NAD 83

Date: 10/28/11



PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail

Project Recreation Facilities

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

PG & E Transmission Lines:

- 230 kV
- 60 kV

Land Jurisdictions / Ownership*

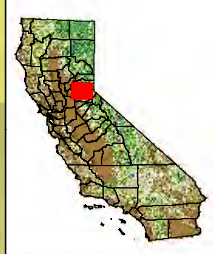
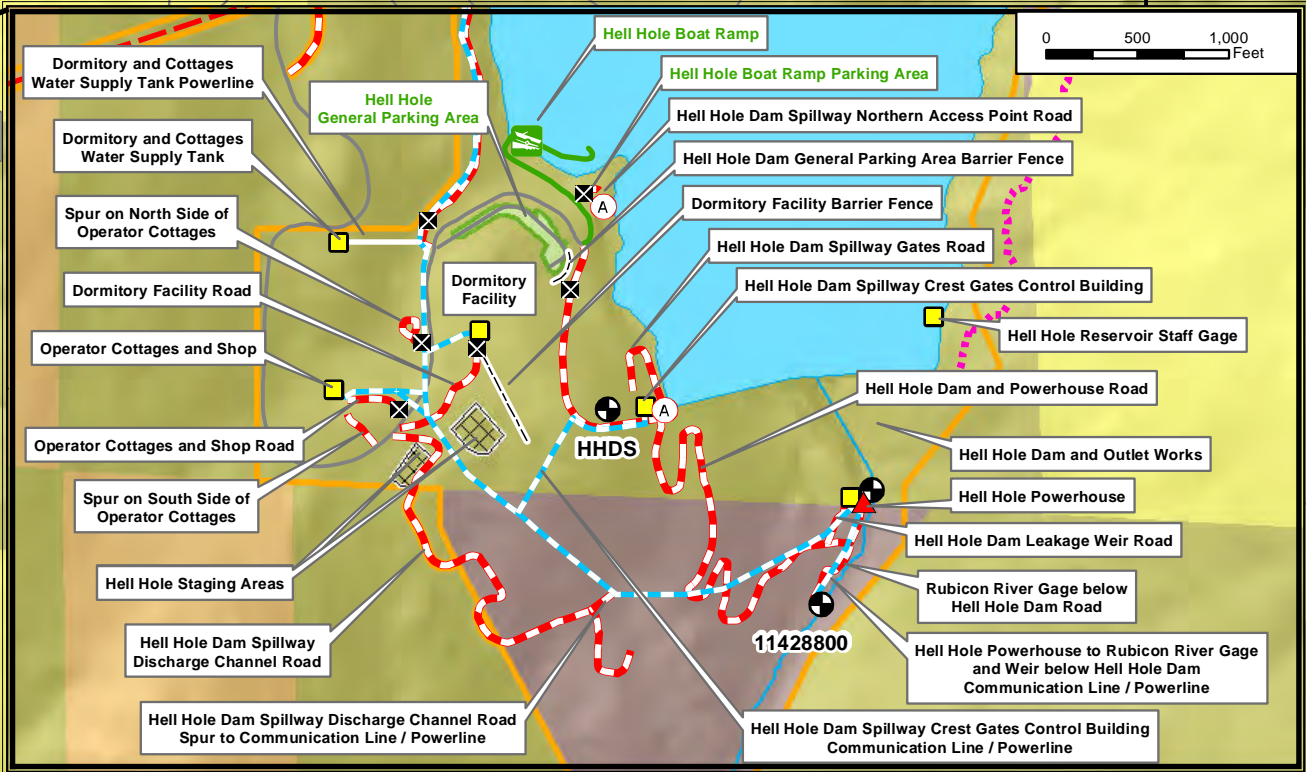
- Eldorado National Forest
- Tahoe National Forest
- PCWA
- Lone Star Timber
- Sierra Pacific Industries**
- Other Private (Blank)

