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ac	acre
ac-ft	acre-feet
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic foot/feet per second
DSOD	Division of Safety of Dams
DSSMP	Dam Safety Surveillance and Monitoring Plan
DSSMR	Dam Safety Surveillance and Monitoring Report
EAP	Emergency Action Plan
FERC or Commission	Federal Energy Regulatory Commission
Forest Service	United States Forest Service
HAER	Historic American Engineering Record
HP	horsepower
INF	Inyo National Forest
ISO	Independent System Operator
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour

MW	megawatt/s
NFS	National Forest System
ODSP	Owner's Dam Safety Program
Project	Rush Creek Project
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison Company
SHPO	State Historic Preservation Officer
USFS	United States Forest Service
USGS	Unites State Geological Survey
WSE	water surface elevation
WY	water year

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2.0 EXISTING PROJECT LOCATION, FACILITIES, AND OPERATIONS

2.1 INTRODUCTION

This section provides a description of Southern California Edison Company's (SCE) Rush Creek Project (Project) (Federal Energy Regulatory Commission [FERC or Commission] Project No. 1389). FERC's content requirements for this section are specified in Title 18 of the Code of Federal Regulations (CFR) Chapter I § 5.6(d)(2).

2.2 AUTHORIZED AGENT

The exact name, business address, and telephone number of each person authorized to act as agent for the applicant is identified below.

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2.3 PROJECT LOCATION

The Project is located on Rush Creek on the eastern slope of the Sierra Nevada in Mono County, California. The Project is situated approximately 4 miles southwest of the unincorporated community of June Lake and approximately 14 miles upstream from Mono Lake (Map 2-1).

The area around the Rush Creek Powerhouse is located on SCE-owned lands. However, the majority of the Project facilities occupy federal lands within the Inyo National Forest (INF), which is under the jurisdiction of the United States Forest Service (Forest Service). A portion of the Project (Rush Meadows Dam, Waugh Lake, Gem Lake, and the upstream side of Gem Dam) is located within the Ansel Adams Wilderness Area[1] (Map 2-2 and Map 2-3).

Northeast of Agnew Dam, a 135-foot-long section of the 4-kilovolt (kV) power line, which connects Rush Creek Powerhouse to Agnew Dam, crosses the Owens River Headwaters Wilderness Area;[2] however, no poles/towers are located within the wilderness area.

[1] Construction of the Project was completed in the early 1900s, before Congress' establishment of the Ansel Adams Wilderness Area. Ansel Adams Wilderness Area was originally established by Congress as part of the original Wilderness Act in 1964. At that time, it was designated as the Minarets Wilderness. In 1984, after Ansel Adams' death, the area was renamed in his memory.

[2] The Owens River Headwaters Wilderness Area was designated by Congress on March 31, 2009.

2.4 PROJECT BACKGROUND

The 13.01-megawatt (MW) Rush Creek Project includes: three dams and associated reservoirs—Rush Meadows Dam (Waugh Lake), Gem Dam (Gem Lake), and Agnew Dam (Agnew Lake); a water conveyance system; the Rush Creek Powerhouse; and ancillary facilities. Rush Meadows Dam was completed in 1918, and subsequently raised in 1924 and 1925. Original construction of Gem Dam was completed between 1915 and 1917, and an additional gravity section was added in 1924. Construction of Agnew Dam was completed between 1915 and 1917.

The three Project reservoirs historically provided storage for lake recreation during the summer and allowed for electricity generation at the Rush Creek Powerhouse in the fall/winter. Water exiting the powerhouse enters a short tailrace and is returned to Rush Creek upstream of Silver Lake. Refer to Maps 2-4a–g for detailed maps depicting the FERC Project boundary and major Project facilities. Figure 2-1 provides an elevation profile of the Project.

2.4.1 Seismic Restrictions

Between 2008 and 2013, SCE conducted detailed fault studies, structural testing, and engineering analysis of Rush Meadows, Gem, and Agnew dams as a consequence of the Silver Lake Fault being identified as a potential safety concern in 2007. Early testing focused on Rush Meadows and Gem dams. The results of the analysis indicated a potential dam safety issue when the reservoirs are full and there is a large seismic loading event (earthquake). As such, SCE filed a request with FERC for a temporary variance in the minimum storage level requirements for Waugh and Gem lakes (SCE 2012). FERC approved the request to limit Waugh Lake to an elevation of 9,392.1 feet and Gem Lake to an elevation of 9,027.5 feet to address seismic concerns. The approval stated that SCE may not refill the reservoirs above the seismic restrictions until authorization is received from FERC (FERC 2012a).

In 2013, FERC approved SCE's request for temporary variance to keep Agnew Lake completely drained to address seismic concerns. The approval stated that Agnew Lake will not be refilled until FERC finds that the dam is safe with a full reservoir under seismic loading (FERC 2013).

Since 2013, FERC has filed numerous letters stating that SCE shall retain the reservoir restrictions at the three reservoirs until FERC formally notifies SCE otherwise. Most recently, on October 27, 2016, FERC issued a letter directing SCE to maintain the reservoirs at Rush Meadows, Gem, and Agnew dams at or below the agreed-upon restricted reservoir elevations until further notice (Waugh Lake – 9,392.1 feet; Gem Lake – 9,027.5 feet; and Agnew Lake – completely drained) (FERC 2016a).

As a result of the seismic restrictions placed on the Project, in 2014 SCE began consulting with FERC and various resource agencies to discuss engineering and licensing process options for developing a comprehensive long-term solution to address the seismic concerns, including consideration of both dam retrofitting and decommissioning.

In 2016/2017, the Rush Creek Watershed experienced 220% of the average snowpack resulting in unprecedented high-runoff conditions. Prior to runoff, SCE determined the restricted reservoir elevations at Waugh, Gem, and Agnew lakes could not be maintained through normal Project operations of outlet valves and penstock releases. To address the seismic restrictions and alleviate safety concerns as required by FERC (Division of Dam Safety and Inspections) and the California Department of Water Resources (Division of Safety of Dams [DSOD]), SCE implemented emergency actions in 2017 and additional interim structural modifications in 2017–2018 and 2020–2021, as summarized below:

- Emergency Actions (2017) – Installed a temporary pumping system to remove water from Agnew Lake and modified the Gem and Agnew flowlines to manage lake elevations more effectively.

- Interim Structural Modifications (2017–2018) – Notched the base of Agnew Dam (2017) and Rush Meadows Spillway (2018) to pass higher flows downstream and passively comply with the seismic restrictions.

- Interim Structural Modifications (2020–2021) – Retrofitted the existing Gem Dam Arch No. 8 outlet valve to improve hydraulic characteristics of the valve and increase flow releases at the Arch No. 8 outlet.

2.5 EXISTING PROJECT FACILITIES

This section describes existing Project facilities (from upstream to downstream) including dams and lakes; water conveyance systems; the powerhouse; gages; power and communication lines; and support facilities. A list of these Project facilities is provided in Table 2-1. A summary of the physical characteristics/specifications of the primary Project facilities is provided in Table 2-2. Refer to the following maps for geographic depictions of the Project vicinity (Map 2-1); land jurisdiction (Map 2-2); public land survey system (township, range, and section) (Map 2-3); and Project facility locations (Map 2-4a-g). A general elevation profile of the Project is shown on Figure 2-1. Subsequent to issuance of the current license in 1997, several maintenance activities and emergency/interim modifications to Project facilities were implemented. For maintenance/modification activities located within the Ansel Adams Wilderness Area, SCE obtained authorization from the Forest Service, as identified in Table 2-3.

Information for this section was developed from the current FERC license (FERC 1997), Exhibit A (SCE 2013a), Exhibit F (SCE 2013b), and Exhibit G (SCE 2009) for the Project, along with Historic American Engineering Records (HAER) prepared by SCE to document historic resources (SCE 2013c, 2013d, 2013e). Information regarding Project modifications was obtained from final reports filed with resource agencies following construction activities (SCE 2017, 2018).

2.5.1 Rush Meadows Development

2.5.1.1 Rush Meadows Dam

Rush Meadows Dam is a concrete radial-arch structure. The dam was originally constructed in 1918 and was subsequently raised in 1924 and 1925 to its current height and storage capacity. The crest is 463 feet long and located at 9,418.6 feet in elevation. The maximum height of the dam is 50 feet. Metal pipe handrails are installed along a runway atop the crest of the dam. A geomembrane layer covers the upstream face of the dam. The north end of the dam abuts the canyon wall, and the south end is buttressed. The south end of the dam adjoins a wing wall that contains the spillway, which prior to 2018 was a 55-foot-long ungated notch 3 feet lower than the crest, at an elevation of 9,415.6 feet.

In 2018, an additional notch was constructed in the spillway to increase the capacity to pass inflows during high-runoff years to facilitate compliance with the FERC-mandated reservoir elevation restrictions (FERC 2012a, 2016a). The 12-foot-wide by roughly 19-foot-high notch was installed in the spillway's left section and reinforced with two concrete buttresses on the downstream side. The crest elevation of the new spillway notch is 9,395.6 feet. In a letter dated February 7, 2020, and following the final inspection of work at Rush Meadows Dam, DSOD issued an amended Certificate of Approval for the dam that revised the terms and conditions to read "water may be impounded to elevation 9,395.60, NGVD 29 Datum, the crest of the spillway notch." DSOD concluded that the spillway notch adequately mitigates the seismic stability concerns with Rush Meadows Dam, and DSOD lifted its reservoir restriction imposed on February 14, 2013, and updated the condition assessment of the dam from "Fair" to "Satisfactory" (DSOD 2020).

A concrete inlet chamber is located off-center at the base of the upstream side of the dam. The upstream face of the inlet chamber contains a pair of 6-foot-wide metal grates. Behind the grates, two slide gates installed in the dam face control the flow of water into two steel outlet pipes (the right outlet is circular with a 24-inch diameter and the left outlet is square with sides measuring 30 inches) located at an elevation of 9,368.6 feet. On the downstream side of the dam, there is a valve house and both outlet pipes discharge into Rush Creek, which flows into Gem Lake.

Below Rush Meadows Dam, the existing license requires a continuous minimum flow of 10 cubic feet per second (cfs) or natural flow into Waugh Lake, whichever is less.[3]

2.5.1.2 Waugh Lake

As originally designed, Rush Meadows Dam impounded Waugh Lake, a 185-acre reservoir with a storage capacity of 5,277 acre-feet (ac-ft). However, since 2012, as required by FERC, Waugh Lake has been limited to an elevation of 9,392.1 feet to meet seismic restrictions and alleviate safety concerns (FERC 2012a, 2016a), resulting in a 130-acre reservoir with a storage capacity of 1,555 ac-ft.

[3] Forest Service 4(e) Condition No. 5 – Minimum Streamflow Requirements.

2.5.1.3 Gages

The following gages measure stream flow and reservoir elevation in the vicinity of Rush Meadows Dam:

- Rush Creek below Rush Meadows (Waugh Lake) (U.S. Geological Survey [USGS] No. 10287262; SCE No. 359R) – Stream gage located approximately 160 feet downstream of Rush Meadows Dam

- Waugh Lake (USGS No. 10287260; SCE No. 359) – Reservoir gage located in gage house adjacent to north abutment of dam

2.5.1.4 Trail

The Rush Meadows Dam Access Trail (Project trail) extends approximately 160 feet from the Rush Creek Trail (non-Project trail) providing access to the dam and ancillary facilities adjacent to the north side of the dam.

2.5.1.5 Ancillary Facilities

Ancillary Project facilities associated with the Rush Meadows Development are located downstream of the dam adjacent to the north abutment, and include:

- Equipment shed

- Gage house

- Solar facility

2.5.2 Gem Development

2.5.2.1 Gem Dam

Gem Dam is a reinforced concrete multiple-arch structure. The dam was originally constructed from 1915–1917, with an additional gravity section added in 1924. The crest is 688 feet long and located at 9,057.5 feet elevation. The maximum height of the dam is 84 feet. Metal pipe handrails are installed along a runway atop the crest. A geomembrane layer covers the upstream face of the dam.

The dam comprises 16 full arches adjoined by buttresses and two partial arches at each end. Each full arch segment is 40 feet wide between the centers of the adjoining buttresses. The northern-most partial arch is not numbered. The remaining arches are designated from north to south as Arches No. 1 to No. 17.

Two spillways are located at the south end of the dam. The partial arch segment at the south abutment (Arch No. 17) contains the upper spillway at 9,053.64 feet in elevation, comprising five rectangular openings, each approximately 5 feet wide and 2 feet high, arranged in a horizontal row just below the crest of the dam. The adjacent arch segment

(Arch No. 16) contains the lower spillway, consisting of a row of eight identical openings approximately 5 feet wide and 2 feet high, set 2 feet lower than the upper spillway at 9,051.63 feet in elevation.

A 48-inch-diameter, steel flowline from Gem Lake Intake passes beneath the dam structure (Arch No. 3) and conveys water to the Agnew Junction. From the Agnew Junction, water is conveyed via penstock(s) to the Rush Creek Powerhouse. Refer to Section 2.5.5 for a discussion of the Project's water conveyance system.

A 36-inch-diameter low-level outlet pipe (8,985 feet in elevation) installed at the base of the dam (Arch No. 8) is used to pass high flows downstream and release water to maintain the minimum instream flow requirements in the existing license. The upstream end of the outlet pipe is covered by a grate. The downstream end of the pipe passes through a small, galvanized iron valve house and terminates at an anchor block, situated on a concrete footing at the base of the dam. Water is discharged into Rush Creek, which flows into Agnew Lake.

In 2021, SCE upgraded the Arch No. 8 outlet valve, discharge pipe, and associated electrical work to improve hydraulic characteristics of the valve and allow for higher flow releases at the Arch No. 8 outlet from Gem Lake into Rush Creek to assist in maintaining the seismic restricted reservoir elevation during high-runoff years. The Arch No. 8 outlet valve was retrofitted with a 36-inch knife gate fitting, and the existing 36-inch-diameter discharge pipe was replaced with a 54-inch-diameter pipe.

Below Gem Dam, the existing license requires a continuous minimum flow of 1 cfs or natural flows when the level of Gem Lake falls below the level of the face of the dam.[4]

2.5.2.2 Gem Lake

As originally designed, Gem Dam impounded Gem Lake, a 282-acre reservoir with a storage capacity of 17,228 ac-ft. Since 2012, as required by FERC, Gem Lake has been limited to an elevation of 9,027.5 feet to meet seismic restrictions and alleviate safety concerns (FERC 2012a, 2016a), resulting in a 256-acre reservoir with a storage capacity of 10,752 ac-ft.

2.5.2.3 Gages

The following gages measure stream flow and reservoir elevation in the vicinity of Gem Dam:

- Rush Creek below Gem Lake (USGS No. 10287281; SCE No. 352R) – Stream gage located at the Gem Valve House
- Gem Lake (USGS No. 10287280; SCE No. 352) – Reservoir gage located at the Gem Valve House

[4] Forest Service 4(e) Condition No. 5 – Minimum Streamflow Requirements.

2.5.2.4 Tramway

The Gem Tram, an approximately 1,490-foot-long (0.28 mile) incline railroad, is used to transport personnel and equipment between the Upper Agnew Boathouse/Dock on the southwestern shore of Agnew Lake and the Gem Tram Hoist House located near the south abutment of Gem Dam.

The Gem Tram includes upper and lower landings that provide areas for loading/unloading of personnel and equipment near the dam crest and near the base of the dam. The upper landing is located near the south abutment of the dam adjacent to the hoist house, and the lower landing is approximately 275 feet below the hoist house and south of the cookhouse. Adjacent to the lower landing, the tram includes a bridge over Rush Creek. During high flows in 2017, a portion of the Gem Tram was washed out. The tram is currently not operational until repairs can be implemented.

2.5.2.5 Trails

The following Project trails are used to access facilities located in the vicinity of Gem Dam:

- Lower Gem Dam Access Trail – 980-foot-long Project trail that extends from Rush Creek Trail (non-Project trail) to the Gem Tram Lower Landing. This trail includes a footbridge adjacent to the lower tram landing.

- Gem Dam Arch 8 Access Trail – 120-foot-long Project trail that extends from the Lower Gem Dam Access Trail (near the Bunkhouse) to the Arch No. 8 Valve House.

- Upper Gem Dam Access Trail – 430-foot-long Project trail that extends from the Lower Gem Dam Access Trail (near the cookhouse) to the south abutment of the Dam. This trail includes a footbridge over Rush Creek.

2.5.2.6 Ancillary Facilities

Ancillary Project facilities associated with the Gem Development include:

- The Gem Valve House and Cabin includes personnel housing on the main floor and the valve house on the bottom floor (i.e., basement).

- The Gem Valve House Tunnel provides access from the Gem Cabin to the bypass valve controls on the flowline.

- The Gem Bunkhouse, Outhouse, and Cookhouse provide accommodations/ support facilities for personnel.

- Gem Weather Station and Satellite Dish located between the Gem Valve House/Cabin and the Bunkhouse. The weather station records meteorological data, and the satellite dish is used to support communication.

- The Gem Solar Facility located at the Gem Valve House and Cabin powers controls and metering devices.

- Gem Lake Dock is located near the south abutment of the dam and stores the Gem Lake Motor Barge,[5] which is used to transport personnel and equipment across the lake.

- A compressor shed and storage shed located near the south abutment of the dam along with two overhead hoist houses—one to transport materials along the dam length and another to lift the barge into the lake.

2.5.3 Agnew Development

2.5.3.1 Agnew Dam

Agnew Dam, constructed between 1915 and 1917, is a reinforced concrete, multiple-arch structure. The crest is 278 feet long and located at 8,498.9 feet in elevation. The maximum height of the dam is 30 feet. Metal pipe handrails are installed along a runway atop the crest. A geomembrane layer covers the upstream face of the dam. The dam comprises five full arches adjoined by buttresses and two partial arches at each end, which are designated from north to south as Arches No. 1 to No. 7. Each full arch segment is 40 feet wide between the centers of the adjoining buttresses.

Spillways are located in Arches No. 5 and No. 6. Each spillway comprises eight rectangular openings, each approximately 5 feet wide and 2 feet high, arranged in a horizontal row just below the crest of the dam, at 8,495.88 feet in elevation.

The inlet works is a concrete chamber built against the base of the upstream face, between Arches No. 4 and No. 5, at an elevation of 8,470 feet. The sloping upstream face of the chamber is approximately 16 feet wide by 20 feet long. The opening of the chamber is covered with a steel grate that is approximately 13 feet wide by 17 feet long. The chamber is connected to a 30-inch-diameter, steel outlet pipe (8,470 feet in elevation) that passes through the base of the dam at Arch No. 4. This outlet pipe is the intake to the Agnew Flowline and is controlled by a butterfly valve that is located in an enclosure immediately downstream of the dam. Historically, water was conveyed through the flowline to the Agnew Junction. From Agnew Junction, water was conveyed via penstock into the Rush Creek Powerhouse. Refer to Section 2.5.5 for a discussion of the Project's water conveyance system and modifications made to the Agnew Flowline in 2017.

In 2017, two rectangular notches measuring 6 feet 2 inches wide by 5 feet high were cut in Agnew Dam at the base of Arches No. 5 and No. 6 (base of notch is 8,472 feet in elevation) to allow the reservoir to pass high flows downstream to facilitate compliance with the FERC-mandated reservoir elevation restrictions (FERC 2012a, 2016a). In addition, SCE constructed two buttress walls on the downstream side of each notch to

[5] In accordance with revised Forest Service 4(e) Condition No. 8 (November 30, 1999), the Gem Lake Motor Barge may be used on an as-needed basis for routine operation and maintenance purposes within the Ansel Adams Wilderness Area.

provide additional stability and prevent downcutting or scour behind the dam. Currently, the flowline intake is closed and the new notches at the dam are used to meet minimum instream flow requirements in the existing license and pass high flows downstream.

Below Agnew Dam, the existing license requires a continuous minimum flow of 1 cfs or natural flows when the level of Agnew Lake falls below the level of the face of the dam.[6]

2.5.3.2 Agnew Lake

As originally designed, Agnew Dam impounded Agnew Lake, a 40-acre reservoir with a storage capacity of 810 ac-ft. Since 2013, under the FERC-mandated storage restrictions, only a small natural lake (23 acres; 569 ac-ft), that pre-dates the Project, exists upstream of the dam (FERC 2013, 2016a).

2.5.3.3 Gages

The following gages measure stream flow and reservoir elevation in the vicinity of Agnew Dam:

- Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357) – Stream gage located approximately 600 feet downstream of Agnew Dam at the Project flume

- Agnew Lake (USGS No. 10287285; SCE No. 351) – Reservoir gage located at the Agnew Boathouse

2.5.3.4 Tramway

The Agnew Tram, an approximately 4,280-foot-long (0.81 mile) incline railroad, is used to transport personnel and equipment between Rush Creek Powerhouse and the Agnew Tram Hoist House located at the north abutment of Agnew Dam. The Agnew Tram Landing (500 feet below the hoist house) is located adjacent to the Agnew Cabin and is used for loading/unloading of personnel and equipment. A barge provides for transport of personnel and equipment across Agnew Lake to the Gem Tram.

2.5.3.5 Trail

The Agnew Stream Gage Access Trail (Project trail) extends approximately 170 feet from Agnew Cabin to the Project gaging station/flume.

[6] Forest Service 4(e) Condition No. 5 – Minimum Streamflow Requirements.

2.5.3.6 Ancillary Facilities

Ancillary Project facilities associated with the Agnew Development include:

- Agnew Cabin located south of the dam provides personnel housing.
- Agnew Weather Station located on the southwest side of Agnew Cabin records meteorological data.
- Agnew Flume is located approximately 500 feet downstream of Agnew Dam and facilitates flow measurements in Rush Creek.
- Lower Agnew Lake Boathouse/Dock is located near the north abutment of the dam. Historically, the Agnew Lake Motor Barge was stored here and was used to transport personnel and equipment across the lake.
- Upper Agnew Lake Boathouse/Dock located on the southwest end of the lake provides access to the Gem Tram.

2.5.4 Rush Creek Powerhouse

The Rush Creek Powerhouse (constructed from 1915–1922) is located on an approximately 10-acre complex on SCE-owned lands. The powerhouse, located at an elevation of 7,253 feet, is a two-story structure that is approximately 40 feet wide by 80 feet long by 63 feet high. The powerhouse contains two single-overhung, single-jet, impulse turbines (Pelton water wheel) rated at a total of 16,515 horsepower (HP) (Unit No. 1 – 8,515 HP; Unit No. 2 – 8,000 HP); two horizontal-shaft generator units with a total installed capacity of 13,010-kilowatts (kW) (Unit No. 1 – General Electric, 5,850-kW; Unit No. 2 – Allis Chalmers, 7,161-kW). The powerhouse is equipped with one 20-ton overhead crane and a 2-ton secondary crane, which provide hoisting capability for all major equipment. Refer to Table 2-2 for additional specifications.