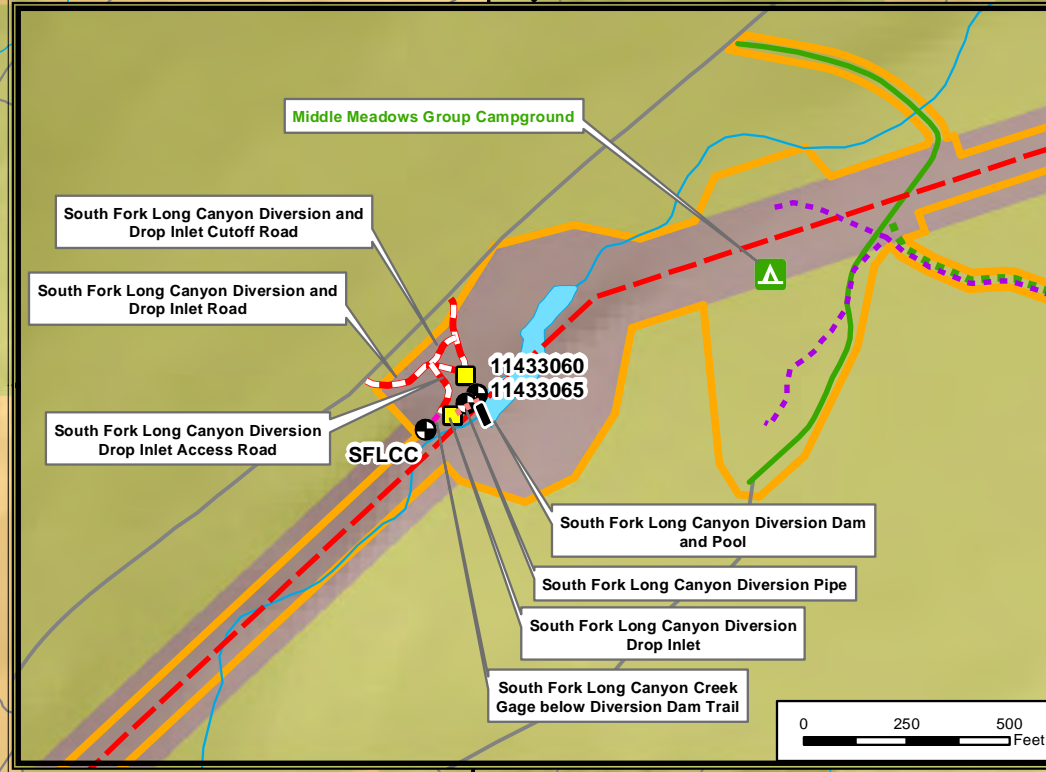
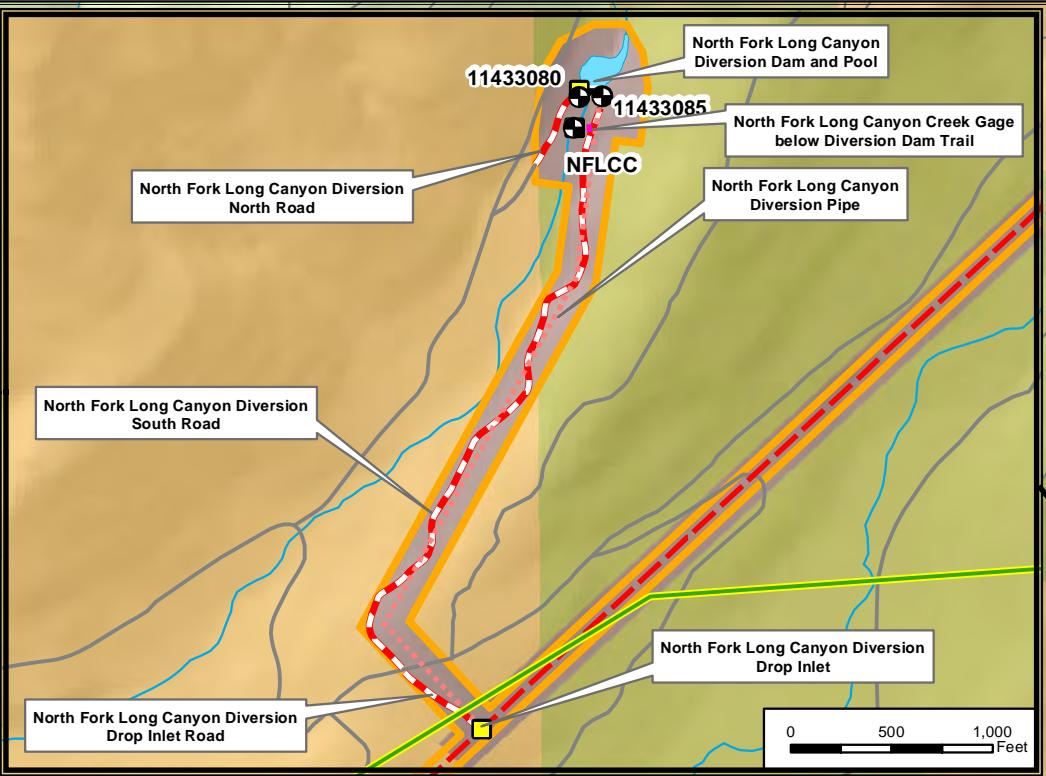
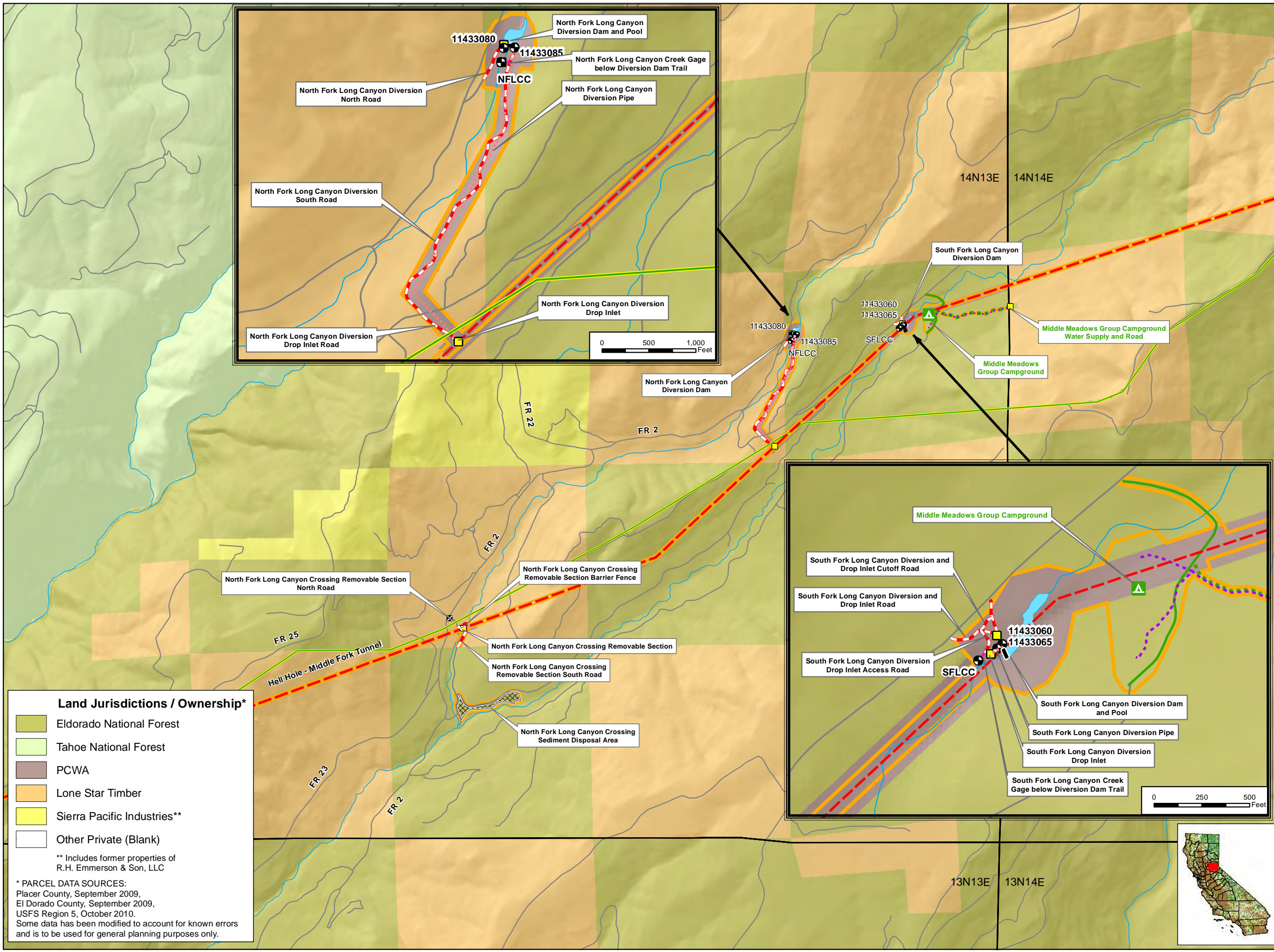
** Includes former properties of R.H. Emmerson & Son, LLC