A 150-foot-long, 2.4-kV transmission line (Project facility) conveys power from the powerhouse turbines to the switchyard (non-Project facility) when the Project is generating electricity and from the switchyard to the powerhouse when the Project is not generating. Refer to Section 2.5.6.

Originating at the Agnew Junction, two 28-inch-diameter steel penstocks enter the west side of the powerhouse and connect to the turbines. From the east side of powerhouse, a 470-foot-long tailrace returns water to Rush Creek. USGS Gage No. 102873000/ SCE No. 367 is located on the west wall and records flow through the powerhouse.

The powerhouse complex is accessed via the Rush Creek Powerhouse Complex Access Road, a Project road. Two gated entry points are available off of State Route 158. The powerhouse complex also includes various ancillary facilities that support Project operations, including:

- Cottages
- Garages
- Warehouse and loading dock
- Machine shop
- Pump house
- Woodsheds
- Helicopter landing site
- Propane tank
- Bridges over the powerhouse tailrace and Rush Creek

2.5.5 Water Conveyance System

This section includes a description of the current water conveyance system as modified by SCE beginning in 2017 to meet seismic restrictions. Refer to Figure 2-2 for a depiction of the current water conveyance system. The figure depicts previously existing features in blue, new or modified features in red, and non-functional features in brown.

Water captured in Waugh Lake is released directly into Rush Creek for conveyance to Gem Lake; no Project water conveyance system is associated with Waugh Lake / Rush Meadows Dam. Water captured in Gem and Agnew lakes can be either conveyed via Project flowlines and penstocks to the Rush Creek Powerhouse or released into the natural stream channel from low-level outlets and/or flowline valves.

From Gem Dam, water is conveyed through a 48-inch-diameter riveted-steel flowline downhill approximately 4,584 linear feet to the Agnew Junction. The flowline from the reservoir to the Agnew Junction is completely underground. Water can be released from the Arch No. 8 Outlet and minimum instream flow release at the base of the dam; a bypass flowline just downstream of the dam; and from a pressure release valve or new 18-inch valve located just upstream of Agnew Junction. The new 18-inch valve was installed in 2017 at an existing flange in the Gem Flowline to maximize outflows and reduce reservoir levels of Gem Lake.

From Agnew Dam, historically, water was conveyed through a lap welded, 30-inch-diameter steel flowline downhill approximately 575 linear feet to the Agnew Junction. Along the flowline between Agnew Dam and Agnew Junction, a release valve was used

to provide the minimum instream flow requirements downstream of the dam, and a drain valve was used to draw down the reservoir. The flowline from Agnew Dam includes sections that are both above ground and below ground.

In 2017, SCE modified the Agnew Flowline to release additional water from the reservoir (emergency action) due to the high projected runoff (220% of the average snowpack). The bottom of the Agnew Flowline was cut in two places to maximize outflows and expedite lowering of Agnew Lake. The Agnew Dam was also modified, as discussed in Section 2.5.3.1. Currently, the flowline intake is closed, and the new notches at the dam are used to meet minimum instream flow requirements in the existing license and pass high flows downstream.

At the Agnew Junction, water from the Gem Dam Flowline can enter either the penstock for Powerhouse Unit No. 1 or No. 2. Historically, water from the Agnew Dam Flowline could only enter the penstock for Powerhouse Unit No. 1. However, with the Agnew Flowline modification in 2017 and the seismic restriction, no water from Agnew Lake is available for generation.

From the Agnew Junction, two parallel, 30-inch to 28-inch-diameter welded steel penstocks convey water 4,280 linear feet to the powerhouse. From Agnew Junction, both penstocks are underground until 75 feet before entering the Rush Creek Powerhouse where they become visible.

2.5.6 Power and Communication Lines

As stated above, a 150-foot-long, 2.4-kV transmission line (Project facility) conveys power from the powerhouse turbines to the switchyard[7] (non-Project facility) when the Project is generating electricity and from the switchyard to the powerhouse when the Project is not generating. Refer to Figure 2-3 for a schematic showing the Project's transmission and power line system.

The Rush Creek Powerhouse is used to respond to California Public Utility Commission (CPUC) and California Independent System Operator (ISO) demands for power. Demands can be market driven (i.e., energy needs and renewable load), or can be a response to need for grid and electrical stability to Mono Basin when the source transmission line is de-energized (17 times in 2021 to date).

These events are a result of their only being one single source line into the Mono Basin from the California ISO greater grid (Casa Diablo 115-kV line). These events occur from public safety power shutoffs, weather or pole replacement, or line upgrades. Rush Creek Powerhouse can support load for June Lake, Lee Vining, Bridgeport, Mono City, and the United States Marine Corps Pickle Meadows Base.

[7] Adjacent to the powerhouse, the associated transformer, switchyard, substation, and 115-kV transmission lines extending from the switchyard to California's electric grid are non-Project facilities.

Historically, a 1.59-mile-long, 4-kV Project power line extended between the Rush Creek Powerhouse and Gem Dam, including a 0.78-mile-long segment to Agnew Dam and a 0.81-mile-segment that continued to Gem Dam. The line also included two short distribution lines—one to Agnew Dam (200 feet long) and the other to the Upper Agnew Boat Dock (620 feet long). In 2020, the portion of this power line from Agnew Dam to Gem Dam (0.81-mile segment) was physically removed.

The remaining operational Project power lines include the 0.78-mile-long segment from the Rush Creek Powerhouse to Agnew Dam and the distribution line to Agnew Dam that distributes power to the dam appurtenances. While the distribution line to the Upper Agnew Boat Dock was not physically removed, it is no longer operational.

The Communication Line from Rush Creek Powerhouse to Gem Lake Dam (approximately 1.63 miles long) is the main Project communication line. The line runs from the Rush Creek Powerhouse along the Agnew Tram to the Agnew Tram Hoist House. From the Agnew Tram Hoist House, the line continues across Agnew Lake in an armored plastic conduit on the bottom of the lake to the Upper Agnew Lake Boathouse/Dock. From the Upper Agnew Lake Boathouse/Dock, the communication line extends along the Gem Tram to the Gem Tram Hoist House. The following spurs extend from the main line:

- Communication Line from Agnew Hoist House to Agnew Boathouse (170 foot long)
- Communication Line from Gem Tram Hoist House to Gem Valve House (510 foot long)
- Communication Line from Gem Valve House to Arch No. 8 Valve House (240 foot long)

2.6 PROJECT FACILITY MAINTENANCE

This section describes routine inspection and maintenance activities conducted for the Project. Routine inspections are conducted at Project facilities to verify the structural and/or functional integrity of the facilities and to identify conditions that might disrupt operation or threaten public safety. Routine maintenance activities are conducted to maintain Project facilities in safe and operational conditions. A description of each activity is provided in the following subsections.

2.6.1 Powerhouse Inspection and Maintenance

SCE conducts an annual maintenance outage at the powerhouse. The maintenance outage typically occurs in the fall and lasts up to 2 weeks. During the outage, SCE conducts comprehensive mechanical and electrical inspections, testing, and maintenance of the powerhouse appurtenances. In conjunction with the powerhouse maintenance outage, SCE also makes any repairs to Project penstocks, as appropriate.

SCE daily inspects all powerhouse appurtenances to ensure they are operating properly. Minor maintenance and repairs to powerhouse appurtenances are made on an as-needed basis.

2.6.2 Powerhouse Complex Maintenance

Repairs to other buildings and ancillary facilities located within the powerhouse complex are made on an as-needed basis, including painting, building maintenance, and access road/bridge repairs.

2.6.3 Flowline/Penstock and Valve House Inspections and Maintenance

SCE quarterly conducts physical inspection (weather permitting) of the exterior of flowlines/penstocks (including valves, air valves, releases, and stand pipe) and valve houses. Minor repairs, including patching leaks and conducting valve house repairs (e.g., applying new paint, siding, and/or roofing) are made on an as-needed basis. Inspection of flowline/penstock interiors is conducted during the annual maintenance outage when they are dewatered by either physical inspection and/or cameras, depending on the section length and location.

2.6.4 Dam Inspections, Testing, and Maintenance

To identify routine maintenance needs, SCE visually inspects all dams and appurtenances monthly, including:

- Geomembrane liners
- Concrete
- Ancillary and support facilities
- Handrails and gates
- Paint
- Gaging stations and houses (e.g., painting, roofing)

In addition, SCE conducts the following inspections and maintenance activities at Project dams:

- Annually, when lakes are drained, typically in the early spring, intake grates are manual cleaned to remove accumulated material.
- Annually, valves/low-level outlets are inspected and tested by partial opening the values.
- Every 5 years, valves/low-level outlets are fully opened for testing.

Refer to Section 2.11.2 for additional information on FERC inspections and Independent Consultant Safety inspections completed for the Project.

2.6.5 Tram Inspections and Maintenance

The Agnew and Gem trams (including tracks, ties, rollers, and cables) are inspected weekly when operational (approximately late May to late September) to ensure the tracks are clear and have no excess wear. The following maintenance activities are completed as needed:

- Hand clearing vegetation that has encroached on the tracks;
- Replacing or repositioning ties; and
- Replacing rollers and cables.

Tram cars, hoists, and hoist houses are inspected annually, and repairs are made as necessary.

2.6.6 Vegetation Management

Vegetation management is implemented at Project facilities as necessary to control vegetation that may affect access, functionality of facilities, or worker/public health and safety. Vegetation management includes hand trimming, removing hazard trees, and applying herbicide.

Hand Trimming: Hand trimming vegetation includes trimming grasses and forbs with a string trimmer and trimming shrubs and trees with a chainsaw, other handheld saw, or pruners. These activities are implemented on an as-needed basis.

Hand trimming occurs in the following areas:

- Within 5 feet on either side of trails;
- Within 10 feet on either side of power and communication lines;
- Within 2 feet on either side of tram tracks;
- Within 5 feet on either side of exposed flowlines/penstocks; and
- Within the powerhouse complex.

Removing Hazard Trees: Hazard trees, generally defined as trees with defects that may cause a failure resulting in property damage, personal injury, or death, are removed on an as-needed basis. Removal is conducted with a chainsaw, handheld saw, or other equipment.

Applying Herbicides: Herbicides are used to control weeds and vegetation encroachment and are applied using a small handheld sprayer. They are used in accordance with label instructions by a licensed vendor on SCE-owned lands. Herbicides are not applied on Forest Service lands. Herbicide use only occurs inside the powerhouse substation perimeter fence and 10 to 15 feet outside the fence to control weeds and vegetation encroachment.

2.6.7 Woody Debris Removal

SCE removes woody debris that builds up along the dams and has the potential to block spillways and low-level outlets. Woody debris is generally removed as follows:

- **Rush Meadows Dam**: Historically, woody debris was manually moved upstream of the dam to a location where it could be cut up into manageable pieces and secured on the bank.[8] With the newly modified spillway, and in accordance with SCE's approved Debris Management Plan for Rush Meadows Dam (SCE 2020), if woody debris builds up along the dam, SCE will temporarily raise the reservoir elevation to direct flow through the spillway notch to "flush" floating debris downstream of the dam.[9] The flushing operation will typically be implemented every 3 years and more frequently, if needed, to effectively manage floating debris.

- **Gem Dam**: Woody debris is removed with an overhead hoist/crane and placed downstream of the dam to dry out. Once dry, it is burned onsite.

- **Agnew Dam**: Woody debris is removed with a small overhead crane and placed downstream of the dam to dry out. Once dry, it is burned onsite.

2.6.8 Pest Management

Management of rodent populations at Project facilities includes a combination of physical control and rodenticide use. The purpose of rodent control is to prevent rodent infestations in building interiors, thereby protecting worker/public health and safety and maintaining system reliability. Rodent traps and over-the-counter rodenticides are used in the interior of buildings located at the powerhouse complex and at ancillary facilities located at Gem and Agnew dams.

2.6.9 Trail Maintenance

Project access trails are regularly inspected during normal Project activities. Repairs are conducted on an as-needed basis and generally include debris and rock removal; vegetation management; minor brushing; installation of access control structures such as barrier rock; and repair/replacement of signage.

[8] Rush Meadows Dam is within the Ansel Adams Wilderness Area and burning is not allowed.

[9] For safety reasons, reservoir levels would not exceed 5 feet above the spillway crest elevation (9,400.6 feet).

2.6.10 Power and Communication Line Maintenance

Power and communication line maintenance includes replacement of damaged poles on an as-needed basis. New poles are placed in, or immediately adjacent to, previously existing holes using helicopters. Vegetation management is also conducted along power and communication line corridors, as needed.

2.7 PROJECT OPERATIONS

Project operations are described for two periods: (1) Historical Operations (water years [WY] 1990–2011), prior to implementation of reservoir elevation restrictions; and (2) Current Operations (WY 2012–2019), post-implementation of the reservoir elevation restrictions. Figures 2-4 and 2-5 depict current normal operations and high-flow operations associated with the Project.

Historical and current FERC elevation requirements for the Project reservoirs are provided in Table 2-4. Current FERC minimum flow release requirements are provided in Table 2-5. Reservoir storage for each of the Project reservoirs and powerhouse operations from WY 1990 through 2019 are provided in Figure 2-6. Reservoir elevations and minimum flow releases are provided in Figures 2-7, 2-8, and 2-9.

2.7.1 Waugh Lake

Historically, the low-level outlets for Rush Meadows Dam were closed and Waugh Lake began filling between late April and mid-June depending on Rush Creek inflow and weather conditions affecting access to the facilities (Figure 2-6). Waugh Lake typically began filling about 2.5 weeks after the larger downstream reservoir, Gem Lake, began filling. Waugh Lake typically filled to the spillway elevation (5,100 ac-ft; 9,415.6 feet elevation) or greater each year (storage increased above the spillway elevation during spill events). Storage was then maintained to the extent sufficient water was available to meet minimum stream flow requirements in Rush Creek below Waugh (10 cfs or natural inflows, if less) (Figure 2-7; Table 2-5) from July 1 through the Tuesday following Labor Day weekend, at which point the storage was released into Rush Creek/Gem Lake for generation at an average rate of approximately 100 cfs until the water level dropped to the level of the low-level outlets (9,368.6 feet). The reservoir low-level outlets were then left open through winter and early spring (no storage and no water on the dam face).

Under current operations, Waugh Lake storage is maintained below the seismic restrictions to the extent possible given the infrastructure and inflows (Figures 2-6 and 2-7). During the winter and early spring, the reservoir is completely drained (the low-level outlets are left open). Since approximately 2017, the low-level outlets have generally been left open year-round. The notching of the spillway in 2018 facilitates compliance with the FERC-mandated reservoir elevation restrictions.

Storage releases from Rush Meadows Dam travel down Rush Creek into Gem Lake. The releases are measured at USGS Gage No. 10287262/SCE No. 359R. Data from 2000 to 2009 for the USGS record are spotty because they are reported only when flows are below 30 cfs (note that the gage is a minimum flow gage rated up to approximately 30 cfs)

(Figure 2-7). All the data for the later years (2010–2019) are shown on Figure 2-7, even data above the official gage rating, by plotting the SCE recorded data.

2.7.2 Gem Lake

Historically, Gem Lake began filling in the spring between early April and late May, depending on the Rush Creek inflow. Gem Lake would typically fill up to the spillway elevation (17,000 ac-ft; 9,051.63 feet elevation) or greater (storage increased above the spillway elevation during spill events). Storage would be maintained consistent with the July 1 through Labor Day weekend recreation requirements to the extent sufficient water was available to meet minimum stream flow requirements in Rush Creek below Gem Lake and, in low water years, a target 14[10] cfs release from the powerhouse, based on FERC requirements (Figure 2-6; Table 2-4). Typically, the reservoir elevation was maintained until Waugh Lake was fully drained and then Gem Lake was lowered at an average rate of 40 cfs until either (1) spring flows triggered refill the following year or (2) the storage dropped to approximately 1,000 to 4,000 ac-ft.

Under current operations, Gem Lake fills up to the maximum seismic restriction capacity of approximately 10,752 ac-ft (9,027.5 feet elevation) and maintains storage through the summer (Figure 2-6, Figure 2-8, and Table 2-4). A majority of the storage is released in the fall and the reservoir remains low until spring high flows refill it the following year.

Releases from Gem Lake, not including spills, are either diverted into the Rush Creek Powerhouse or travel downstream in Rush Creek to Agnew Lake (1-cfs minimum flow release). A minimum flow gage (USGS No. 10287281/SCE No. 352R) is located downstream of Gem Dam, but it does not capture reservoir spills (Figure 2-8).

2.7.3 Agnew Lake

Historically, Agnew Lake began filling in the spring between approximately late March and early June, depending on Rush Creek inflow. Agnew Lake would then remain filled consistent with the July 1 through Labor Day weekend license requirement (within 15 feet of the spillway elevation; 8,496 feet [1,379 ac-ft]). Typically, maximum storage was maintained, to the extent sufficient water was available to meet minimum stream flow requirements in Rush Creek below Agnew Lake (Table 2-4), until approximately the second week of October and after Waugh Lake was fully drained. At this point, Agnew would be drained at an average rate of 25 cfs until the water level dropped to near the level of the intake at 8,470.0 feet.

Under current operations, Agnew Lake is no longer used for storing water or power generation. A pre-Project natural lake is present with a maximum elevation of 8,470 feet and gross storage of 569 ac-ft. Currently, water entering the lake passes through the two notches in the bottom of the dam and flows into Rush Creek, eventually entering Silver

[10] Fourteen cfs is the plant minimum operation target identified in the FERC license requirements for Gem Lake storage.

Lake. USGS Gage No. 10287289/SCE No. 357 records flow in Rush Creek below Agnew Lake (Figure 2-9).

2.7.4 Powerhouse

Historically, flows through the Rush Creek Powerhouse (USGS Gage No. 10287300/SCE No. 367) from the Gem Dam and Agnew Dam flowlines/penstocks varied from zero to approximately 106 cfs (both units operating), depending on water availability and releases from Gem Dam and/or Agnew Dam (Figure 2-6 and Table 2-6). Often flows remained relatively steady for multiple weeks at a time; however, during some periods, flows fluctuated daily (Figure 2-6). Monthly average flows for the WY 1990–2011 period ranged from 34.7 to 62.5 cfs, with the highest flows in June and July and the lowest flows in the winter and early spring (Table 2-6). Powerhouse generation is described in Section 2.8.

Currently, flows through the Rush Creek Powerhouse (USGS Gage No. 10287300/SCE No. 367) from the Gem Dam penstock vary from zero to approximately 110 cfs (both units operating), depending on water availability and releases from Gem Dam (Figure 2-6 and Table 2-6). During some periods/years, flows remain relatively steady for multiple weeks at a time, however, during some periods, flows fluctuate daily (Figure 2-6). Monthly average flows for the WY 2012–2019 period ranged from 17.5 to 65.9 cfs, with the highest flows in June and July and the lowest flows in the fall, winter, and early spring (Table 2-6). Powerhouse generation is described in Section 2.8.

2.8 PROJECT GENERATION AND RECENT OUTFLOW RECORDS

Seismic restrictions (first implemented in 2012) affected the total amount of water available for power generation at Rush Creek Powerhouse. Water from Agnew Lake is no longer available for power generation, and the timing of flow released from Gem Lake has shifted because storage in Waugh Lake is limited. Figure 2-10 shows the WY 1990–2011 and WY 2012–2020 monthly average power generation at the Rush Creek Powerhouse. Generation in September through February is substantially reduced in the later period compared to the earlier period. Therefore, the description of annual/monthly energy production and dependable capacity is divided into two periods: (1) Historical Operations (WY 1990–2011); and (2) Current Operations (WY 2012–2020).

Because of reduced storage in the Project, total annual power generation depends largely on WY type (total available water in the system in a given year). Figure 2-11 shows the total annual Rush Creek Powerhouse generation for 1990 through 2019 (also see Section 4.3, Water Use and Hydrology).

2.8.1 Historic Dependable Capacity and Annual/Monthly Energy Production

The historical Rush Creek Powerhouse dependable capacity is 11.7 MW. The powerhouse has an installed capacity of 13.01 MW, and during a period of high energy demand (July/August of a low WY), the powerhouse could operate at a plant capacity factor of approximately 0.9 (90%) for a period of days or weeks. Average annual energy production for WY 1990–2011 was 46,017,944 kilowatt-hours (kWh). The minimum and maximum annual power production for the same period were 10,434,200-kWh and

71,051,882-kWh, respectively. The monthly average, minimum, and maximum energy production for this period and the plant capacity factor are shown in Table 2-7. Flow statistics for the Rush Creek Powerhouse are provided in Table 2-6.

2.8.2 Current Dependable Capacity and Annual/Monthly Energy Production

The current Rush Creek Powerhouse dependable capacity is 11.7 MW. During a period of high energy demand (July/August of a low WY), the powerhouse (13.01 MW) remains able to operate at a plant capacity factor of approximately 0.9 (90%) for a period of days or weeks. Average annual energy production for the WY 2012–2020 was 33,825,683 kWh. The minimum and maximum annual power production for the same period were 14,474,962-kWh and 60,790,380-kWh, respectively. The monthly average, minimum, and maximum energy production and the plant capacity factor for this period are shown in Table 2-7. Flow statistics for the Rush Creek Powerhouse are provided in Table 2-6.

2.8.3 Summary of Project Generation and Outflow (WY 2016–2020)

Monthly energy production and outflow data for the last 5 years (WY 2016 to 2020) are summarized in Table 2-8 and Table 2-9. During this period, monthly generation ranged from 0-kWh to 8,828,948-kWh, and monthly average flow through the powerhouse ranged from 0 cfs to 101 cfs.

2.9 CURRENT NET INVESTMENT

The current net investment for the Project, represented by the net book value as of August 2021, is $19.7 million.

2.10 CURRENT LICENSE REQUIREMENTS AND COMPLIANCE STATUS

FERC issued a new license to SCE on February 4, 1997, for the Project (FERC 1997). The licensed Project is subject to Articles 1 through 32 of FERC's standard terms and conditions set forth in Form L-1 (October 1975) titled *Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States*.

Project-specific License Articles mandated by FERC and conditions submitted by the Forest Service under Section 4(e) of the Federal Power Act are included in the License Order. The license has subsequently been amended by FERC at various times over the term of the license. FERC has also issued various administrative orders approving management and monitoring plans and design drawings that were required as part of the current license, effectively completing that requirement of the License Article or 4(e) Condition. Table 2-10 summarizes the requirements of each License Article and Forest Service 4(e) Condition, identifies current compliance status, and describes FERC actions related to each License Article or 4(e) Condition.

SCE is responsible for complying with all requirements of the FERC license, including all subsequent orders and amendments issued to date (Table 2-10); findings of FERC inspections; findings of other inspections under 18 CFR Part 12; and other FERC

directives, information requests, or inquiries. SCE has not been cited for a license violation during the current license term and has never received a notice of violation from FERC related to the Rush Creek Project.