* PARCEL DATA SOURCES:
 Placer County, September 2009,
 El Dorado County, September 2009,
 USFS Region 5, October 2010.
 Some data has been modified to account for known errors and is to be used for general planning purposes only.

PCWA
 Placer County Water Agency
 Middle Fork American River Project
Map 2-2b
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project Hell Hole Area

0 0.25 0.5 Miles
 Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83
 Date: 10/20/11





Land Jurisdictions / Ownership*

- Eldorado National Forest
- Tahoe National Forest
- PCWA
- Lone Star Timber
- Sierra Pacific Industries**
- Other Private (Blank)

** Includes former properties of R.H. Emmerson & Son, LLC

* PARCEL DATA SOURCES:
 Placer County, September 2009,
 El Dorado County, September 2009,
 USFS Region 5, October 2010.
 Some data has been modified to account for known errors
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PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail


Project Recreation Facilities

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

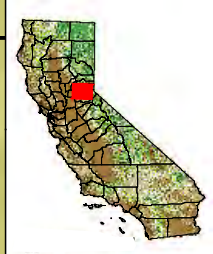
PG & E Transmission Lines:

- 230 kV
- 60 kV



Placer County Water Agency
 Middle Fork American River Project

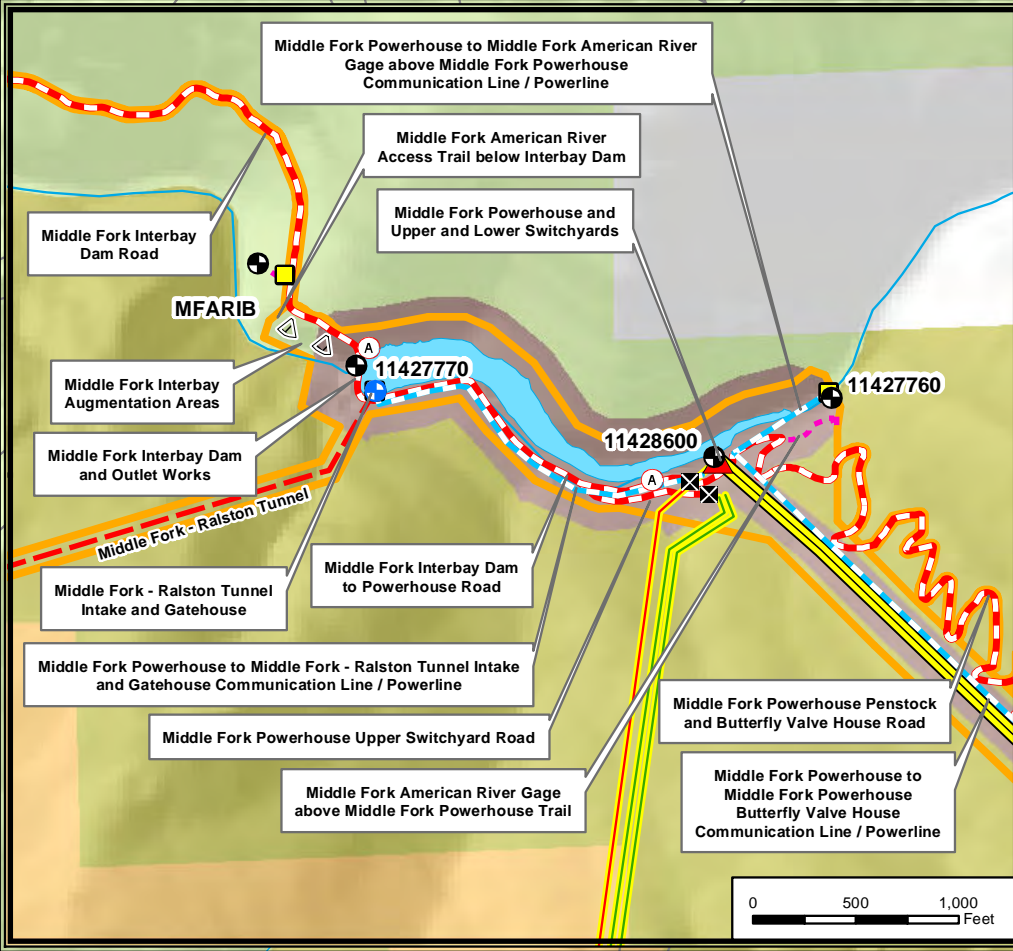
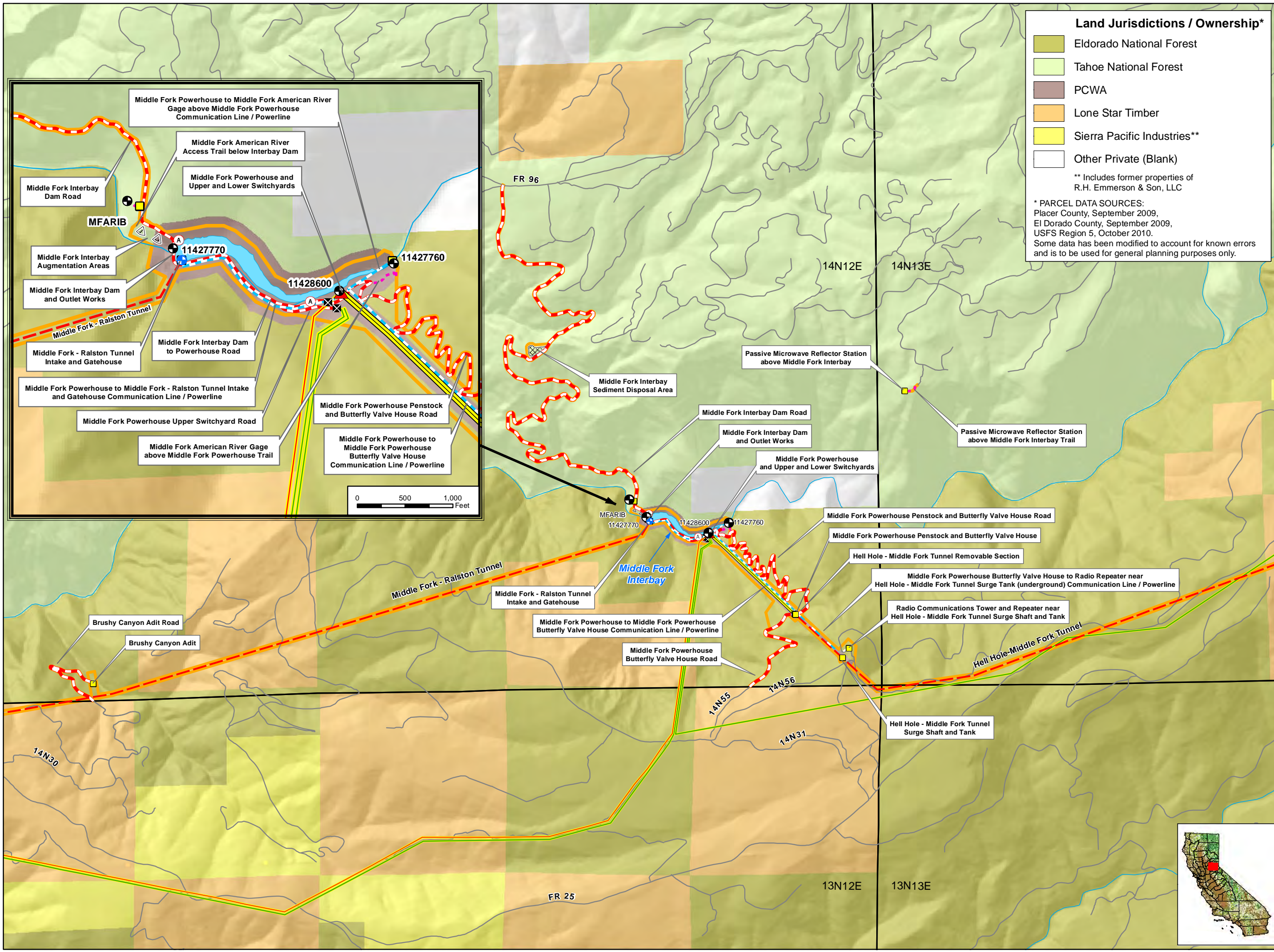
Map 2-2c
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project Long Canyon Area



0 0.25 0.5 Miles

Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83

Date: 10/20/11



Land Jurisdictions / Ownership*

- Eldorado National Forest
- Tahoe National Forest
- PCWA
- Lone Star Timber
- Sierra Pacific Industries**
- Other Private (Blank)

** Includes former properties of R.H. Emmerson & Son, LLC

* PARCEL DATA SOURCES:
 Placer County, September 2009,
 El Dorado County, September 2009,
 USFS Region 5, October 2010.
 Some data has been modified to account for known errors and is to be used for general planning purposes only.

PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- X Gate
- A Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail


Project Recreation Facilities

- A Picnic Area
- B Boat Ramp
- C Scenic Viewpoint
- D Developed Campground
- E Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

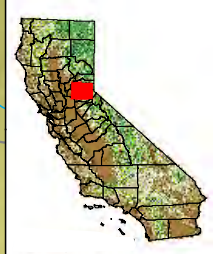
PG & E Transmission Lines:

- 230 kV
- 60 kV



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 Middle Fork American River Project

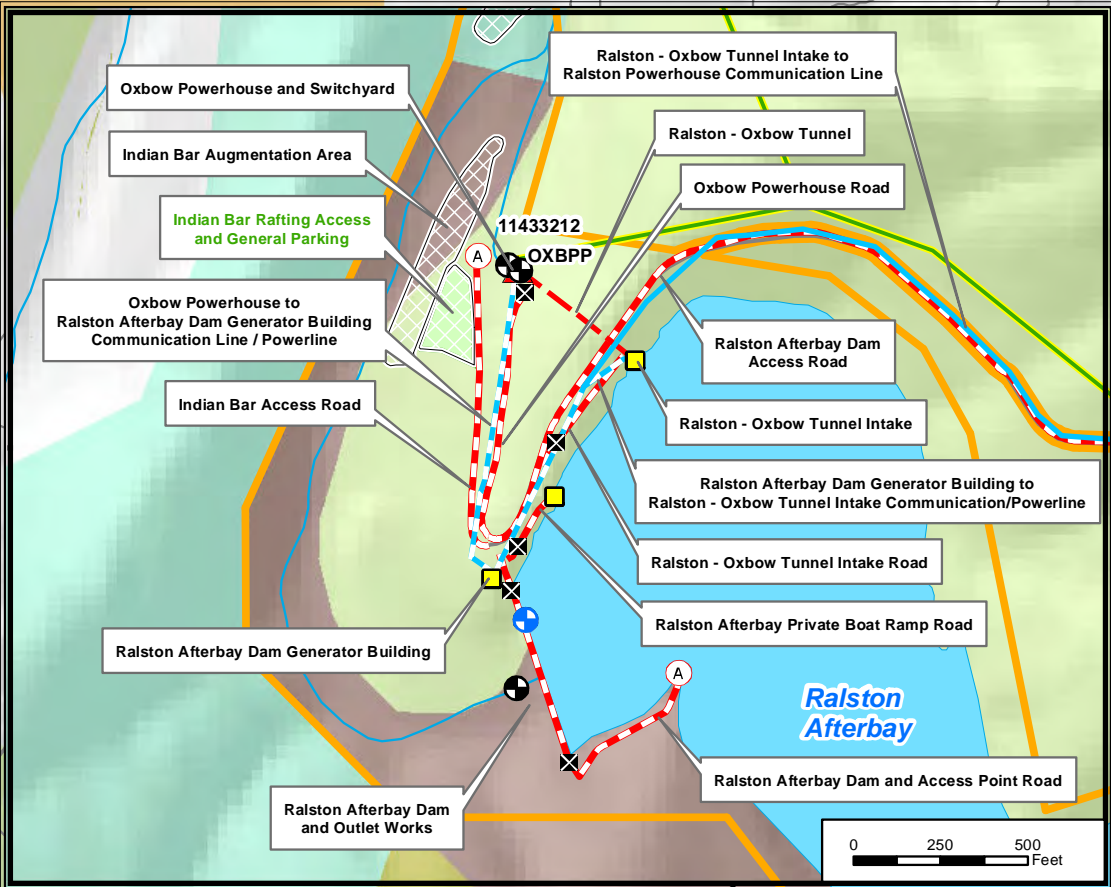
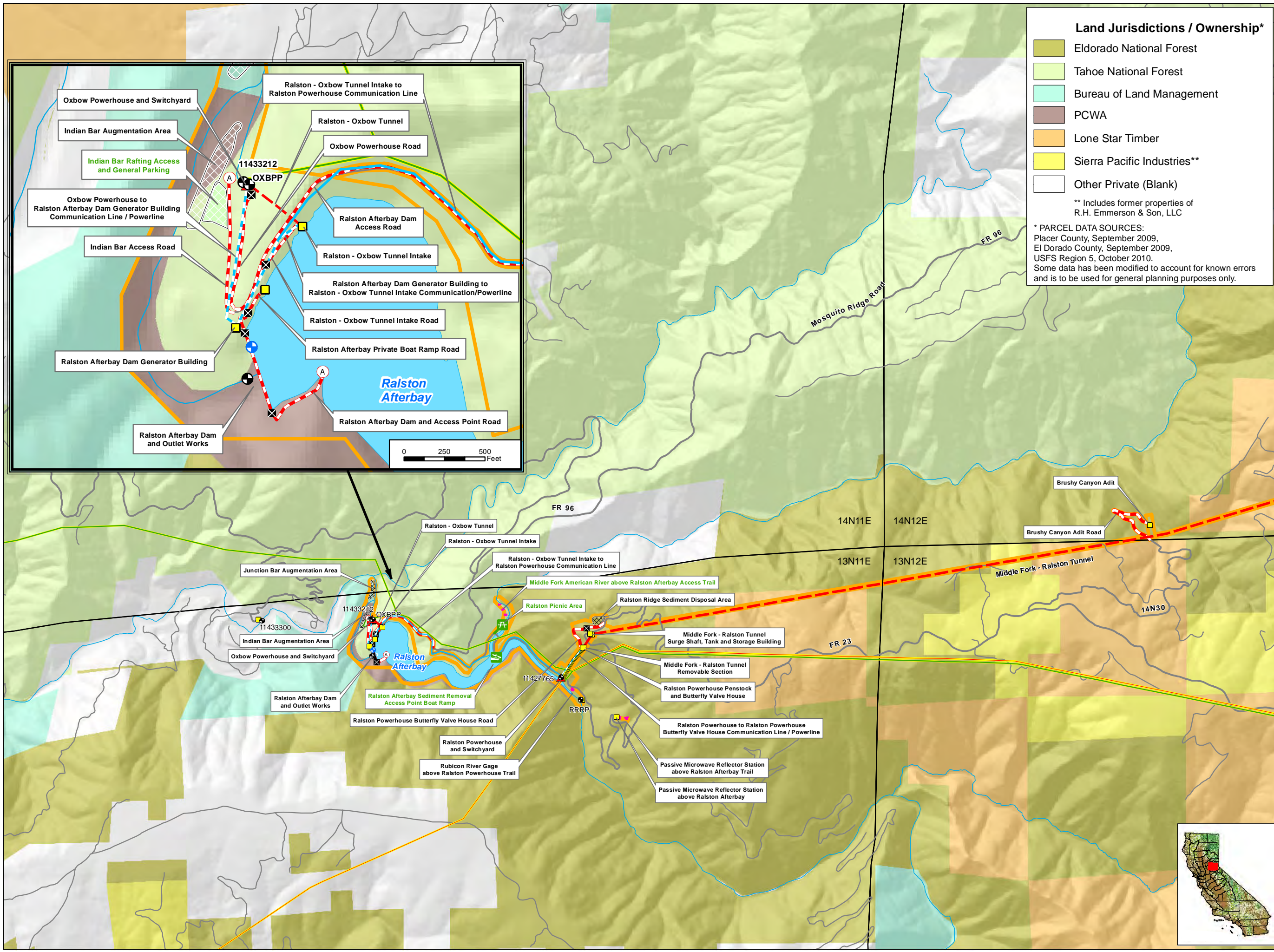
Map 2-2d
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project
Middle Fork Interbay Area