The complete compliance record for the Project for the current license term can be found on FERC's eLibrary at https://www.ferc.gov/docs-filing/elibrary.asp.

A Water Quality Certification was not issued for the Project. By letter dated November 4, 1981, SCE filed a request for water quality certification with the Regional Water Quality Control Board (RWQCB). On December 13, 1992, the RWQCB waived the water quality certification for the Project.

2.10.1 Incident Reporting

SCE filed six incident/deviation reports with FERC over the term of the existing license (from 1997 through 2021) as summarized below. In all cases, SCE timely notified FERC of the incident and filed a written incident report. The incident reports filed by SCE satisfy the requirements of 18 CFR § 12.10. None of these incidents resulted in serious damage to public or private property, and they were not considered a license violation by FERC. The filing date and summary of the incident are listed below.

- October 11, 2006: Gem Lake water surface elevation deviation
- December 2, 2009: Agnew Lake minimum instream flow (fish release) deviation
- June 21, 2012: Turbidity plume at Rush Creek Powerhouse
- July 27, 2018: Contractor injury at Rush Meadows Dam
- June 21, 2019: Activation of the Rush Creek Project High Flow Operations Plan
- August 28, 2019: Geomembrane liner tear at Rush Meadows Dam

2.11 PROJECT SAFETY

This section summarizes existing Project safety measures implemented by SCE in accordance with 18 CFR Part 12. It includes a discussion of SCE's Corporate Dam Safety Program, dam inspections and reporting, Emergency Action Plan (EAP), and Public Safety Plan implemented for the Project.

2.11.1 Owner's Dam Safety Program

SCE maintains a Corporate Dam and Public Safety Program to ensure continued safe operations of its dams and hydroelectric facilities in a manner that complies with regulatory requirements and SCE's corporate safety policies. The Owner's Dam Safety Program (ODSP) protects life, property, lifelines, and the environment by ensuring the

safety of dams. Rush Meadows, Gem, and Agnew dams are subject to SCE's ODSP. The most recent ODSP (SCE 2021a) includes the objectives to establish the following:

- Clear roles and responsibilities of key dam safety personnel;
- Procedures for the identification of dam safety issues and corrective actions;
- A dam safety training program;
- Effective dam safety succession planning and knowledge transfer initiatives;
- Compliance with regulatory requirements for safe operation of the dams and related hydroelectric facilities; and
- A plan for audits and assessments of the Dam Safety Program.

SCE conducts an annual internal review of the ODSP and also conducts an external 5-year audit.

2.11.2 Dam Inspections and Reporting

Dam inspections and reporting are conducted for the Project as described below. Inspections and reporting are ongoing for Rush Meadows and Gem dams. Rush Meadows and Gem dams are unattended facilities. The reservoir level and flows in Rush Creek downstream of the dams are remotely monitored by the Supervisory Control and Data Acquisition (SCADA) system from SCE's Bishop Control Center, which is staffed continuously. When the ground is not snow covered, hydrographers visit the dams at least monthly to perform visual inspections and read the instrumentation.

On June 7, 2016, FERC accepted SCE's request to temporarily suspend Dam Safety Surveillance and Monitoring Plans and Reports (DSSMP/DSSMR) and Independent Consultant Safety Inspections for Agnew Dam during the period that the reservoir level is restricted, and the dam impounds no water (FERC 2016b). As a condition of the temporary suspension, FERC requested that SCE:

- Conduct an onsite inspection of the dam if a storm event exceeds the low-level outlet capacity causing the dam to impound water;
- Provide an interim plan for operations, surveillance, and monitoring activities and for ensuring the low-level outlet remains free flowing until the reservoir is refilled; and
- Provide an annual status report detailing the interim surveillance and monitoring activities.

The most recent Surveillance and Monitoring Status Update for Agnew Dam was filed with FERC on March 8, 2021.

2.11.2.1 FERC Inspections

FERC conducts two types of inspections of the Project to verify license compliance: (1) dam safety inspections and (2) environmental inspections. Dam safety inspections are conducted annually by FERC's Division of Dam Safety and Inspection to verify that (1) the Project is being properly maintained to ensure the continued safety of the structures, (2) no unauthorized modifications have been made to the Project, and (3) the Project is being operated efficiently and safely and in compliance with the terms and conditions of the license. The most recent dam safety inspection was conducted on September 16 to 19, 2019, and the Dam Safety Inspection Report was filed on April 28, 2020. No FERC dam safety inspection was conducted in 2020. Instead, FERC requested SCE to submit Owner Inspection Forms for each Project dam. The most recent inspection of Gem Dam was conducted on September 1, 2021. Owner Inspection Forms were completed for Agnew and Rush Meadows dams and submitted to FERC on October 11, 2021.

FERC also conducts periodic environmental inspections to provide a thorough review of environmental requirements of the license, including those related to cultural resources, biological resources, public safety, recreation resources, and other environmental resources. The most recent environmental inspection was conducted on August 21, 2018. The next environmental inspection is anticipated to occur in 2022.

2.11.2.2 Dam Safety Surveillance and Monitoring Program

In March 2021, SCE filed Dam Safety Surveillance and Monitoring Plans and Reports (DSSMP/DSSMR) for Rush Meadows Dam (SCE 2021b) and Gem Dam (SCE 2021c). The DSSMP provides the details about how SCE monitors and evaluates the performance of each dam, and the DSSMR analyzes, evaluates, and interprets the dam safety surveillance and monitoring data and provides findings on the overall performance of the dam.

2.11.2.3 Independent Consultant Safety Inspections

An independent consultant under contract with SCE inspects Rush Meadows and Gem dams every 5 years in compliance with CFR Title 18, Part 12, Subpart D.[11] The Part 12D safety inspections are intended to identify any actual or potential deficiencies of Project facilities or adequacy of Project maintenance, surveillance, or methods of operation that might endanger public safety. The most recent 5-year safety inspection reports for Rush Meadows and Gem dams were filed with FERC on December 17, 2018.

[11] Independent Consultant Safety Inspections for Agnew Dam are suspended during the period that the reservoir level is restricted (FERC 2016b).

2.11.3 Emergency Action Plan

SCE maintains Emergency Action Plans (EAP) for Agnew, Gem, and Rush Meadows dams (SCE 2016a, 2016b, 2016c). The EAPs define responsibilities and provide procedures designed to identify unusual and unlikely conditions that may endanger the dams. When implemented, the EAPs are intended to provide a procedure to take mitigative action and notify the appropriate emergency management officials of possible, impending, or actual failure of the dams. The EAPs may also be used to provide notification when flood releases can create major flooding.

The latest 5-year update of Project EAPs occurred in December 2016. By letter dated December 13, 2017, FERC accepted the 2016 EAP update for the Project. The next 5-year update is due for submittal to FERC by December 31, 2021.

2.11.3.1 EAP Exercises

On September 19, 2018, SCE conducted a tabletop and functional exercise of the EAPs for the Project, in conjunction with a tabletop and functional exercise of the EAPs of the other SCE Eastern Operations Projects (i.e., Lundy, Bishop Creek, and Lee Vining Creek). On October 16, 2018, SCE submitted to FERC the Evaluation Report for the tabletop and functional exercises for the Rush Creek Project, which was subsequently accepted by FERC on December 3, 2018.

2.11.3.2 Time-Sensitive EAP

In 2010 and 2015, SCE conducted two separate sudden failure assessments for the Project. The 2010 assessment was performed considering full reservoir conditions. The 2015 assessment was performed to reflect the current restricted reservoir elevations. The results of the 2015 assessment indicate that under a specific scenario of dam failure (Rush Meadows Dam fails and the upper 30 feet of Gem Lake Dam fails), the excess response time would be negative, creating the need for a time-sensitive EAP for the Project. In an effort to improve the excess response time, SCE has implemented a number of measures, including:

- Installing sirens, a public alerting system, pre-scripted messages; creating an incident management plan; and enhancing the EAP flow chart;
- Annually mailing public safety advisory letters to all residents who are downstream of the Project and could potentially be impacted by a dam failure; the letters include actions to take following an earthquake or sudden rises in creeks/rivers;
- In November 2019, mailing a public safety advisory flier to applicable residents providing information on how to take action if water is flowing near their homes; and
- In June 2021, providing a public safety advisory flier to the INF for distribution to for campers and hikers and for posting at Forest Service campgrounds in the potential inundation area.

2.11.4 Public Safety Plan

SCE maintains a Public Safety Plan for the Project that identifies the location of public safety measures and signage at Project facilities (SCE 2016d). Project features aimed at protecting public health and safety include:

- **Signage**: SCE uses signs to warn the public of hazardous areas and potentially dangerous conditions. For example, danger and warning signs are located near facilities that may pose a danger to the public (e.g., powerhouses, switchyards, and water release points).

- **Physical Restraining Devices**: SCE uses various devices to restrict public access to hazardous areas, including:

    - Fences and locked gates limiting access to the powerhouse complex; around the tailrace, substation, and transformer yards; and along Project dams.

    - Grates/trash racks on dam intakes structures.

    - Boat barriers along dam spillways.

SCE annually reviews and updates the Public Safety Plan, as necessary.

2.12 REFERENCES

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TABLES

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Table 2-1. Rush Creek Project Facilities

Rush Meadows Dam Area
Dams
Rush Meadows Dam
Reservoirs
Waugh Lake
Valve House
Rush Meadows Dam Valve House
Stream Gages
Rush Creek below Rush Meadows (Waugh Lake) (USGS No. 10287262; SCE No. 359r)
Reservoir Gages
Waugh Lake (USGS No. 10287260; SCE No. 359)
Trails
Rush Meadows Dam Access Trail
Rush Meadows Dam/Waugh Lake Ancillary and Support Facilities
Rush Meadows Dam Equipment Shed
Rush Meadows Dam Gage House
Rush Meadows Dam Solar Facility
Gem Dam Area
Dams
Gem Dam
Reservoirs
Gem Lake
Flowline
Gem Dam to Agnew Junction Flowline
Valve House
Gem Valve House and Cabin
Gem Dam Arch 8 Valve House
Gem Flowline Valve House
Stream Gages
Rush Creek below Gem Lake (USGS No. 10287281; SCE No. 352r)
Reservoir Gages
Gem Lake (USGS No. 10287280; SCE No. 352)

Gem Dam Area (continued)
Communication Lines
Communication Line from Rush Creek Powerhouse to Gem Lake Dam
Communication Line from Gem Valve House to Arch 8 Valve House
Communication Line from Gem Tram Hoist House to Gem Valve House
Trams and Hoist Houses
Gem Tram
Gem Tram Hoist House
Gem Tram Lower/Upper Landing
Trails
Lower Gem Dam Access Trail
Gem Dam Arch 8 Access Trail
Upper Gem Dam Access Trail
Gem Dam/Lake Ancillary and Support Facilities
Gem Lake Dock
Gem Lake Motor Barge
Gem Bunkhouse
Gem Outhouse
Gem Cookhouse
Gem Dam Compressor Shed
Gem Dam Storage Shed
Gem Dam Overhead Hoist House for Dam Length
Gem Dam Overhead Hoist House
Gem Fish Release Footbridge
Gem Tram Landing Footbridge
Gem Tram Bridge
Gem Weather Station
Gem Satellite Dish
Gem Solar Facility
Gem Valve House Tunnel

Agnew Dam Area
Dams
Agnew Dam
Reservoirs
Agnew Lake
Flowline
Agnew Dam to Agnew Junction Flowline
Valve House
Agnew Junction (Valve House and Stand Pipe)
Agnew Dam Valve House
Stream Gages
Rush Creek below Agnew Lake (USGS No. 10287289; SCE No. 357)
Reservoir Gages
Agnew Lake (USGS No. 10287285; SCE No. 351)
Power Lines
4 kV Rush Creek Powerhouse to Agnew Dam Power Line
4 kV Agnew Lake Dam Power Line
4 kV Upper Agnew Boat Dock Power Line (non-operational)
Communication Lines
Communication Line from Agnew Hoist House to Agnew Boathouse
Trams and Hoist Houses
Agnew Tram
Agnew Tram Hoist House
Agnew Tram Landing
Trails
Agnew Stream Gage Access Trail
Agnew Dam/Lake Ancillary and Support Facilities
Lower Agnew Lake Boathouse / Dock
Upper Agnew Lake Boathouse / Dock
Agnew Lake Motor Barge
Agnew Cabin
Agnew Weather Station
Agnew Flume (downstream of Agnew Dam)

Rush Creek Powerhouse Area
Penstocks
Agnew Junction to Rush Creek Powerhouse Penstock (No. 1)
Agnew Junction to Rush Creek Powerhouse Penstock (No. 2)
Powerhouse
Rush Creek Powerhouse
Gages
Rush Creek Powerhouse (USGS No. 10287300; SCE No. 367)
Transmission Lines
2.4 kV Switchyard to Powerhouse Transmission Line
Powerhouse Ancillary and Support Facilities
Rush Creek Powerhouse Complex Access Road
Cottages (2)
Garages (4)
Warehouse and Dock
Machine Shop
Pump House
Woodsheds (2)
Helicopter Landing Site
Tank (propane)
Bridge over Powerhouse Tailrace
Bridge over Rush Creek

Table 2-2. Rush Creek Project Facility Specifications

Facility	Original Design	Modifications to Original Design
Rush Meadows Dam and Waugh Lake		
Dam		
Type	constant radial arch	—
Material	concrete	—
Height (maximum)	50 ft	—
Length	463 ft	—
Volume	3,078 cu yd	—
Elevation of Dam Crest	9,418.6 ft	—
Elevation of Outlet Pipes (bottom)	9,368.6 ft	—
Geomembrane	Installed on entire upstream face of dam (2009)	Removed at location of spillway notch
Outlet Pipe Capacity (two steel-lined conduits, right is circular with a 24 in.-diameter; and left is square with sides measuring 30 in.)	200 cfs at WSE elevation of 9,415.6 ft	
Spillway		
Type	uncontrolled, concrete overflow	—
Elevation	9,415.6 ft	9,395.6 ft (@ spillway crest)
Dimensions	55 ft wide x 3 ft deep	43 ft wide x 3 ft deep 12 ft wide x 19 ft deep (notch)
Capacity	900 cfs at elevation of 9,418.6 ft	4,600 cfs (900 cfs [existing] + 3,700 cfs [notch]) at elevation of 9,418.6 ft
Reservoir		
Elevation at Maximum Operating Water Surface	9,415.6 ft	9,395.6 ft (@ modified WSE)
Elevation at Minimum Operating Water Surface	9,376 ft	—
Gross Storage	5,277 ac-ft	1,555 ac-ft (@ modified WSE)
Dead Storage	0 ac-ft	—
Active Storage	5,277 ac-ft	1,555 ac-ft (@ modified WSE)

Facility	Original Design	Modifications to Original Design
Area at Maximum Operating Water Surface	185 ac	130 ac (@ modified WSE)
Area at Minimum Operating Water Surface	1 ac	—
Gem Dam and Lake		
Dam		
Type	multiple arch (16 complete; 2 partial)	—
Material	concrete	—
Height (maximum)	84 ft	—
Length	688 ft	—
Volume	21,612 cu yd	—
Elevation of Dam Crest	9,057.5 ft	—
Elevation of Outlet Pipe (bottom)	8,985 ft	—
Geomembrane	Installed on entire upstream face of dam (2007)	—
Outlet Capacity (36-in. pipe)	220 cfs capacity at a normal max elevation of 9,051.6 ft	260 cfs capacity at max elevation of 9,027.5 ft (restricted WSE) 280 cfs capacity at max elevation of 9,051.6 ft
Spillway		
Type	Uncontrolled	—
Upper Spillway Elevation	9,053.64 ft	—
Openings/Dimensions	5 openings/5 ft wide x 2 ft high	—
Lower Spillway Elevation	9,051.63 ft	—
Openings/Dimensions	8 openings/5 ft wide x 2 ft high	—
Total Width	65 ft	—
Capacity	1,270 cfs at elevation of 9,057.5 ft	—
Intake Structure		
Material	reinforced concrete	—
Encased Steel Pipe Diameter	48 in.	—
Control	48-in. butterfly valve	—
Flowline (Gem Dam to Agnew Junction)		
Type	steel pipe	—

Facility	Original Design	Modifications to Original Design
Length	4,584 ft	—
Diameter	48 in.	—
Capacity	110 cfs	18-in.-diameter outlet with gate valve installed on existing blind flange which allows for up to 200 cfs to be released when Rush Creek Powerhouse is offline
Reservoir		
Elevation at Maximum Operating Water Surface	9,051.6 ft	9,027.5 ft (@ restricted WSE)
Elevation at Minimum Operating Water Surface	8,964.3 ft	—
Gross Storage	17,228 ac-ft	10,752 ac-ft (@ restricted WSE)
Dead Storage	0 ac-ft	—
Active Storage	17,228 ac-ft	10,752 ac-ft (@ restricted WSE)
Area at Maximum Operating Water Surface	282 ac	256 ac (@ restricted WSE)
Area at Minimum Operating Water Surface	20 ac	
Gem Tram		
Agnew Lake to Gem Dam	1,490 ft (0.28 mi)	—
Agnew Dam and Lake		
Dam		
Type	multiple arch (5 complete; 2 partial)	—
Material	concrete	—
Height (maximum)	30 ft	—
Length	278 ft	—
Volume	713 cu yd	—
Elevation of Dam Crest	8,498.9 ft	—
Elevation of Outlet Pipe (bottom)	8,470.0 ft	—
Geomembrane	Installed on entire upstream face of dam in (2012)	Removed at location of notches in 2017
Outlet Capacity (30-in. pipe)	53 cfs at WSE elevation of 8,498.5 ft	—

Facility	Original Design	Modifications to Original Design
2017 Modifications: Two notches cut into base of dam (Arches No. 5 and No. 6) measuring 6 ft 2 in. high by 5 ft wide	NA	1,164 cfs total notch capacity at WSE elevation of 8,498.5 ft
Spillway		
Type	Uncontrolled	—
Elevation	8,495.88 ft	—
Openings	16 rectangular	—
Opening Dimensions	5 ft wide x 2 ft high	—
Total Width	80 ft	—
Capacity	1,250 cfs at WSE elevation of 8,498.5 ft	—
Intake Structure		
Material	reinforced concrete	—
Encased Steel Pipe Diameter	30 in.	—
Control	30-in. gate valve	—
Flowline (Agnew Dam to Agnew Valve House)		
Type	steel pipe	—
Length	575 ft	—
Diameter	30 in.	—
Capacity	55 cfs	100 cfs Note: capacity when water is discharged into creek through flowline cuts
Reservoir		
Elevation at Maximum Operating Water Surface	8,495.88 ft	After notching of the dam, the Project no longer stores water. A pre-project natural lake is present with a max elevation of 8,470 ft, gross storage of 569 ac-ft, and a surface area of 23 ac
Elevation at Minimum Operating Water Surface	8,470.0 ft	
Gross Storage	1,379 ac-ft	
Dead Storage	569 ac-ft	
Active Storage	810 ac-ft	
Area at Maximum Operating Water Surface	40 ac	
Area at Minimum Operating Water Surface	23 ac	
Agnew Tram		
Powerhouse to Agnew Dam	4,280 ft (0.81 mi)	—

Facility	Original Design	Modifications to Original Design
Rush Creek Powerhouse		
Total Installed Capacity	13.01 MW	—
Powerhouse (Unit 1)		
Installed Capacity	5.85 MW	—
Generator	General Electric, horizontal-shaft	—
Turbine	single-overhung, single-jet, impulse 28-in. hydraulic, slide-gate, turbine shutoff valve	—
Horsepower	8,515	—
Design Head	1,750 ft	—
R.P.M.	300	—
Minimum Estimated Hydraulic Capacity	3 cfs	—
Maximum Estimated Hydraulic Capacity	55 cfs	—
Powerhouse (Unit 2)		
Installed Capacity	7.16 MW	—
Generator	Allis Chalmers, horizontal-shaft	—
Turbine	single-overhung, single-jet, impulse 28-in. hydraulic, slide-gate, turbine shutoff valve	—
Horsepower	8,000	—
Design Head	1,650 ft	—
R.P.M.	300	—
Minimum Estimated Hydraulic Capacity	3 cfs	—
Maximum Estimated Hydraulic Capacity	55 cfs	—
Penstocks		
Type	steel pipe (2)	—
Length (Agnew Valve House to Powerhouse)	4,280 ft (0.81 mi)	—
Diameter	28–30 in.	—
Capacity	110 cfs (55 cfs each penstock)	—

Facility	Original Design	Modifications to Original Design
Tail Race		
Maximum Tail Water Surface	7,225.0 ft	—
Minimum Tail Water Surface	7,221.5 ft	—

Notes: ac = acre
ac-ft = acre-feet
cfs = cubic foot/feet per second
cu yd = cubic yards
ft = feet
in. = inch
mi = mile
MW = megawatt
WSE = water surface elevation

Table 2-3. Summary of Recent Maintenance Activities and Emergency / Interim Modifications (1997–2021)

Date	Recent Maintenance Activities and Emergency / Interim Modifications	Work Authorized / Conducted in the Wilderness in Consultation with the Forest Service
1998	Grouting program at Rush Meadows Dam	X
2004	Reconstruction of trash rack and installation of ten post-tensioned anchors in the spillway crest at Rush Meadows Dam	X
2007	Geomembrane liner installed on entire upstream face of Gem Dam	X
2009	Geomembrane liner installed on entire upstream face of Rush Meadows Dam, pressure grouting performed in voids around trash rack, and installation of ten anchors in the arch crest	X
2010	Rush Meadows Concrete Study, acoustic tomography / SASW	X
2011	Rush Meadows Concrete Study, coring	X
2012	Geomembrane liner installed on entire upstream face of Agnew Dam	NA
2017	Installed 18-inch-diameter outlet with gate valve on an existing blind flange along Gem Flowline	NA
2017	Lower half of Agnew Flowline removed in two places along a 16-foot length of the suspended section	NA
2017	Cut 6-feet 2-inch wide by 5-feet-high notch into the base of Agnew Dam in Arch 5 and Arch 6	NA
2018	Cut 12-foot-wide by roughly 19-foot-high notch in the left section of Rush Meadows Dam	X
2019	Gem Dam solar battery system installation	NA
2020	4-kilovolt powerline from Agnew Dam to Gem Dam physically removed	NA
2020–2021	Gem Dam Arch 8 outlet valve retrofitted	NA

Notes: NA = not applicable, these facilities/activities are outside the wilderness area

Table 2-4. FERC Elevation Requirements for Waugh, Gem, and Agnew Lakes, Including Current Seismic Restrictions

Reservoir	Current License Elevation Requirement (but Superseded by Current Seismic Restrictions)	Seismic Restrictions (Maximum Elevation, Ft)
Waugh Lake		
Regular Water Years	Within 2 ft of spillway elevation (9,416 ft) July 1 to the Tuesday following Labor Day weekend[1]	9,392.1 ft (≈1,555 ac-ft)
Low Water Years (<75% of the April 1 snow water equivalent for the Mono Basin)	Within 3 ft of spillway elevation (9,416 ft) July 1 to the Tuesday following Labor Day weekend[2]	
Gem Lake		
Regular Water Years	Within 2 feet of spillway elevation (9,052 feet) July 1 to the Tuesday following Labor Day weekend[1]	9,027.5 ft (≈10,752 ac-ft)
Low Water Years (<75% of the April 1 snow water equivalent for the Mono Basin)	Within 6 feet of spillway elevation (9,052 feet) July 1 to the Tuesday following Labor Day weekend[2]	
Agnew Lake		
All Water Years	Within 15 ft of spillway elevation (8,496 ft) July 1 to the Tuesday following Labor Day weekend	Completely Drained (8,470.0 ft) (≈569 ac-ft)

Notes: ac-ft = acre-feet
ft = feet

[1] Licensee may maintain reduced lake levels when necessary to avoid the spill of water from Gem Lake at potentially damaging volumes. In such event, licensee shall cause the water level in Waugh and Gem Lakes to reach 2 ft below the spillway elevations as soon as practicable after July 1.

[2] To the extent sufficient water is available to meet (i) minimum stream flow requirements required in Condition No. 5, and (ii) a target 14 cfs release from the project powerhouse, based on plant operational minimums.

Table 2-5. FERC Instream Flow Requirements for the Rush Creek Project

Location	Instream Flow Requirement (cfs)	Measurement Gage
Below Rush Meadows (Waugh Lake) Dam	10 cfs or natural flow into Waugh Lake, whichever is less	SCE 359 R and USGS 10287262
Below Gem Dam	1 cfs or natural flow if the reservoir falls below the face of the dam	SCE 352 R and USGS 10287281
Below Agnew Dam	1 cfs or natural flow if the reservoir falls below the face of the dam	SCE 357 and USGS 10287289

Notes: cfs = cubic foot/feet per second
SCE = Southern California Edison Company
USGS = U.S. Geological Survey

Table 2-6. Monthly Mean and Maximum Flows (cfs) through Rush Creek Powerhouse (USGS Gage No. 10287300/SCE No. 367)

Month	Rush Creek Powerhouse Flows (cfs)			
	Historic Operations WY 1990–2011		Operations with Seismic Restrictions WY 2012–2019	
	Mean	Maximum	Mean	Maximum
October	53	104	26	66
November	42	102	27	100
December	35	79	28	102
January	37	96	18	81
February	40	102	23	101
March	45	102	38	104
April	36	101	31	107
May	54	106	42	106
June	61	104	66	113
July	63	106	58	103
August	42	106	33	100
September	49	103	19	70

Notes: cfs = cubic foot/feet per second
WY = water year

Table 2-7. Rush Creek Powerhouse Generation (Top) and Plant Capacity Factor (Bottom) (WY 1990–2020)

Month	Rush Creek Powerhouse Generation (kWh)					
	Historic Operations WY 1990–2011			Operations with Seismic Restrictions WY 2012-2020		
	Mean	Min	Max	Mean	Min	Max
October	4,494,130	969,547	7,654,050	2,037,138	772,331	3,376,112
November	3,663,040	122,924	7,196,795	1,981,932	464,320	3,934,666
December	3,076,067	128,218	4,991,249	2,212,490	206,210	6,796,699
January	3,087,040	133,427	6,805,618	1,200,116	187,657	3,167,630
February	3,104,200	137,851	6,113,120	2,073,374	450,260	3,410,208
March	3,753,039	225,823	8,614,465	3,739,528	430,818	7,029,468
April	3,018,073	236,986	5,864,266	2,857,020	21,472	5,095,896
May	4,738,031	1,122,634	8,383,145	4,141,976	348,387	8,352,823
June	5,176,340	1,743,033	8,322,081	5,920,952	2,091,166	8,323,536
July	5,399,916	815,431	8,742,880	5,097,175	1,557,657	8,828,948
August	3,477,228	420,845	8,635,173	2,646,559	352,487	6,835,598
September	3,980,738	714,917	8,408,057	1,553,862	44,050	2,903,217

Notes: kWh = kilowatt-hour
WY = water year

Month	Rush Creek Powerhouse Capacity Factor (%)					
	Historic Operations WY 1990–2011			Operations with Seismic Restrictions WY 2012–2020		
	Mean	Min	Max	Mean	Min	Max
October	44%	0%	79%	21%	8%	35%
November	38%	0%	77%	21%	5%	42%
December	32%	1%	52%	23%	2%	70%
January	32%	1%	70%	11%	0%	33%
February	34%	2%	68%	21%	0%	38%
March	39%	2%	89%	35%	0%	73%
April	31%	3%	63%	27%	0%	54%
May	47%	0%	87%	38%	0%	86%
June	53%	0%	89%	56%	0%	89%
July	56%	8%	90%	53%	16%	91%
August	36%	4%	89%	27%	4%	71%
September	6%	1%	12%	17%	0%	31%

Notes: WY = water year

Table 2-8. Last 5-Year Monthly Rush Creek Power Generation (WY 2016–2020)

Month	Monthly Rush Creek Power Generation (kWh)				
	WY 2016	WY 2017	WY 2018	WY 2019	WY 2020
October	2,540,104	1,901,305	1,615,591	772,331	873,082
November	464,320	3,819,291	1,205,986	689,742	1,264,985
December	206,210	6,796,699	545,611	749,335	327,349
January	465,995	3,167,630	559,177	752,020	0
February	1,436,772	3,410,208	508,664	2,991,848	2,579,940
March	7,029,468	4,751,670	596,637	7,002,799	4,493,712
April	2,360,858	4,703,692	4,167,201	2,953,543	5,095,896
May	2,773,565	7,590,119	348,387	8,352,823	5,683,152
June	8,131,296	7,991,095	3,504,884	8,068,074	4,613,270
July	8,828,948	8,209,806	5,866,159	8,576,278	5,862,133
August	2,365,646	6,835,598	2,106,144	4,859,160	1,253,766
September	44,050	1,613,267	2,086,433	1,984,167	2,063,406

Notes: kWh = kilowatt-hour
WY = water year

Table 2-9. Last 5-Year Monthly Average Rush Creek Powerhouse Flow (WY 2016–2020)

Month	Monthly Average Rush Creek Power Generation Flow (cfs)				
	WY 2016	WY 2017	WY 2018	WY 2019	WY 2020
October	32	23	20	11	12
November	9	44	16	10	20
December	6	79	10	10	4
January	8	38	10	10	0
February	20	45	10	39	31
March	83	56	10	82	52
April	31	58	49	36	60
May	32	91	15	98	66
June	97	101	50	99	55
July	100	99	66	99	69
August	29	78	25	56	17
September	3	20	25	24	25

Notes: cfs = cubic foot/feet per second
WY = water year

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Table 2-10. Current License Requirements

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
201	**Annual Payment**: Requires licensee to annually reimburse the Federal Energy Regulatory Commission (FERC) for administrative costs and recompensing for use, occupancy, and enjoyment of Federal lands.	Ongoing Compliance	**May 30, 2002: Order Amending License and Revising Annual Charges under Article 201** The Order updated the authorized installed capacity of the project (as detailed on the revised Exhibit A filed with FERC on April 10, 2002), and amended the annual charges for administration of Part I of the Federal Power Act. **May 1, 2009: Order Amending Annual Charges** The Order updated the calculated acreage of federal land as a result of more accurate mapping capabilities/data being available.
202	**Amortization Reserve Account:** Requires licensee to annually determine reasonable rate of return to compute amortization reserves.	Ongoing Compliance	—
203	**Exhibit F and Exhibit G:** Within 45 days of license issuance, licensee is required to file a complete original set and two duplicate sets of all approved drawings in Exhibits F and G.	Complete: Exhibit F and Exhibit G filed with FERC on April 21, 1997, and revised May 12, 1997 Ongoing Compliance: Over the term of the existing license, Southern California Edison (SCE) has updated the Exhibit F and G sheets, as needed. Current Exhibit F and G sheets are on file with FERC.	—
401	**Minimum Instream Flows, Lake Levels, and Ramping Rates:** Licensee may request approval for temporary variance of minimum instream flows, lake levels, and/or ramping rates for operating emergencies beyond the control of the licensee, or for short periods upon agreement among the licensee, California Department of Fish and Wildlife (CDFW), and the United States Forest Service (USFS) *(also refer to USFS 4[e] Condition No. 5 and No. 8)*.	Ongoing Compliance: Requests for temporary variance made consistent with License Article 401. Refer to Condition No. 5 and No. 8 below for FERC actions.	—
402	**Erosion Control Plan**: Requires licensee to file an erosion control plan 60 days prior to the start of any land-disturbing or land-clearing activities (*also refer to USFS 4[e] Condition No. 10*).	Ongoing Compliance	—
403	**Cultural Resources Management Plan:** Within one year of license issuance, licensee is required to file a plan for implementation of the Cultural Resources Management Plan, and the data recovery plan to mitigate the adverse impacts of shoreline erosion on cultural sites (*also refer to USFS 4[e] Condition No. 14*).	Complete: Implementation plan filed October 8, 1997 Ongoing Compliance	—
404	**Cultural Resources Surveys, Reporting, and Consultation:** If archaeological or historic sites are discovered during project operation, the licensee is required to consult with the USFS and State Historic Preservation Officer (SHPO); prepare a cultural resources management plan and schedule to evaluate the site significance and avoid or mitigate impacts to eligible resources; base the plan on USFS, SHPO, and Interior Secretary guidelines; file plan for Commission approval, together with the written comments of the USFS and SHPO; and take steps to protect discovered sites from further impact until notified by the Commission.	Ongoing Compliance	—

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
405	**Fish Entrainment Plan:** Within six months of license issuance, licensee is required to file a plan to evaluate the entrainment of stocked trout at the Project's intake to determine if screens are needed. If entrainment study indicates that significant entrainment of trout is occurring, the licensee shall file plans and a schedule for the installation of fish protection screens to reduce trout entrainment or an alternative mitigation proposal.	Complete: Entrainment Study Plan filed December 3, 1997 Complete: Entrainment Study Report filed July 13, 2001, and supplemented on February 25, 2002 Ongoing Compliance: Reports filed September 2014 and August 2019 Next stocking event/report will occur in 2024	**October 10, 1997: Order Granting Extension of Time to File Entrainment Plan per Article 405** The Order approved licensee's request for an extension of time to comply with Article 405 which requires the licensee to file, by August 4, 1997, a plan to evaluate the entrainment of stocked trout at the project's intake. The deadline for filing the fish entrainment plan is extended to November 30, 1997. **April 21, 1998: Order Approving Fish Entrainment Study Plan** **June 19, 2000: Order Approving Extension of Time Request to File a Final Report on Fish Entrainment** The Order approved licensee's request for an extension of time to file a final report on fish entrainment. Previously, the licensee was required to file a final report by August 1, 2000. The licensee states that the entrainment study was completed in 1999, however, damage to the intake structure during the study resulted in atypical fish entrainment rates. Licensee will file a draft report to USFS and CDFW by January 1, 2001, and the deadline for final fish entrainment report has been extended to April 1, 2001. **March 22, 2002: Order Approving and Modifying Fish Mitigation Proposal under Article 405** The Order approved licensee's offsite mitigation proposal for stocking trout in Silver Lake downstream of the Rush Creek Project and not in Gem and Agnew lakes due to the presence of mountain yellow-legged frog, at the time, a species proposed for listing as endangered under the Endangered Species Act.
406	**Transmission Line Relocation Plan:** Within one year of license issuance, licensee is required to file the plans for relocating a segment of transmission line.	Deleted	**May 19, 1997: Order on Rehearing and Staying New License in Part** The Order deleted License Article 406. FERC determined the transmission line segment in question was not within its licensing jurisdiction.
407	**Licensee Permissions:** Licensee shall have the authority to grant certain permissions for project lands and waters and convey easements, right of ways, or fee titles.	Ongoing Compliance	—
501	**Headwater Benefits Plan:** If the project was directly benefitted by the construction work on a storage reservoir or other headwater improvement during the term of the original license, the licensee is required to reimburse the owner of the headwater improvements for those benefits.	Ongoing Compliance	—
USFS 4(e) Condition No. 1	**Requirement to Obtain a USFS Special-Use Authorization:** Within six months of license issuance and before starting any activities the USFS determines to be of a land-disturbing nature on National Forest System (NFS) land, licensee is required to obtain a special-use authorization for the occupancy of NFS lands.	Deleted	**February 29, 2000: Order Amending License, Lifting Stay, and Dismissing Request for Rehearing as Moot** The Order deleted USFS 4(e) Condition No. 1. FERC determined that such authorization is not required for the project. The condition was inadvertently listed in the license.
USFS 4(e) Condition No. 2	**USFS Approval of Final Design:** Before construction on NFS land the licensee is required to obtain prior written approval from USFS for all design plans for project components the USFS deems as affecting or potentially affecting NFS resources.	Ongoing Compliance	—

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
USFS 4(e) Condition No. 3	**USFS Approval of Changes After Initial Construction:** Requires licensee to get written approval from the USFS prior to making any changes in the location of any constructed project features or facilities, or in the uses of project lands and waters, or any departure from the requirements of any approved exhibits filed with FERC.	Ongoing Compliance	—
USFS 4(e) Condition No. 4	**USFS Consultation:** Requires the licensee to consult with USFS each year during the 60 days preceding the anniversary date of the license to discuss measures needed to ensure protection and development of the natural resource values of the project area. Within 60 days following consultation, the licensee is required to file with FERC evidence of the consultation and recommendations made by the USFS.	Ongoing Compliance: Last annual meeting conducted April 6, 2021, and summary filed with FERC on May 17, 2021	**November 22, 2005: Order Revising Section 4(e) Conditions and License Articles Regarding Scheduling of Annual Agency Consultation Meetings** The Order approved consolidation of the annual consultation meetings with the USFS and the annual spring meetings with the USFS and CDFW for the Lee Vining, Rush Creek, Lundy, and Bishop Creek projects into a single meeting to be held annually by May 15. Further, the Order required annual reports to be filed with FERC no later than July 15 each year.
USFS 4(e) Condition No. 5	**Minimum Streamflow Requirements:** Requires the licensee to implement specified minimum instream flow in Rush Creek downstream of project dams; allows temporary modification of minimum instream flows as a result of operating emergencies or for short periods upon agreement of the USFS; and requires annual consultation with the USFS and CDFW to develop a summer operations and maintenance plan for project facilities.	Ongoing Compliance	**November 5, 1998: Order Granting Extension of Time to Comply with Condition 5** The Order approved licensee's extension of time request to comply with USFS 4(e) Condition No. 5 which requires the licensee to provide a continuous minimum flow of 1 cfs. The licensee planned to meet this requirement by constructing a new release facility by the fall of 1998. Licensee states that because of extremely unfavorable weather conditions of heavy snowpack in the Sierra Nevada Mountains and the project area, access to the site was delayed until mid-July. The deadline for constructing a new release facility is extended to October 31, 1999. **November 22, 2005: Order Revising Section 4(e) Conditions and License Articles Regarding Scheduling of Annual Agency Consultation Meetings** The Order approved consolidation of the annual consultation meetings with the USFS and the annual spring meetings with the USFS and CDFW for the Lee Vining, Rush Creek, Lundy, and Bishop Creek projects into a single meeting to be held annually by May 15. Further, the Order required annual reports to be filed with FERC no later than July 15 each year.

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
USFS 4(e) Condition No. 6	**Guaranteed Flow Device:** Requires licensee to construct, operate, and maintain minimum instream flow and reservoir level monitoring devices. Requires devices to be installed within one year of license issuance. Requires licensee to file an annual stream flow and reservoir levels report with the Inyo National Forest by December 31 of each year.	Ongoing Compliance: Reports filed with the Inyo National Forest each year by April 1.	**October 10, 1997: Order Granting Extension of Time to Complete Installation of Stream Gaging Stations etc.** The Order approved licensee's extension of time request to comply with USFS 4(e) Condition No. 6. Licensee states that most gaging station locations were inaccessible at the time of issuance of the license in midwinter and their installation is currently underway. The deadline for completing installation of the stream gaging stations is extended to October 30, 1998. **November 5, 1998: Order Granting Extension of Time to Comply with Condition 6** The Order approved licensee's extension of time request to comply with USFS 4(e) Condition No. 6 which requires the licensee to install a water measurement control system with continuously recording stream gages below Rush Meadows Dam by October 30, 1998. The licensee states that because of extremely unfavorable weather conditions of heavy snowpack in the Sierra Nevada Mountains and the project area, access to the site was delayed until mid-July. The deadline for installing the stream gaging station is extended to October 31, 1999. **June 28, 2001: Order Amending Forest Service Condition Number 6** The Order amended the consultation requirement to require the licensee to file the stream flow and reservoir levels report for the project by April 1 of each year for the preceding water year. The report is to be filed with the Inyo National Forest.
USFS 4(e) Condition No. 7	**Riparian Monitoring and Reporting:** Requires licensee to conduct a riparian monitoring program, and specifies agency consultation and reporting requirements to be implemented over the term of the license.	Ongoing Compliance: Monitoring conducted consistent with program developed in consultation with the USFS. Most recent report filed October 21, 2019, for the 2018 field season.	**July 7, 2017: Order Issuing Extension of Time** The Order approved licensee's extension of time request filed on June 29, 2017, in order to comply with riparian and aquatic monitoring requirements. Licensee requested a one-year extension to complete the monitoring schedule for 2017. Licensee reports that Rush Creek is experiencing unusually high flows corresponding with snowmelt and the extension is to allow for safe monitoring conditions.

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
USFS 4(e) Condition No. 8	**Recreation and Wilderness Management:** Requires licensee to maintain specified reservoir elevations based on season and water year type; and adherence to CDFW standards for ramping of flows during annual drawdown of project reservoirs. The License Article also limits motorized uses within the Ansel Adams Wilderness boundary and requires submittal of plans for the construction of three new toilet facilities at the Oh! Ridge Campground and the relocation of a segment of the 115 kV transmission line right of way within one year of license issuance.	Ongoing Compliance: Per FERC Order, SCE currently operates the Project reservoirs to maintain seismic restricted water levels at Waugh Lake (9,392.1 feet), Gem Lake (9,027.5 feet), and Agnew Lake (completely drained).	**February 29, 2000: Order Amending License, Lifting Stay, and Dismissing Request for Rehearing as Moot** The Order amended USFS 4(e) Condition No. 8 per the December 6, 1999 request by the USFS, including: (1) revisions to reservoir level requirements to provide operational flexibility to help reduce potential flood conditions at the project; (2) allowed use of the Gem Lake Motor Barge to conduct routine operation and maintenance activities within the Ansel Adams Wilderness; and (3) deleted the final paragraph regarding installation of toilet facilities and relocation of a segment of transmission line at the Oh! Ridge Campground. **June 28, 2012: Reservoir Drawdown for Rush Meadows Dam and Gem Lake Dam** FERC concurrence with SCE's updated seismic risk analysis for Waugh and Gem developments that indicated a potential dam safety issue due to seismic loading; and SCE's request for temporary variance to reduce water levels in Waugh Lake to an elevation of 9,392.1 feet and in Gem Lake to an elevation of 9,027.5 feet for the period of July 1, 2012, through September 4, 2015, to allow for seismic upgrades. **August 8, 2012: Order Modifying and Approving Request for Temporary Variance of Lake Level Requirements under Article 401 and Condition 4(e) Condition 8** The Order approved SCE's request for a temporary variance to dewater Agnew Lake for the purpose of installing a geomembrane liner to the upstream face of Agnew Lake Dam. **April 24, 2013: Interim Reservoir Operation Plan for Agnew Lake Dam** FERC concurrence with SCE's interim reservoir operation plan and acceptance of schedule to complete a detailed structural stability and sensitivity analysis by June 30, 2013. Letter required Agnew Lake remain drained until the Board of Consultants has concurred with an analysis demonstrating that the dam will be safe under seismic loading and FERC has concurred with the Board's findings. **October 27, 2016: Plan and Schedule for the Seismic Retrofit of the Rush Creek Project** FERC letter requiring Waugh, Gem, and Agnew lakes remain at or below the agreed-upon restricted reservoir elevation until further notice.
USFS 4(e) Condition No. 9	**Hazardous Substances Plan:** Within one year of license issuance and at least 60 days before starting any activities the USFS determines to be of a land-disturbing nature on NFS land, licensee is required to file a plan for oil and hazardous substances storage and spill prevention and cleanup.	Complete: Plan for Oil and Hazardous Waste Storage and Spill Prevention and Cleanup filed October 15, 1997 Ongoing Compliance	**November 14, 1997: Letter Approval of Plan** FERC letter stating the Plan for Oil and Hazardous Waste Storage and Spill Prevention and Cleanup filed on October 15, 1997, fulfills the requirements of USFS 4(e) Condition No. 9.
USFS 4(e) Condition No. 10	**Erosion Control Plan**: Within one year of license issuance and before starting any activities the USFS determines to be of a land-disturbing nature on NFS land, licensee is required to file a plan for the control of erosion, stream sedimentation, dust, and soil mass movement (*also refer to License Article 402*).	Complete: Plan for Control of Erosion, Stream Sedimentation, Soil Mass Movement, and Dust filed October 15, 1997 Ongoing Compliance	**November 14, 1997: Letter Approval of Plan** FERC letter stating the Plan for Control of Erosion, Stream Sedimentation, Soil Mass Movement, and Dust filed on October 15, 1997, fulfills the requirements of USFS 4(e) Condition No. 10.