0 0.25 0.5 Miles

Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83

Date: 10/20/11



Land Jurisdictions / Ownership*

- Eldorado National Forest
- Tahoe National Forest
- Bureau of Land Management
- PCWA
- Lone Star Timber
- Sierra Pacific Industries**
- Other Private (Blank)

** Includes former properties of R.H. Emmerson & Son, LLC

* PARCEL DATA SOURCES:
 Placer County, September 2009,
 El Dorado County, September 2009,
 USFS Region 5, October 2010.
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 and is to be used for general planning purposes only.

PCWA Facilities and Features

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Pipeline
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

Project Power and Communication Lines:

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

Transportation

- Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail


Project Recreation Facilities

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

Other Facilities

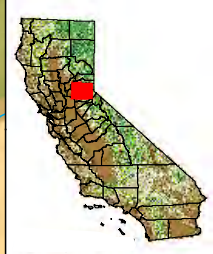
PG & E Transmission Lines:

- 230 kV
- 60 kV



Placer County Water Agency
 Middle Fork American River Project

Map 2-2e
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project
Ralston - Oxbow Area









0 0.25 0.5 Miles

Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83

Date: 10/20/11













Land Jurisdictions / Ownership*

-  Eldorado National Forest
-  Tahoe National Forest
-  PCWA
-  Lone Star Timber
-  Sierra Pacific Industries**
-  Other Private (Blank)






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* PARCEL DATA SOURCES:
 Placer County, September 2009,
 El Dorado County, September 2009,
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PCWA Facilities and Features

-  Dam
-  Ancillary and Other Facilities
-  Powerhouse
-  Gage
-  Reservoir Gage
-  Penstock
-  Tunnel
-  Pipeline
-  Gate
-  Access Point
-  Public Safety Fence
-  FERC Boundary








Project Power and Communication Lines:

-  Communication
-  Power
-  Power (underground)
-  Communication/Power
-  Communication/Power (underground)

Transportation



-  Road
-  Project Road
-  Project Trail
-  Recreation Access Road
-  Recreation Facility Water Supply Access Road or Trail