License Article / USFS 4(e) Condition	Summary of License Article Requirements	Compliance Status	FERC Orders / Letters / Amendments
USFS 4(e) Condition No. 11	**Spoil Disposal Plan:** Within one year of license issuance and before starting any activities the USFS determines to be of a land-disturbing nature on NFS land, licensee is required to file a plan for the storage and/or disposal of excess construction/tunnel spoils and slide material.	Complete: Plan for Storage and/or Disposal of Excess Construction/Tunnel Spoils and Slide Materials filed October 15, 1997 Ongoing Compliance	**November 14, 1997: Letter Approval of Plan** FERC letter stating the Plan for Storage and/or Disposal of Excess Construction/Tunnel Spoils and Slide Materials filed on October 15, 1997, fulfills the requirements of USFS 4(e) Condition No. 11.
USFS 4(e) Condition No. 12	**Visual Resource Protection Plan:** Before starting any activities the USFS determines to be of a land-disturbing nature on NFS land, licensee is required to file a plan for the design and construction of project facilities in order to preserve or enhance its visual character.	Complete: Plan for the Design and Construction of Project Facilities in Order to Preserve or Enhance Visual Quality filed October 15, 1997 Ongoing Compliance	**November 14, 1997: Letter Approval of Plan** FERC letter stating the Plan for the Design and Construction of Project Facilities in Order to Preserve or Enhance Visual Quality filed on October 15, 1997, fulfills the requirements of USFS 4(e) Condition No. 12.
USFS 4(e) Condition No. 13	**Threatened, Endangered, and Sensitive Species Management Plan:** Within one year of license issuance and before starting any activities the USFS determines to be land-disturbing nature on NFS land, licensee is required to file a detailed implementation plan for the mitigation of impacts to sensitive, threatened, and endangered plant and animal species located within the area to be disturbed.	Complete: Threatened, Endangered, and Sensitive Species Management Plan filed October 15, 1997 Ongoing Compliance	**November 14, 1997: Letter Approval of Plan** FERC letter stating the Threatened, Endangered, and Sensitive Species Management Plan filed on October 15, 1997, fulfills the requirements of USFS 4(e) Condition No. 13.
USFS 4(e) Condition No. 14	**Cultural Resources Management Plan:** Within one year of license issuance, licensee is required to submit for USFS approval a multi-year plan to implement provisions of the "Management Plan for Historic and Archaeological Resources Associated with the Rush Creek Hydroelectric Project" (White 1990) concerning the management of those resources within the project boundaries (*also refer to License Article 403*).	Complete: Implementation plan submitted October 8, 1997 Ongoing Compliance	—

Notes: CDFW = California Department of Fish and Wildlife
FERC = Federal Energy Regulatory Commission
NFS = National Forest System
SCE = Southern California Edison Company
SHPO = State Historic Preservation Officer
USFS = United States Forest Service

FIGURES

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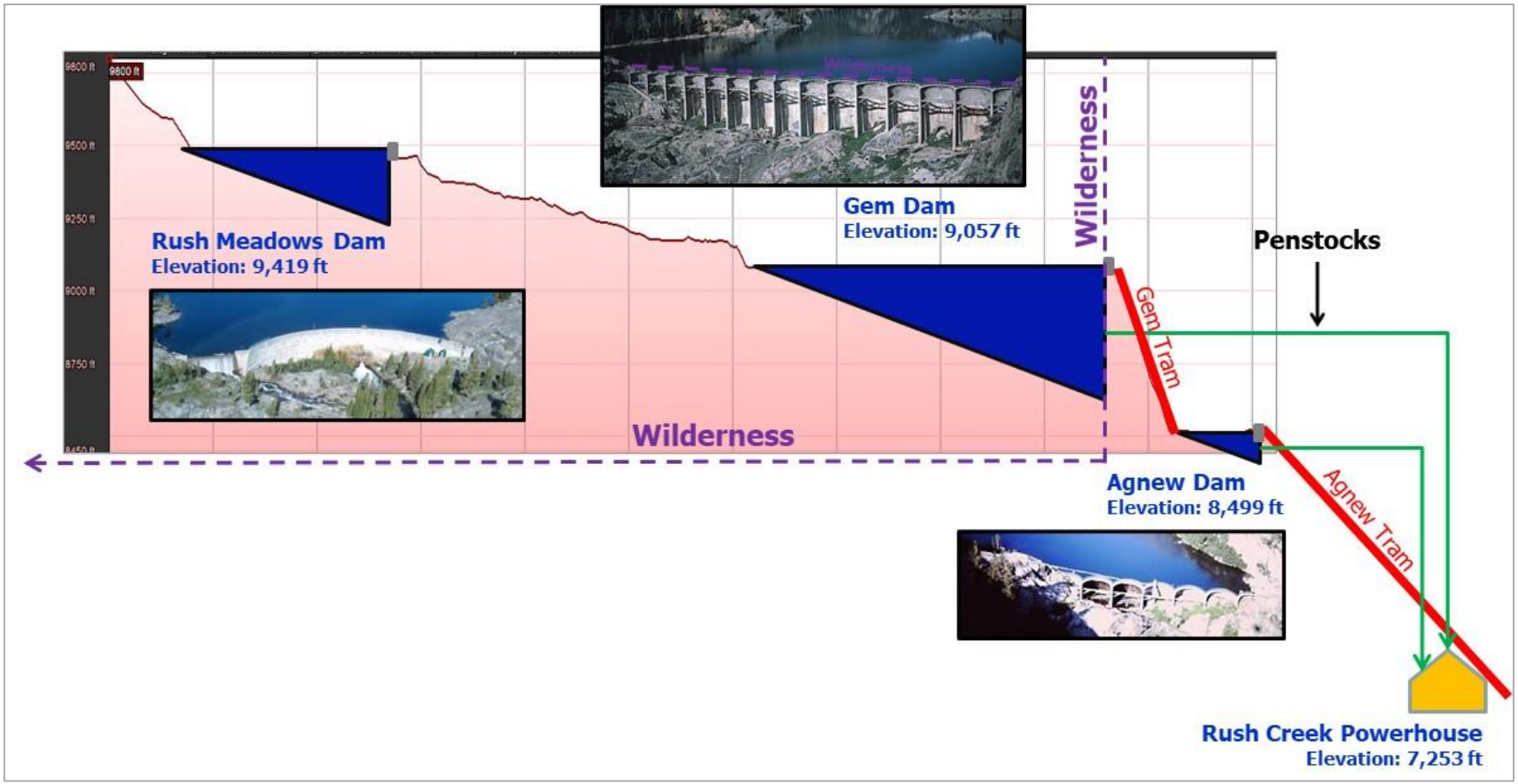