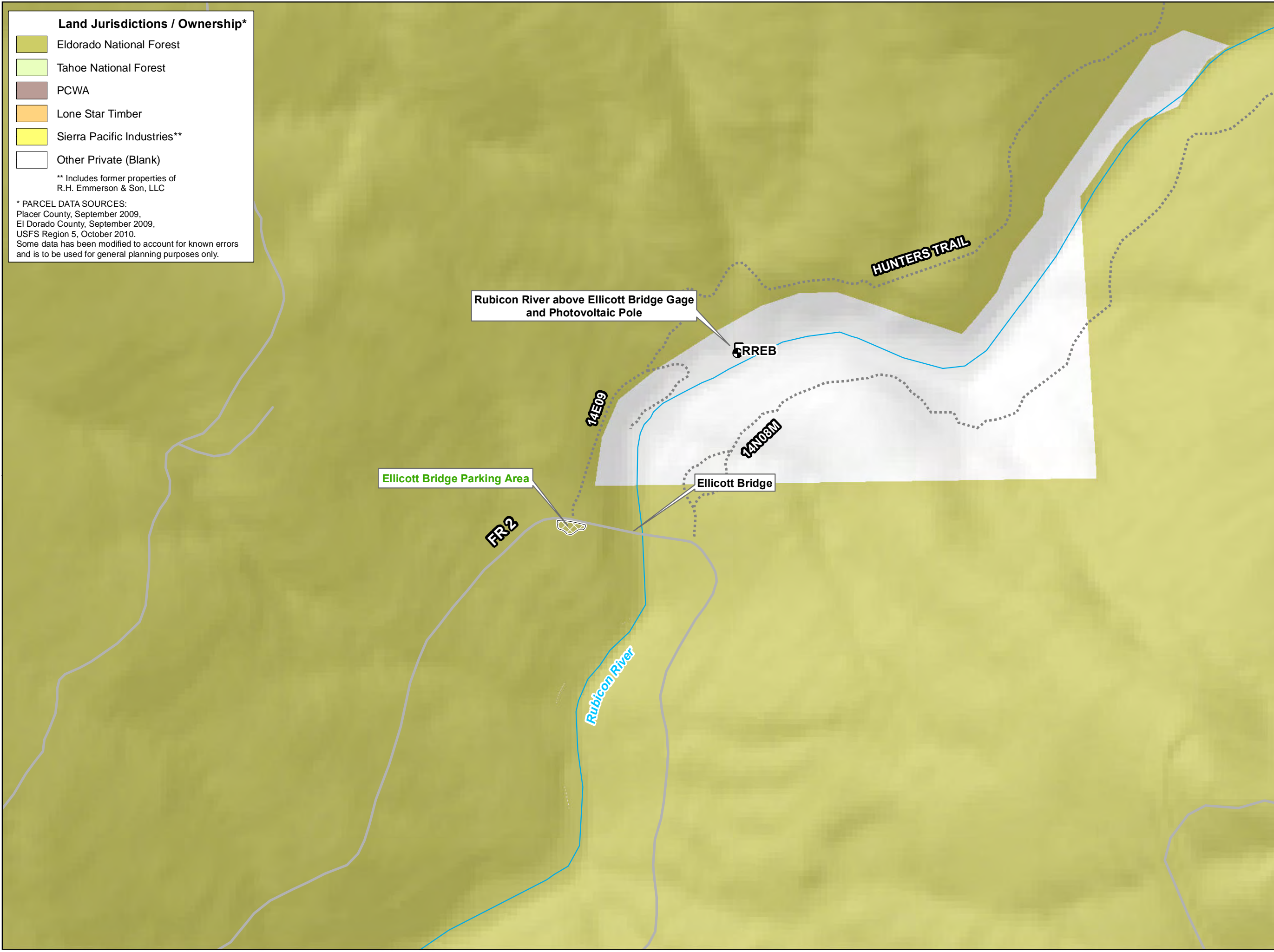
Project Recreation Facilities


-  Picnic Area
-  Boat Ramp
-  Scenic Viewpoint
-  Developed Campground
-  Trailer Sanitary Station
-  Water Supply Line (Above ground)
-  Water Supply Line (Buried)

Other Facilities

PG & E Transmission Lines:


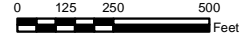
-  230 kV
-  60 kV





Placer County Water Agency
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




















Map 2-2f
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project
Ellicott Bridge Area

Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83

Date: 10/31/11

PCWA Facilities and Features

-  Dam
-  Ancillary and Other Facilities
-  Powerhouse
-  Gage
-  Reservoir Gage
-  Penstock
-  Tunnel
-  Pipeline
-  Gate
-  Access Point
-  Public Safety Fence
-  FERC Boundary
- Project Power and Communication Lines:**
-  Communication
-  Power
-  Power (underground)
-  Communication/Power
-  Communication/Power (underground)
- Transportation**
-  Road
-  Project Road
-  Project Trail
-  Recreation Access Road
-  Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
-  Picnic Area
-  Boat Ramp
-  Scenic Viewpoint
-  Developed Campground
-  Trailer Sanitary Station
-  Water Supply Line (Above ground)
-  Water Supply Line (Buried)
- Other Facilities**
- PG & E Transmission Lines:**
-  230 kV
-  60 kV

Land Jurisdictions / Ownership*

-  Eldorado National Forest
-  Tahoe National Forest
-  Bureau of Land Management
-  Bureau of Reclamation
-  PCWA
-  Lone Star Timber
-  Sierra Pacific Industries**
-  Other Private (Blank)

** Includes former properties of R.H. Emmerson & Son, LLC

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Placer County Water Agency
 Middle Fork American River Project

Map 2-2g
Land Jurisdictions in the Immediate Vicinity of the Middle Fork Project North Fork American River above American River Pump Station Area

0 250 500 1,000 Feet
 Projection: Ca. Stateplane, Zone 2
 Datum: NAD 83
 Date: 10/31/11