Figure 2-1. Rush Creek Project Elevation Profile

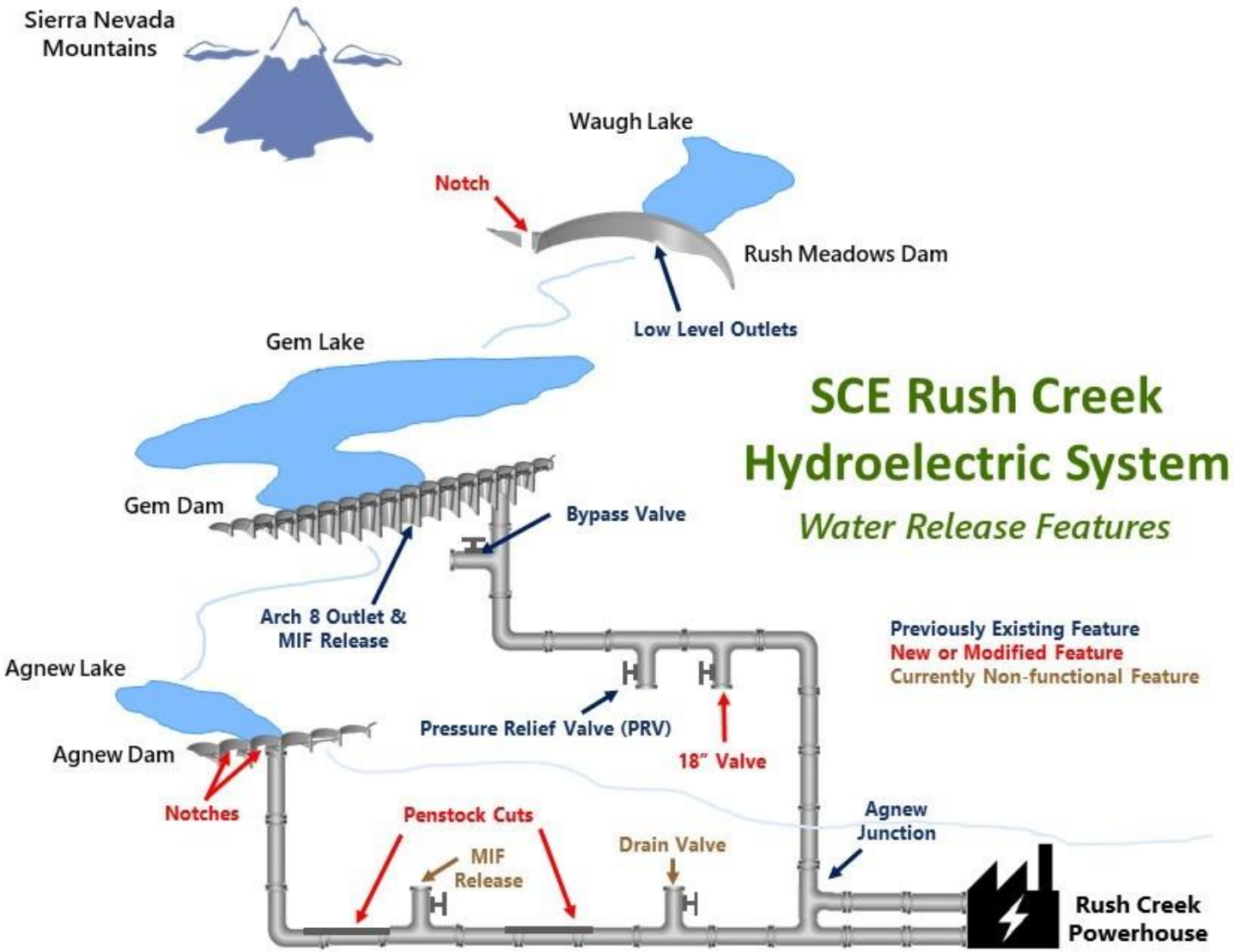


Figure 2-2. Rush Creek Project Current Water Release Features

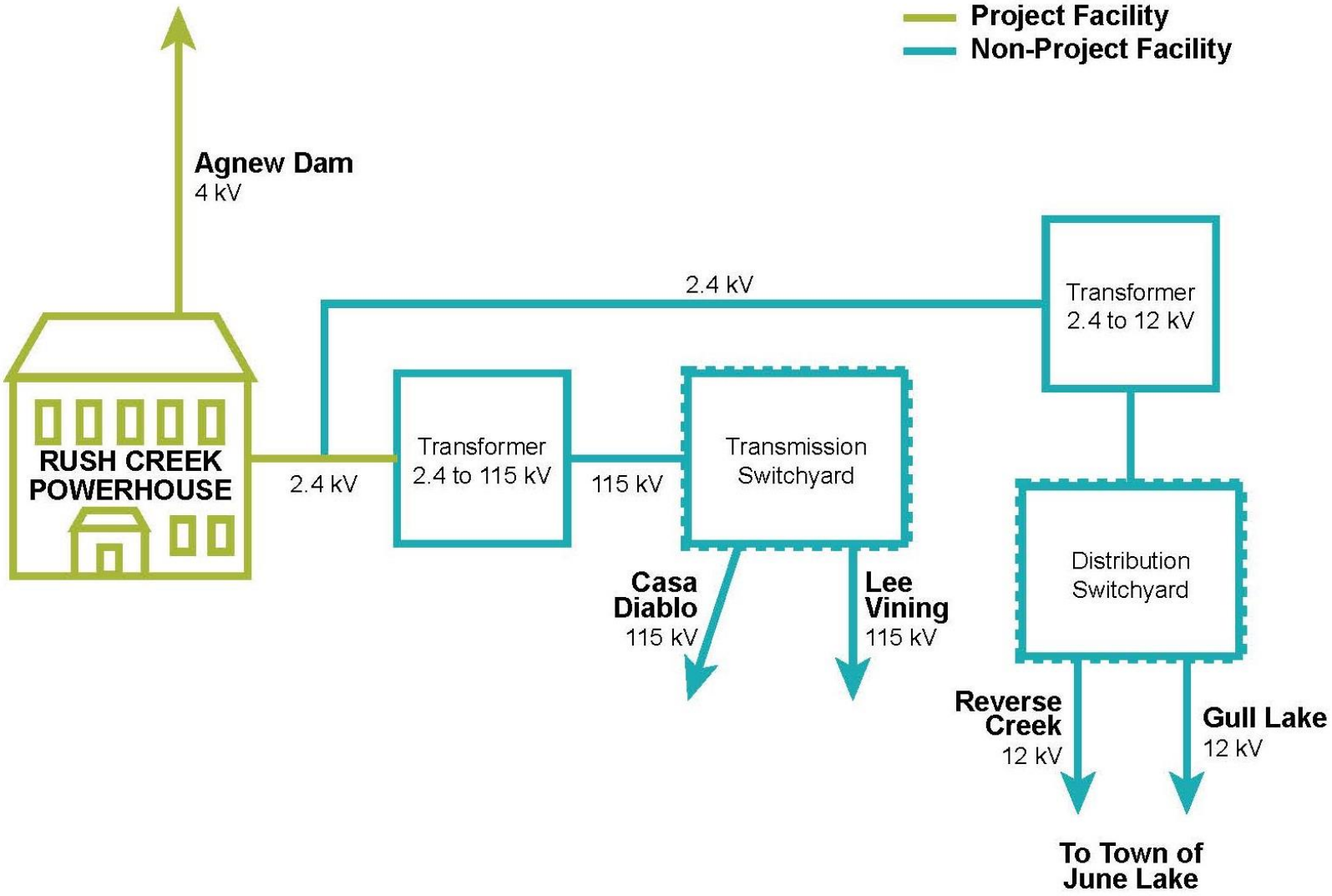


Figure 2-3. Rush Creek Project Transmission Line Diagram

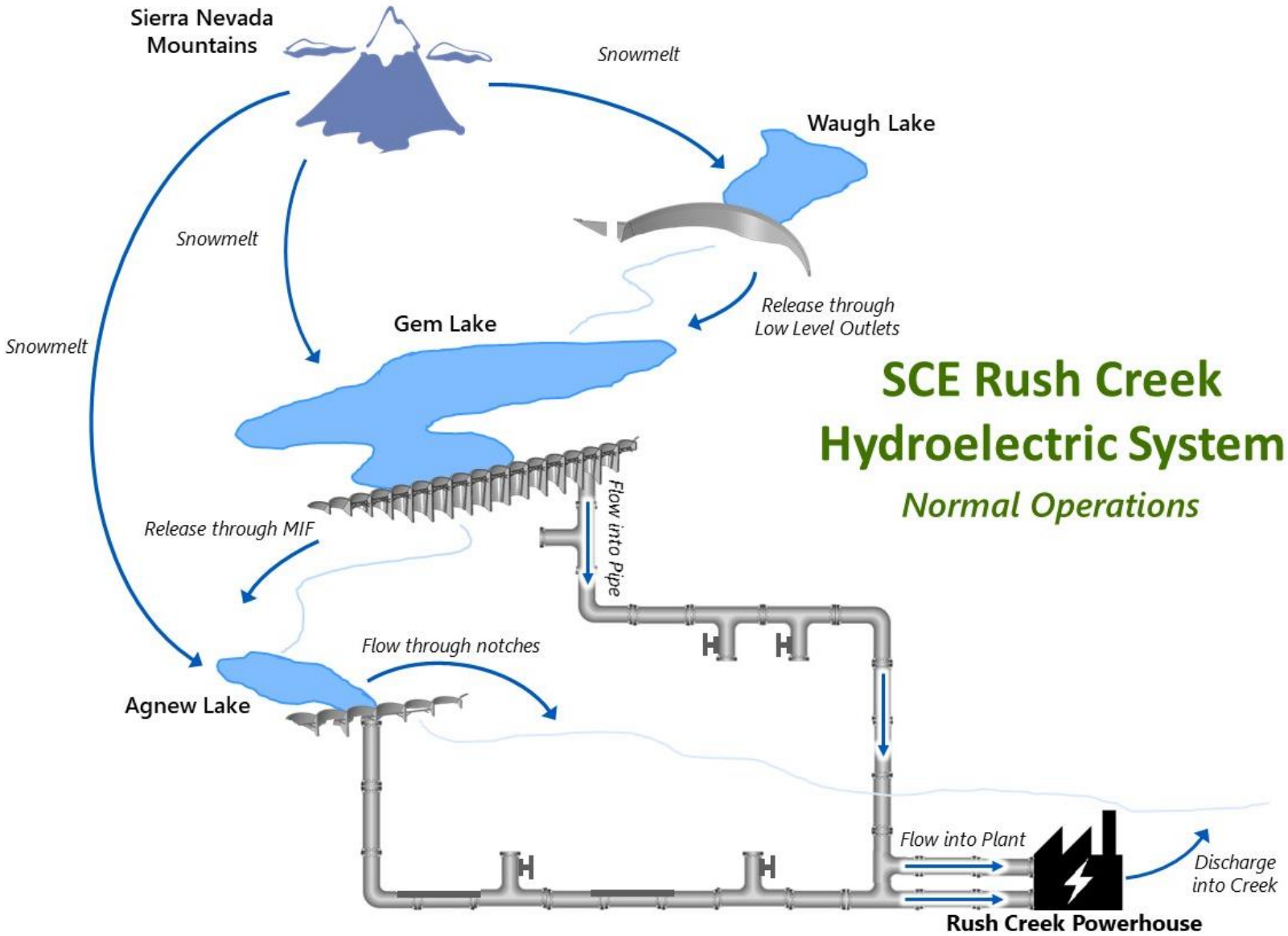


Figure 2-4. Rush Creek Project Current Normal Operations

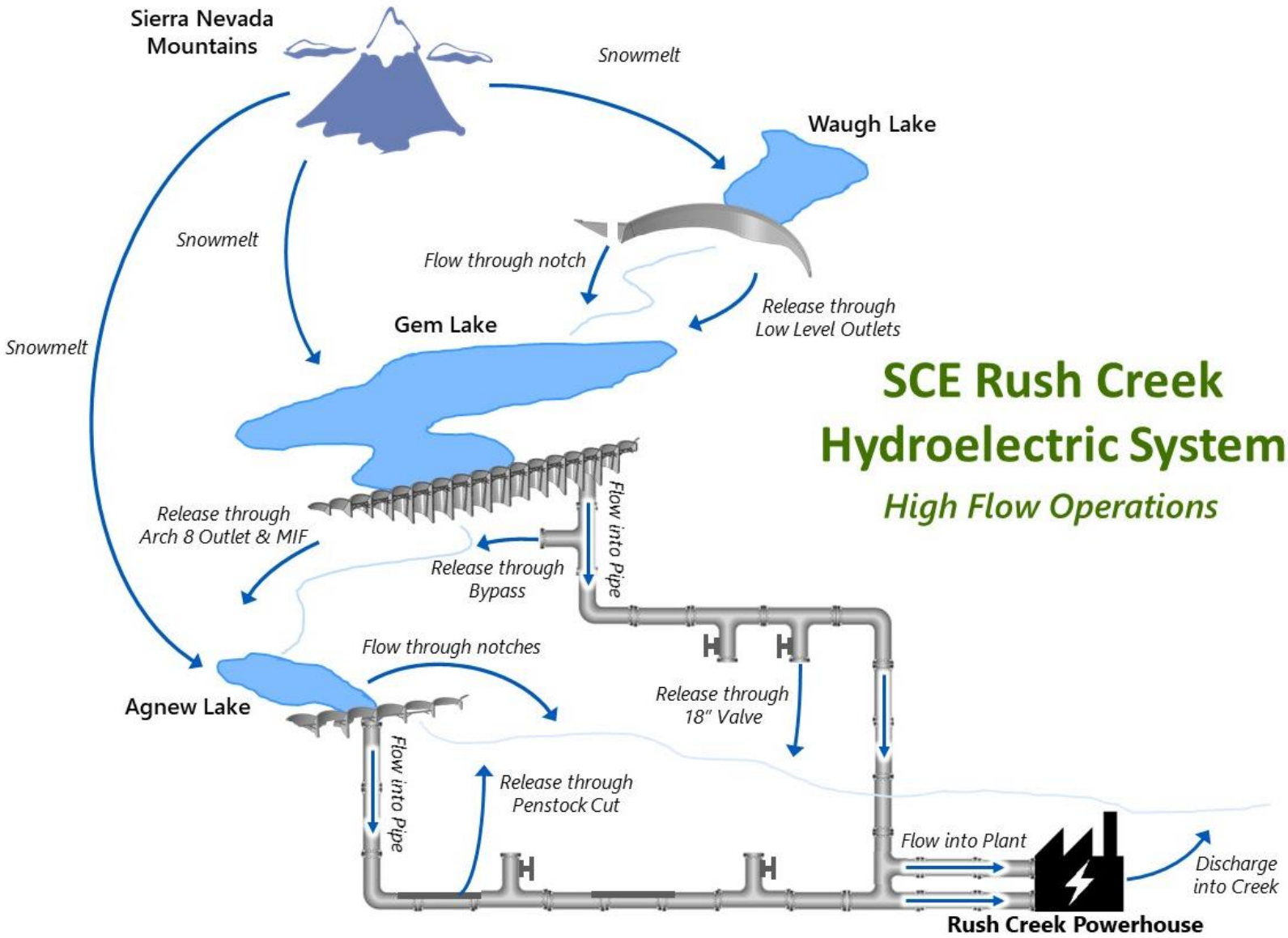


Figure 2-5. Rush Creek Project Current High-Flow Operations

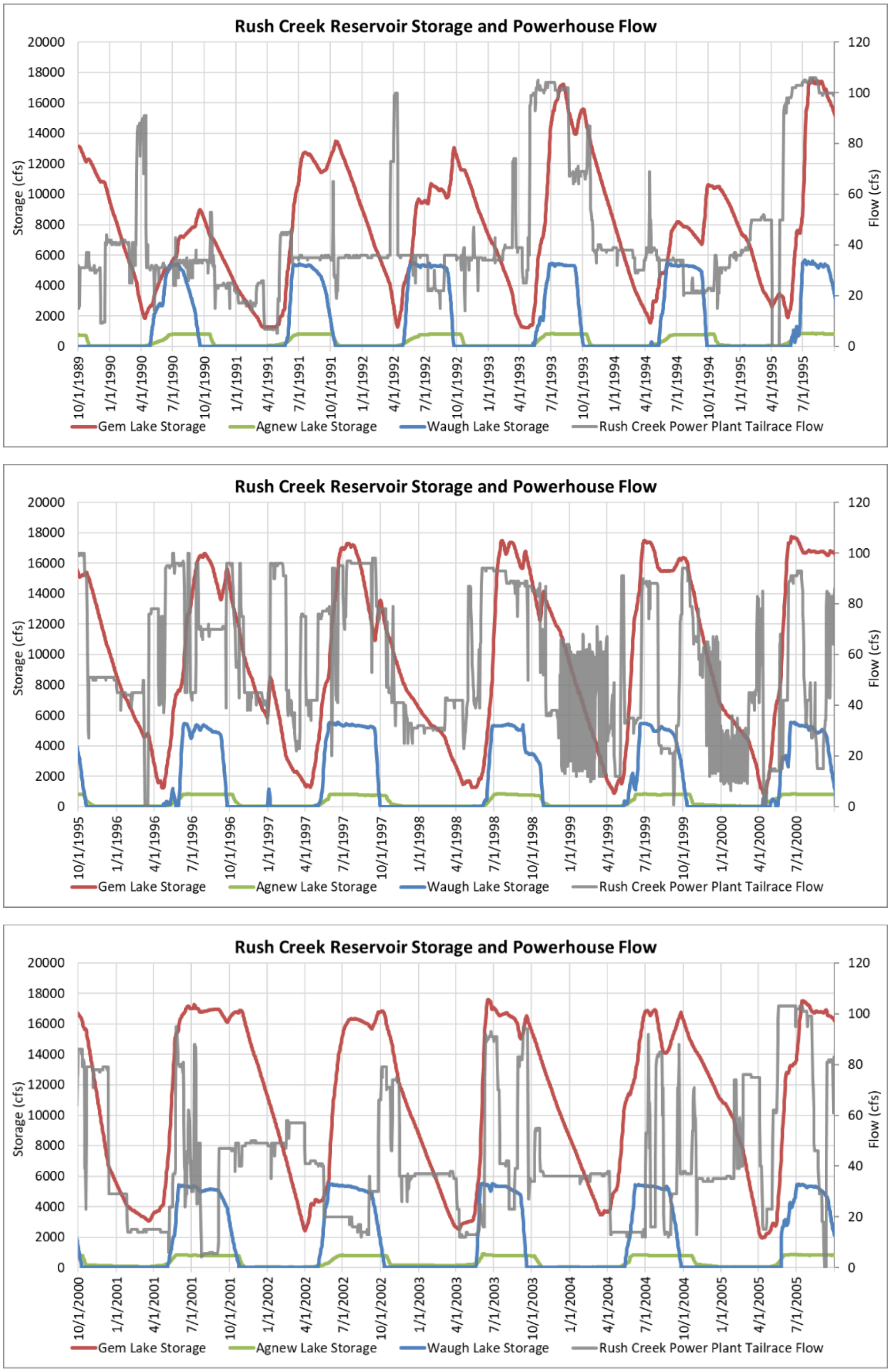
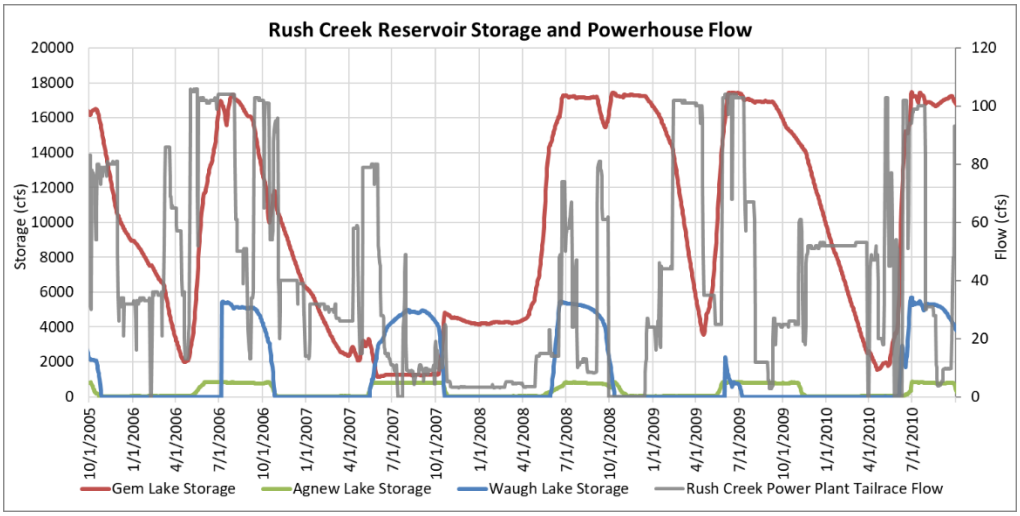
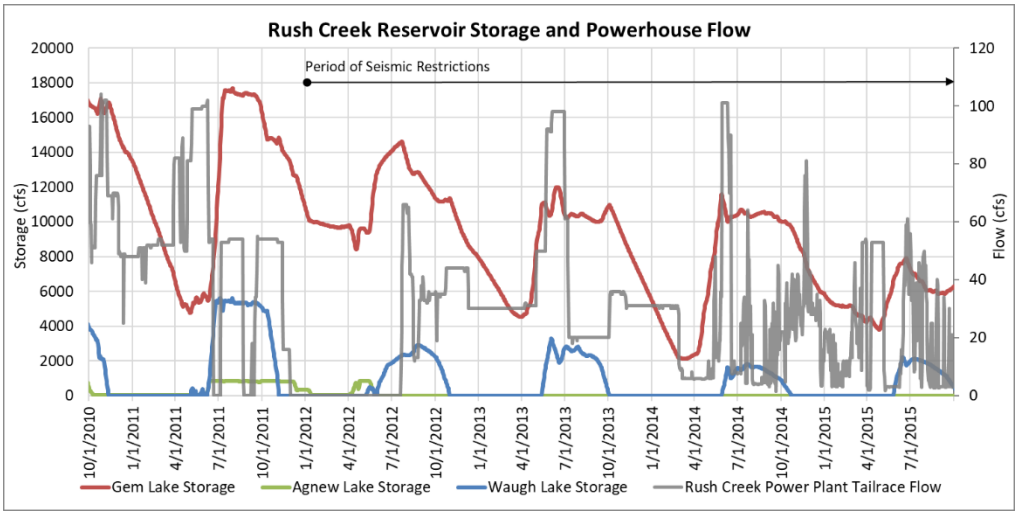


Figure 2-6. Rush Creek Project Reservoir Storage and Daily Mean Flow at the Rush Creek Powerhouse (USGS 10287300/SCE 367) (WY 1990–2005)





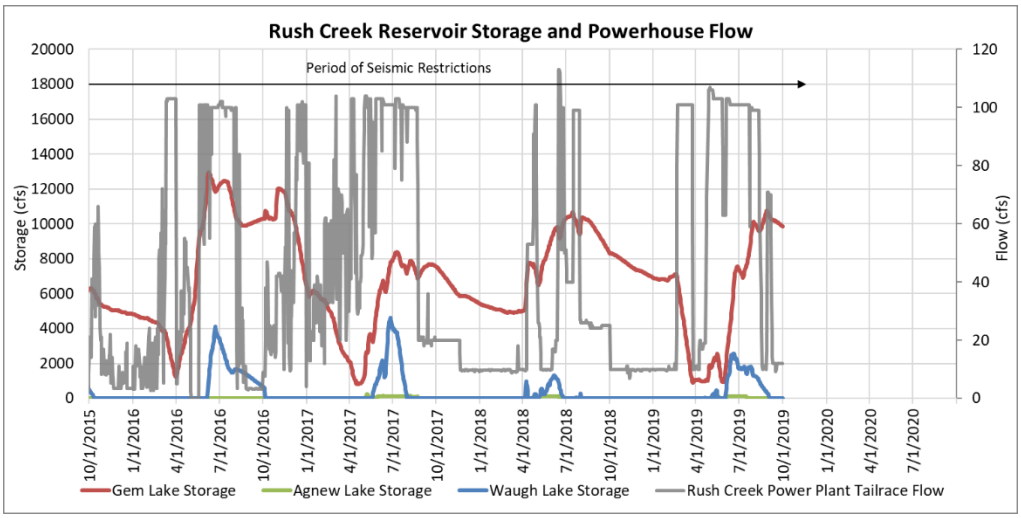


Figure 2-6. (continued) Rush Creek Project Reservoir Storage and Daily Mean Flow at the Rush Creek Powerhouse (USGS 10287300/SCE 367) (WY 2006–2019)

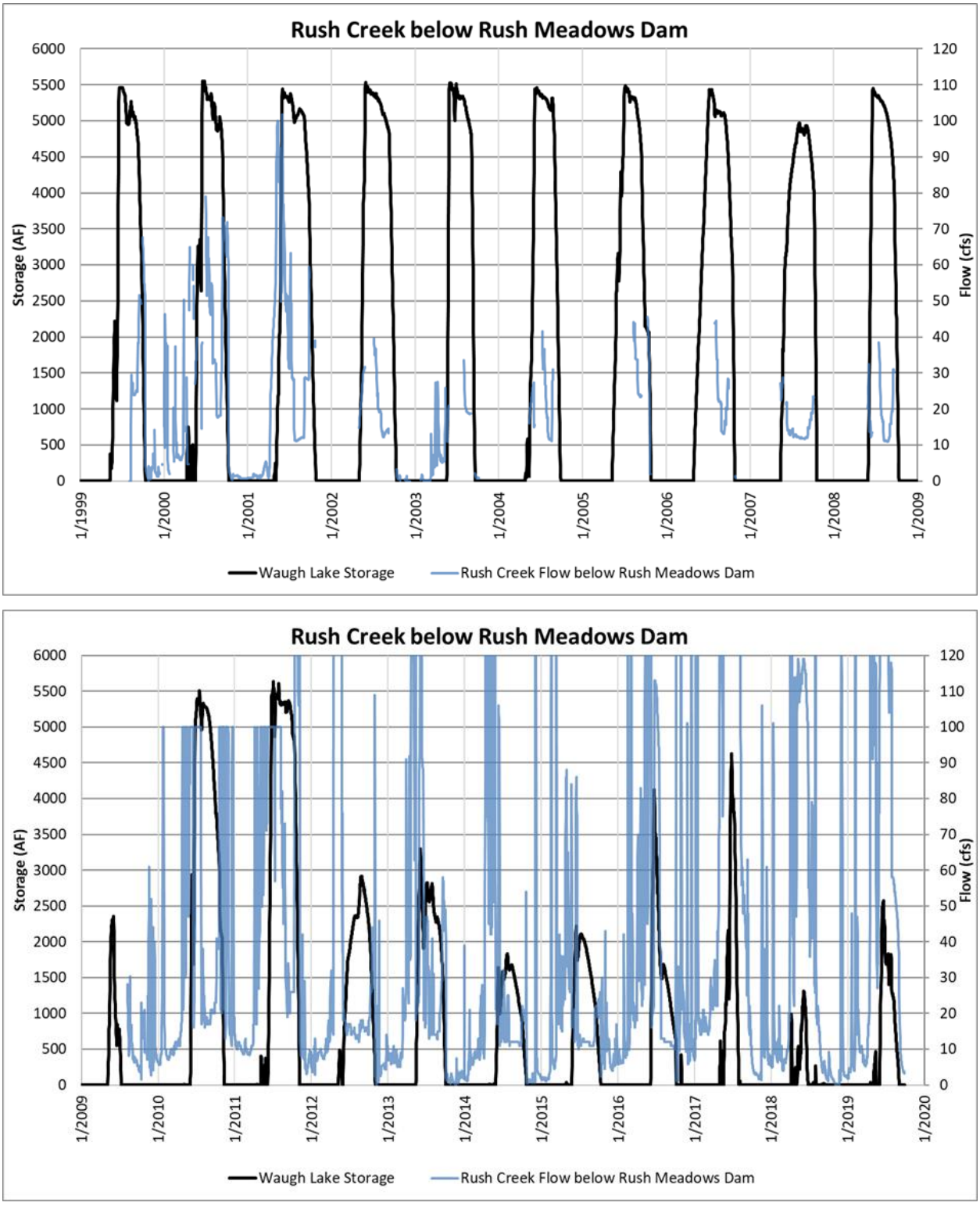
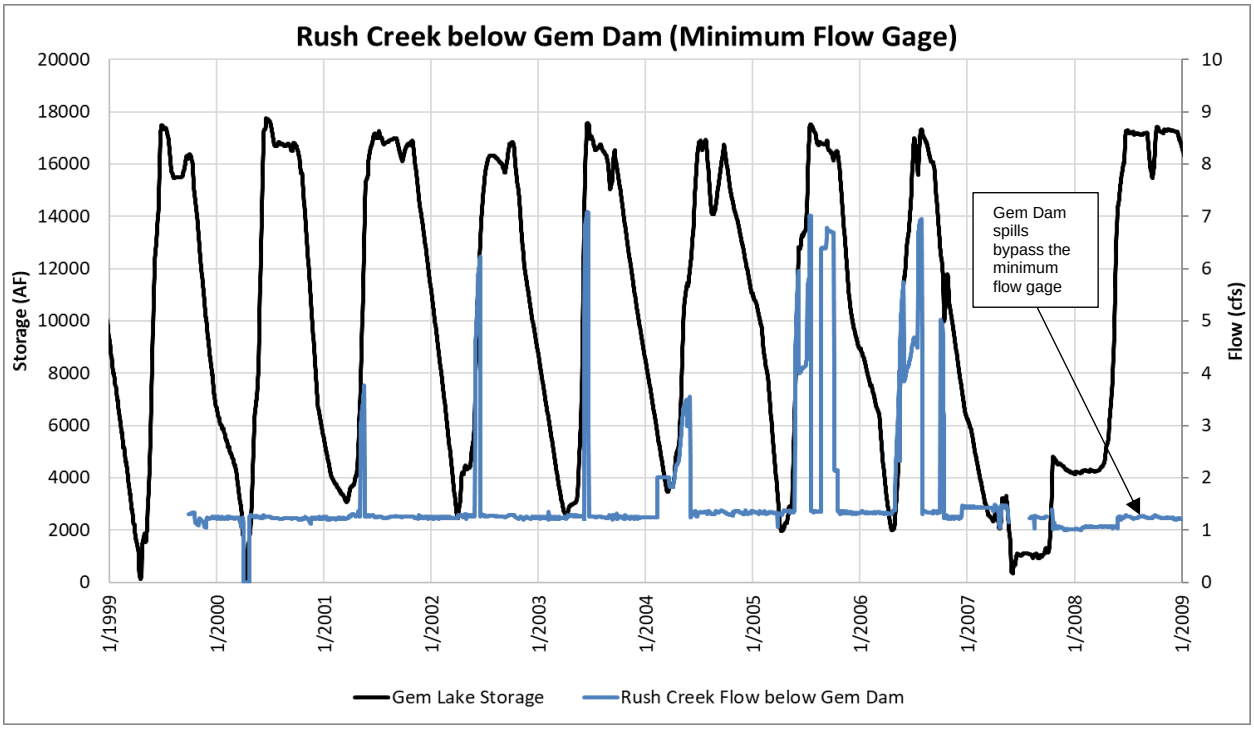


Figure 2-7. Historical Mean Daily Flows (WY 1999–2019) for Rush Creek Below Rush Meadows Dam (USGS 10287262/SCE 359R) and Waugh Lake Storage



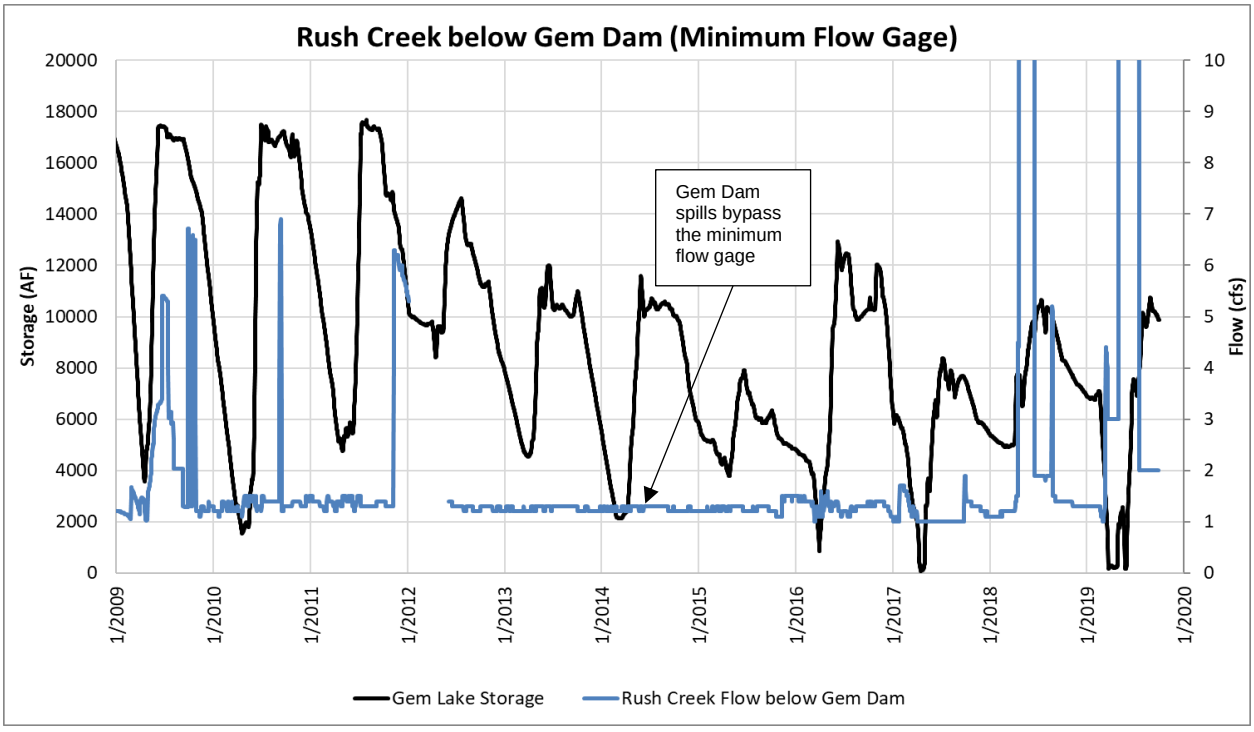
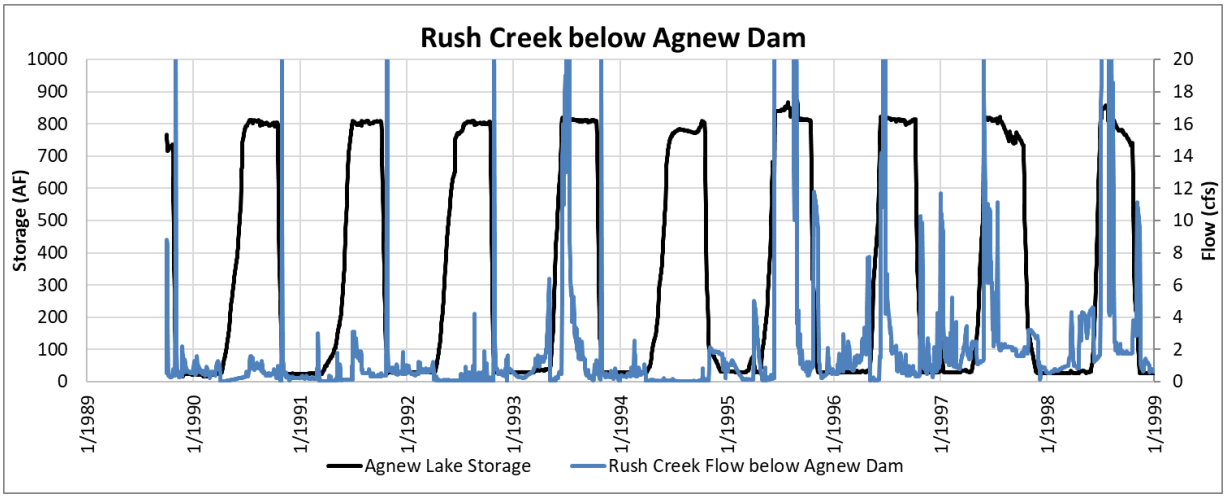
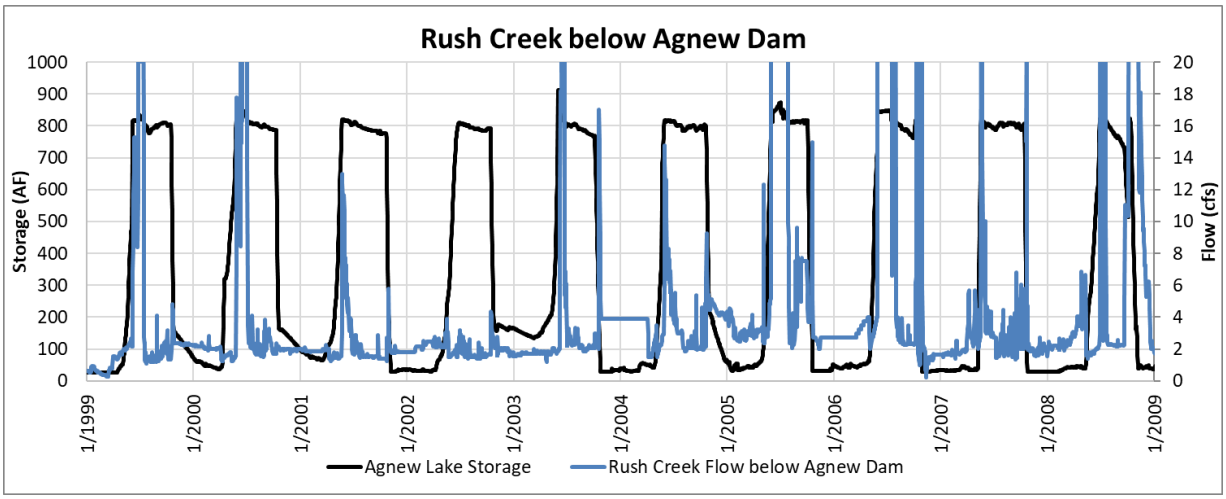


Figure 2-8. Historical Mean Daily Flows (WY 1999–2019) for Rush Creek below Gem Dam (USGS 10287281/SCE 352R) and Gem Lake Storage (Note: The flow gage only records the minimum flow pipe release and not reservoir spills. In 2018 and 2019 bypass flow was recorded from another release pipe)





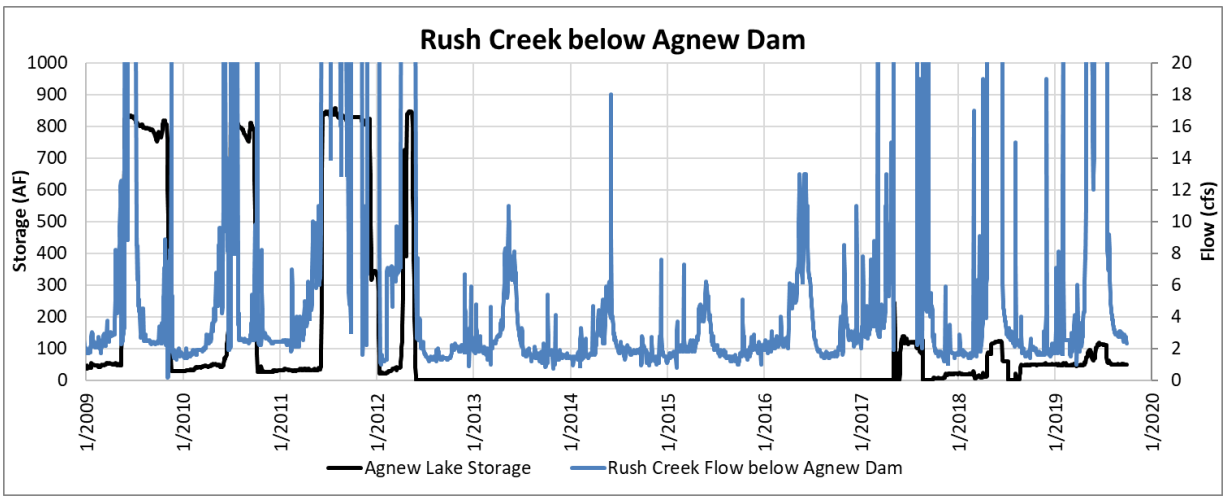


Figure 2-9. Historical Mean Daily Flows (WY 1990–2019) for Rush Creek below Agnew Dam (USGS 10287289/SCE 357) and Agnew Lake Storage

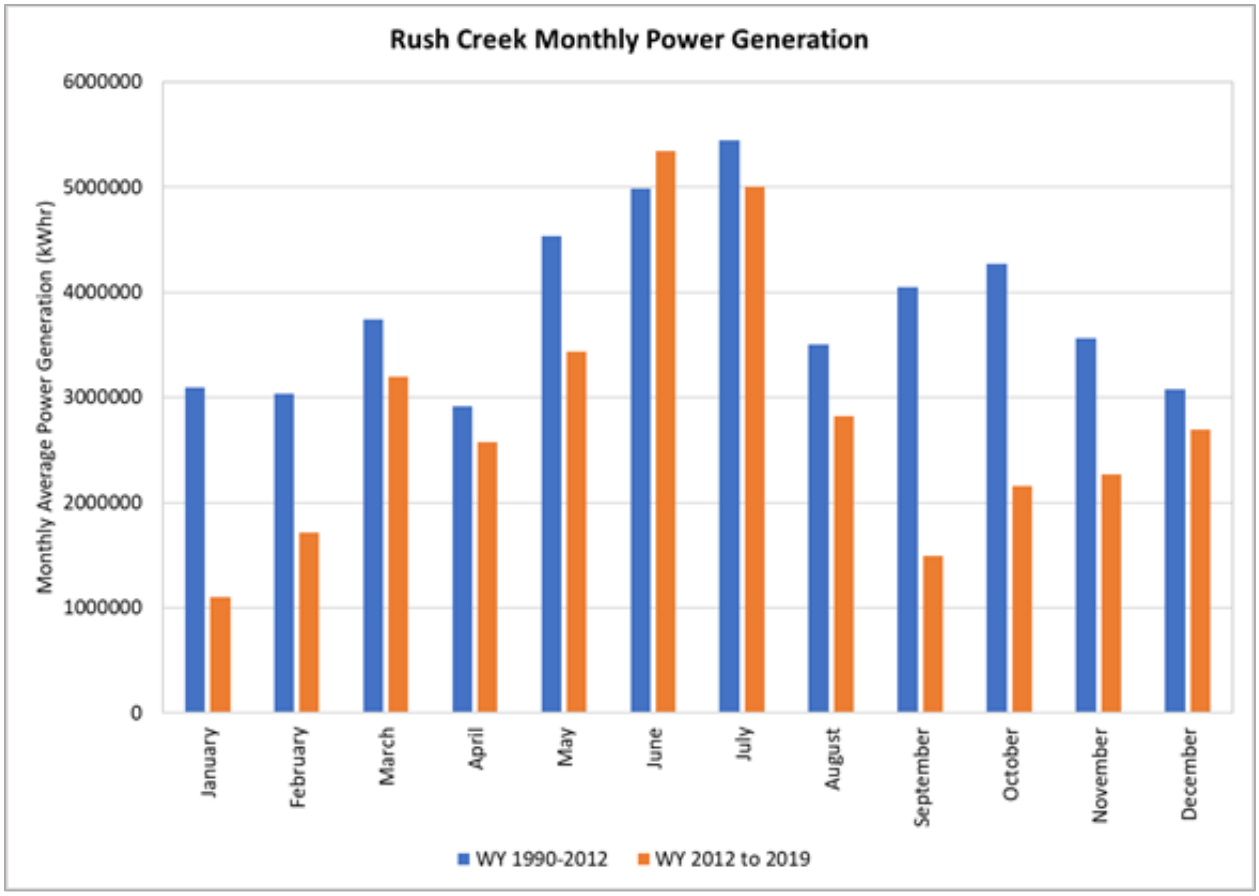


Figure 2-10. Rush Creek Monthly Power Generation for the periods of WY 1990–2012 and WY 2012–2019

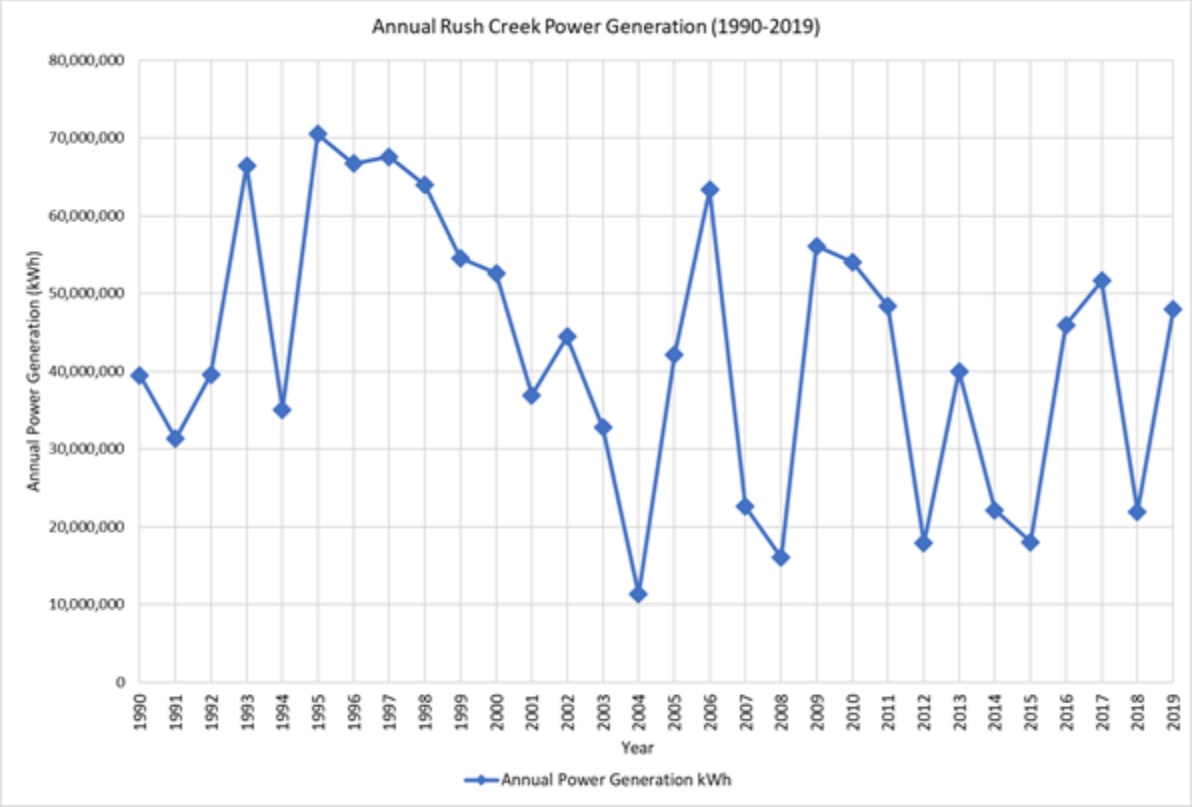


Figure 2-11. Annual Rush Creek Power Generation (1990–2019)

MAPS

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HOOVER WILDERNESS

Lee Vining

Mono Lake

120

120

Rush Creek

Tuolumne County

Mono County

158

Grant Lake

395

YOSEMITE WILDERNESS

ANSEL ADAMS WILDERNESS

INYO NATIONAL FOREST

YOSEMITE NATIONAL PARK

Alger Lakes

Rush Creek

June Lake

Lost Lakes

Silver Lake

Gull Lake

June Lake

Rush Creek Powerhouse

Reversed Creek

Gem Lake

Agnew Lake

Agnew Dam

Waugh Lake

Rush Creek

Marie Lakes

Rush Meadows Dam

Gem Dam

Rush Creek Project

To Bishop

Thousand Island Lake

Davis Lakes

Madera County

OWENS RIVER HEADWATERS WILDERNESS

SIERRA NATIONAL FOREST

Carson City

Sacramento

Project Location

San Francisco

San Jose

California

Fresno

SCE Facilities

- Dam
- Powerhouse
- Flowline / Penstock
- FERC Boundary

Other Features

- Major City/Town
- Highway
- River/Stream
- Lake
- County Boundary

Land Jurisdiction and National Wilderness Areas/Parks*

- Local Government
- LADWP
- State Government
- Bureau of Land Management
- U.S. Forest Service
- Ansel Adams Wilderness (U.S. Forest Service)
- Hoover Wilderness (U.S. Forest Service)
- Owens River Headwaters Wilderness (U.S. Forest Service)
- Yosemite National Park / Yosemite Wilderness (National Park Service)
- Private (Blank)

*SOURCES: BLM, 2020.
Mono Co., 2019.
Wilderness.net, 2019.

SOUTHERN CALIFORNIA EDISON®
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Rush Creek Project (FERC 1389)

Map 2-1

Project Vicinity and Land Jurisdiction

0 0.5 1 2 Miles

Date: 7/7/2021

Projection: UTM Zone 11
Datum: NAD 83

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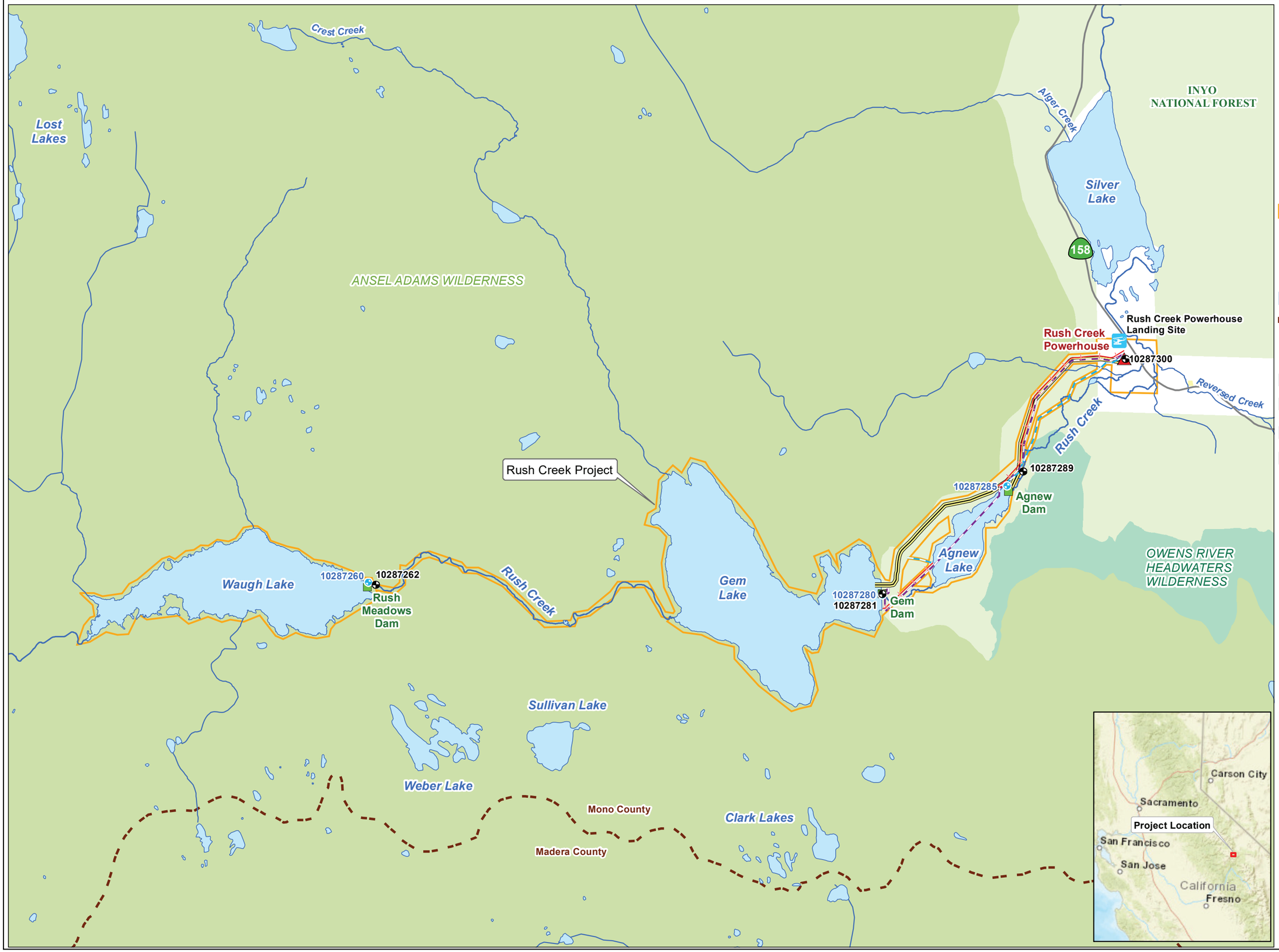

SCE Facilities

- Dam
- Powerhouse
- Flowline / Penstock
- Stream Gage
- Reservoir Gage
- Helicopter Landing Site
- Power Line
- Communication Line
- Tramway
- FERC Boundary

Other Features

- Highway
- River/Stream
- Lake
- County Boundary

Land Jurisdiction and National Wilderness Areas/Parks*

- U.S. Forest Service
- Ansel Adams Wilderness (U.S. Forest Service)
- Owens River Headwaters Wilderness (U.S. Forest Service)
- Private (Blank)

*SOURCES: BLM, 2020.
Mono Co., 2019.
Wilderness.net, 2019.

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Rush Creek Project (FERC 1389)

Map 2-2

Project Facilities and Land Jurisdiction

0 1,250 2,500 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 9/22/2021

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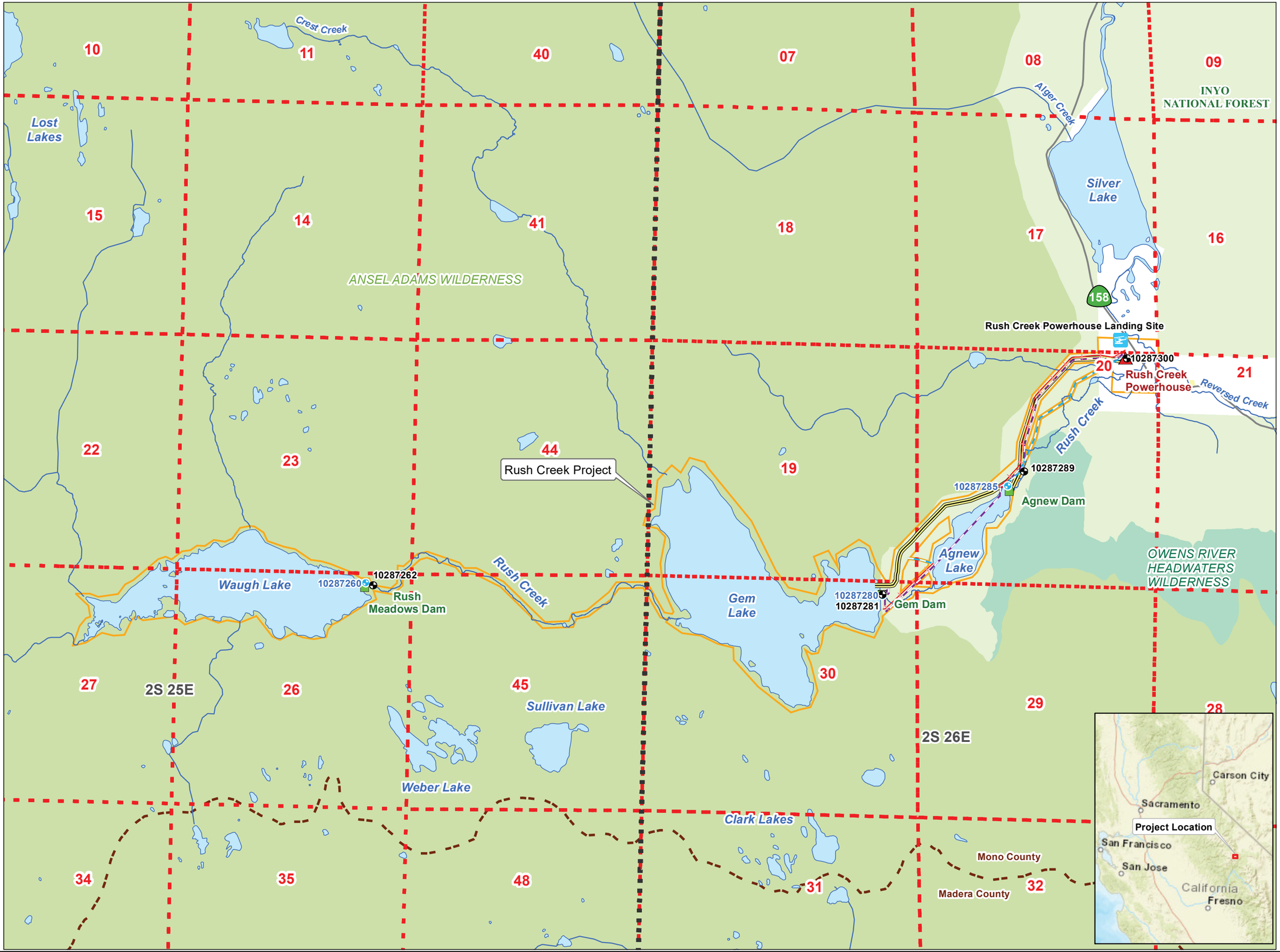

SCE Facilities

- Dam
- Powerhouse
- Flowline / Penstock
- Stream Gage
- Reservoir Gage
- Helicopter Landing Site
- Power Line
- Communication Line
- Tramway
- FERC Boundary

Other Features

- Major City/Town
- Highway
- River/Stream
- Lake
- County Boundary

Land Jurisdiction and National Wilderness Areas/Parks*

- U.S. Forest Service
- Ansel Adams Wilderness (U.S. Forest Service)
- Owens River Headwaters Wilderness (U.S. Forest Service)
- Private (Blank)

*SOURCES: BLM, 2020.
Mono Co., 2019.
Wilderness.net, 2019.

Public Land Survey System (PLSS)

- PLSS Township/Range
- PLSS Section (First Division)

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Rush Creek Project (FERC 1389)

Map 2-3

Lands and Water within the FERC Project Boundary by Township, Range, and Section

0 1,250 2,500 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 7/6/2021

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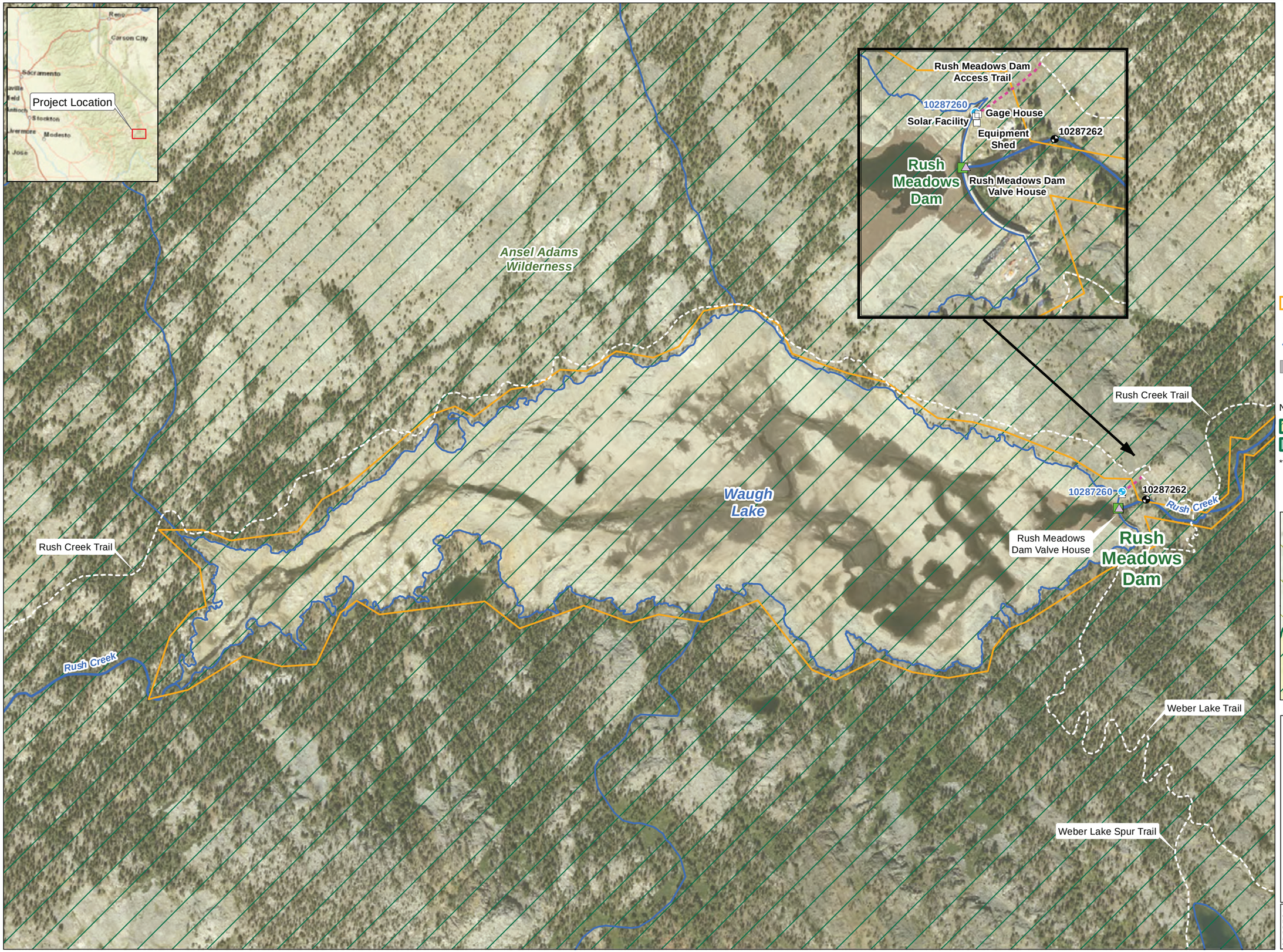


SCE Facilities

- Powerhouse
- Dam
- Stream Gage
- Reservoir Gage
- Ancillary Facility
- Helicopter Landing Site
- Water Conveyance Feature
- Tailrace
- Tunnel
- Flowline / Penstock
- Power Line
- Communication Line
- Transmission Line
- Tramway
- Project Road
- Project Trail
- FERC Project Boundary

Other Features

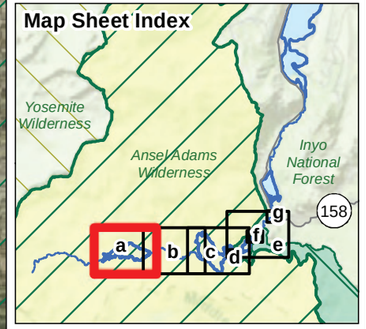
- Watercourse
- Lake
- Non-Project Trail

Land Management

National Wilderness Area**

- Ansel Adams Wilderness
- Owens River Headwaters Wilderness

**NOTE: Ansel Adams Wilderness and Owens River Headwaters Wilderness are located on USFS Lands



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Eastern Hydro Generation

Map 2-4a

Project Facilities
Rush Meadows Dam/Waugh Lake

0 250 500 Feet

Date: 9/29/2021

Projection: UTM Zone 11
Datum: NAD 83

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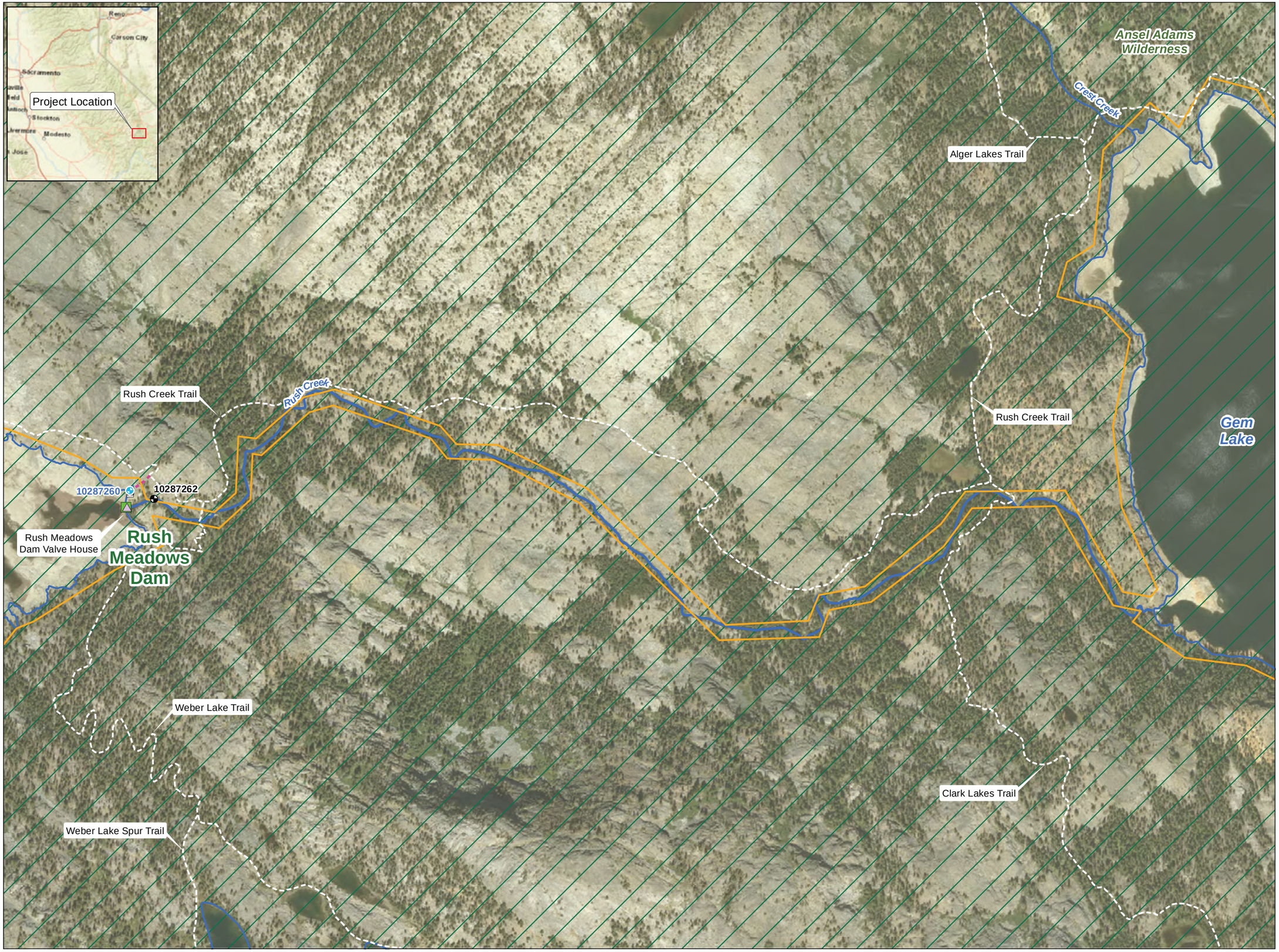


SCE Facilities

- Powerhouse
- Dam
- Stream Gage
- Reservoir Gage
- Ancillary Facility
- Helicopter Landing Site
- Water Conveyance Feature
- Tailrace
- Tunnel
- Flowline / Penstock
- Power Line
- Communication Line
- Transmission Line
- Tramway
- Project Road
- Project Trail
- FERC Project Boundary

Other Features

- Watercourse
- Lake
- Non-Project Trail

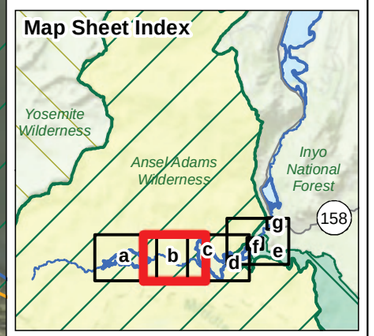
Land Management

National Wilderness Area**

- Ansel Adams Wilderness
- Owens River Headwaters Wilderness

**NOTE: Ansel Adams Wilderness and Owens River Headwaters Wildernes are located on USFS Lands

Map Sheet Index



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Eastern Hydro Generation

Map 2-4b

Project Facilities
Rush Meadows Dam/Gem Lake

0 250 500 Feet

Date: 9/29/2021

Projection: UTM Zone 11
Datum: NAD 83

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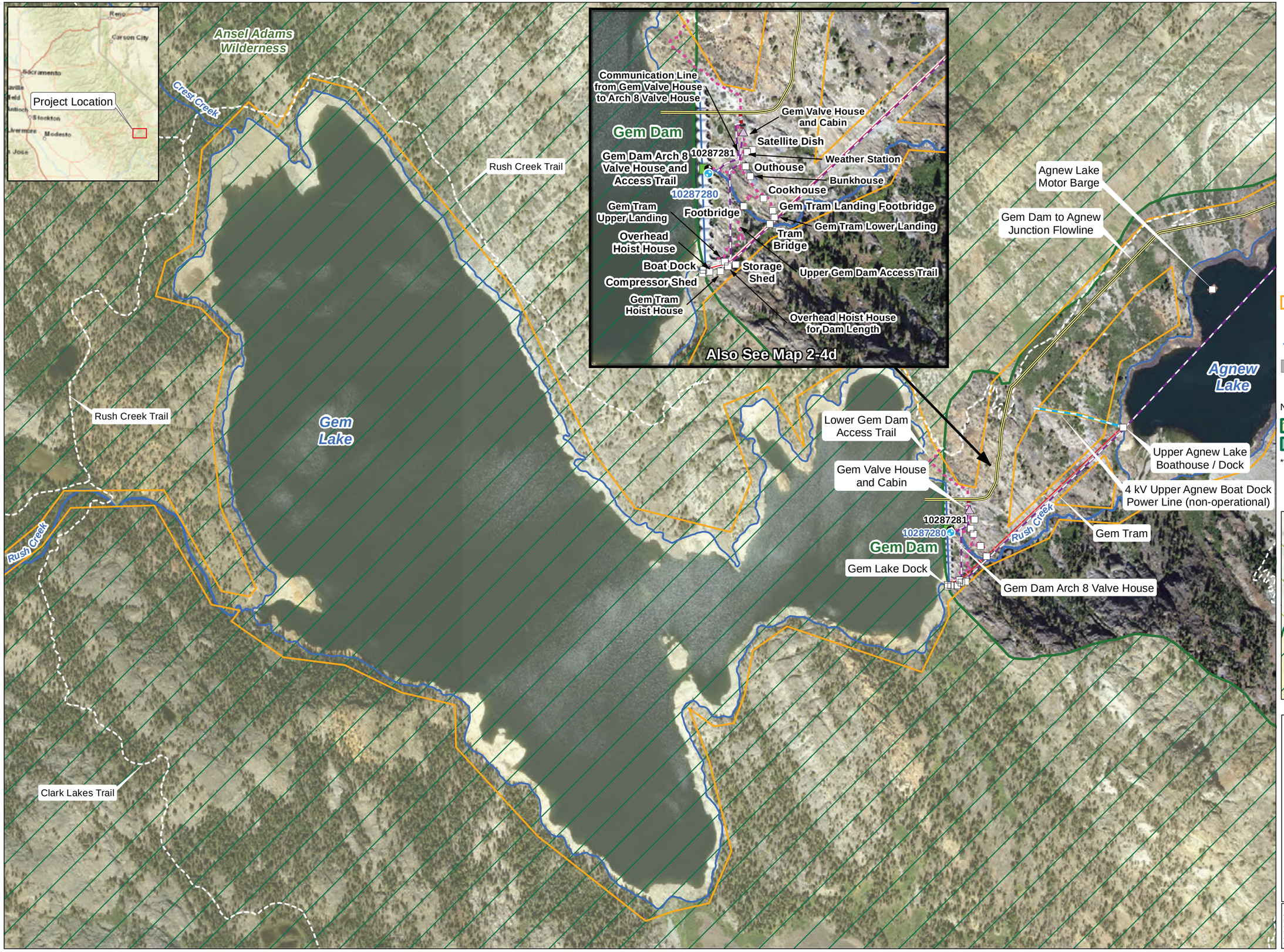

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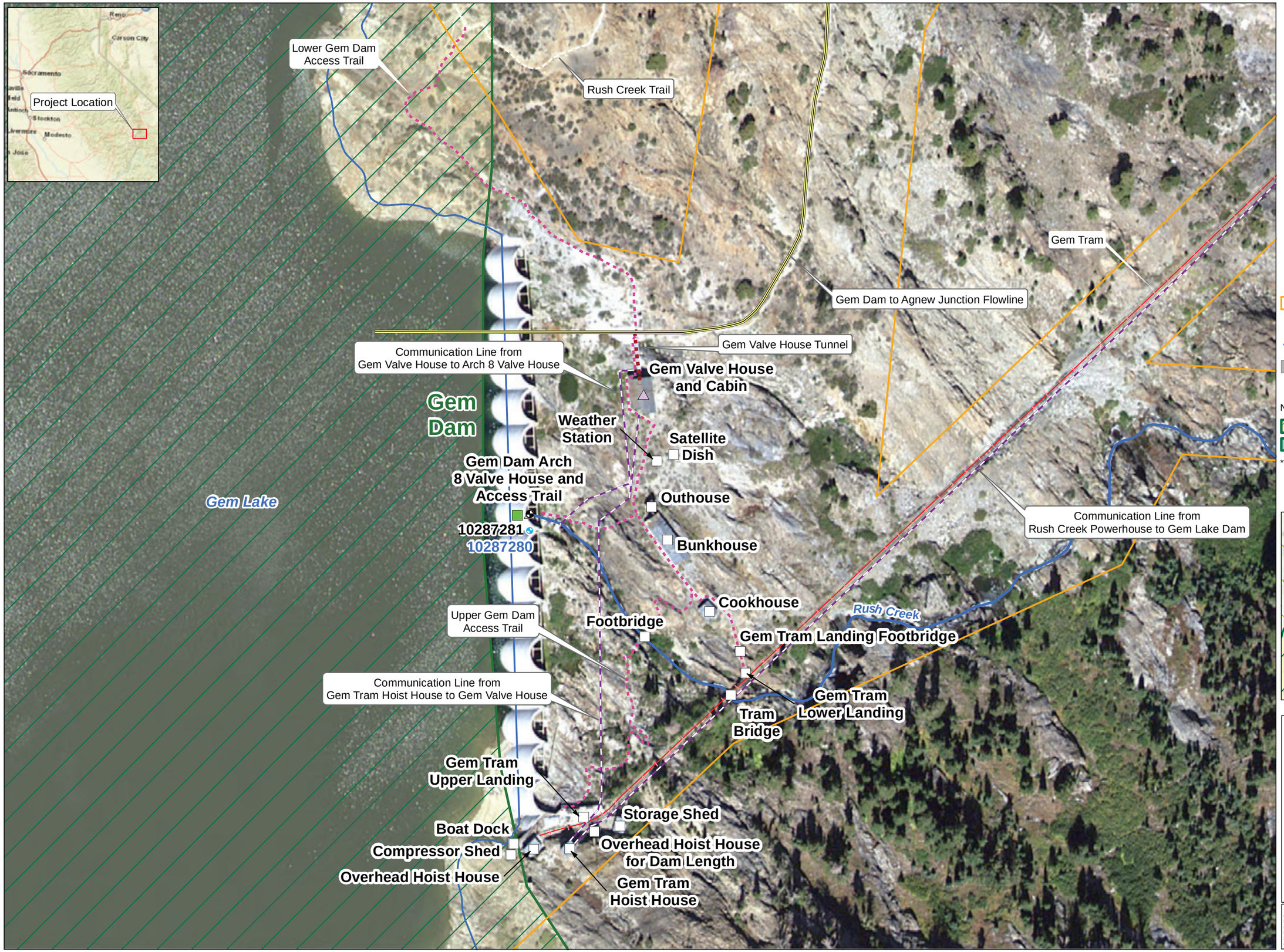


SCE Facilities

- Powerhouse
- Dam
- Stream Gage
- Reservoir Gage
- Ancillary Facility
- Helicopter Landing Site
- Water Conveyance Feature
- Tailrace
- Tunnel
- Flowline / Penstock
- Power Line
- Communication Line
- Transmission Line
- Tramway
- Project Road
- Project Trail
- FERC Project Boundary

Other Features

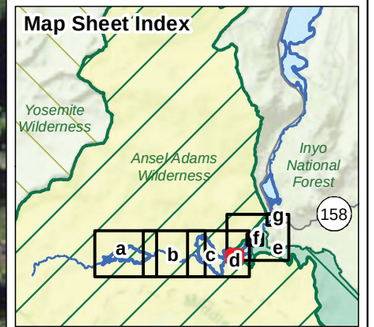
- Watercourse
- Lake
- Non-Project Trail

Land Management

National Wilderness Area**

- Ansel Adams Wilderness
- Owens River Headwaters Wilderness

**NOTE: Ansel Adams Wilderness and Owens River Headwaters Wildernes are located on USFS Lands



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Eastern Hydro Generation

Map 2-4d

Project Facilities
Gem Dam Details

0 50 100 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 9/29/2021

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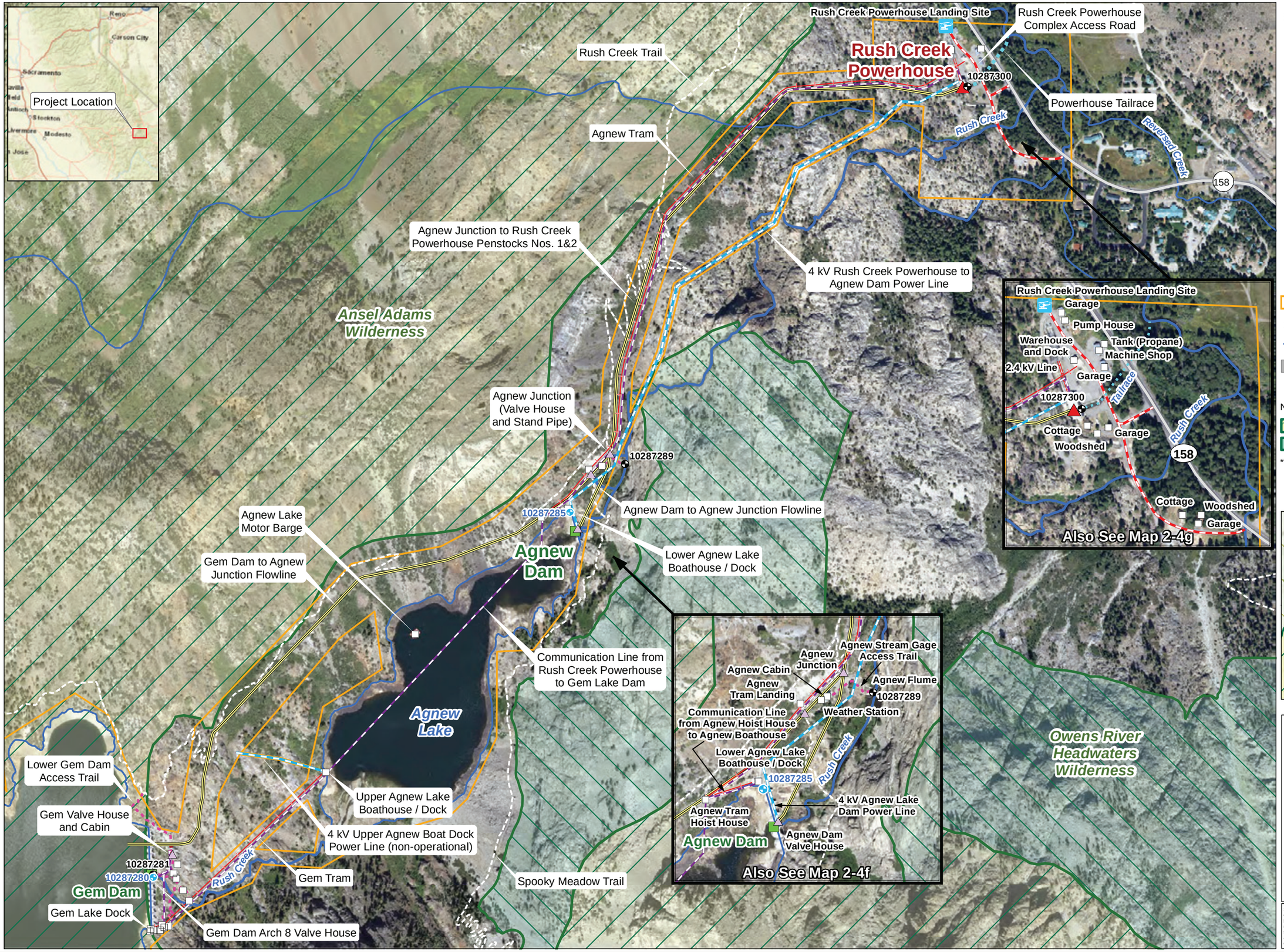

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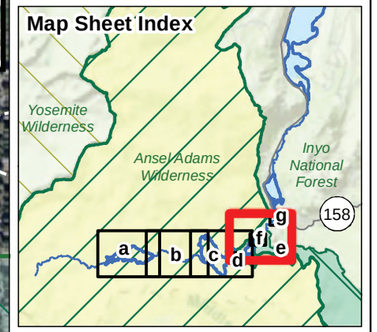

SOUTHERN CALIFORNIA EDISON
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Eastern Hydro Generation

Map 2-4e

Project Facilities
Agnew Dam/Agnew Lake/Powerhouse

0 250 500 Feet

Date: 9/29/2021

Projection: UTM Zone 11
Datum: NAD 83

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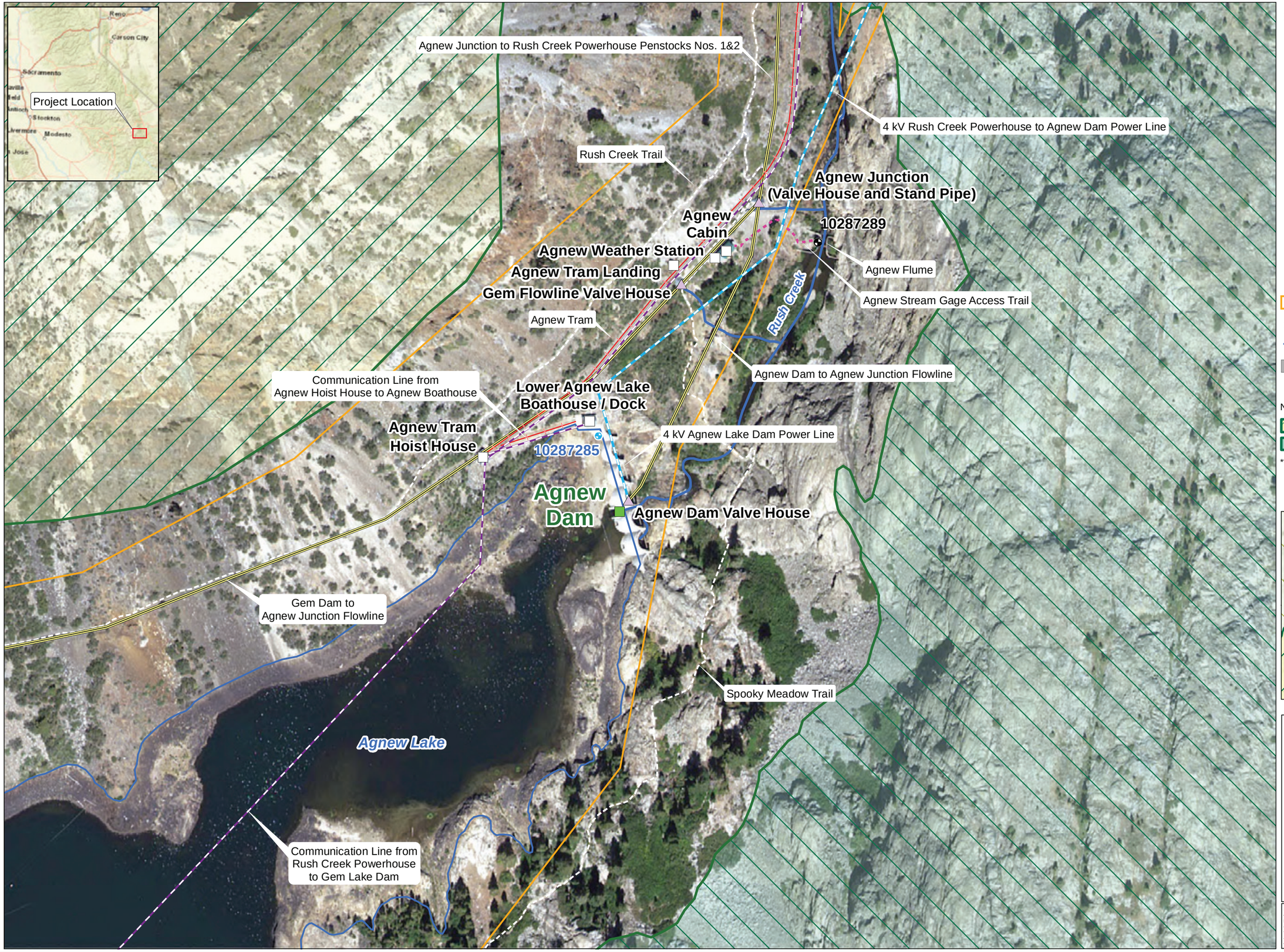

SCE Facilities

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- Dam
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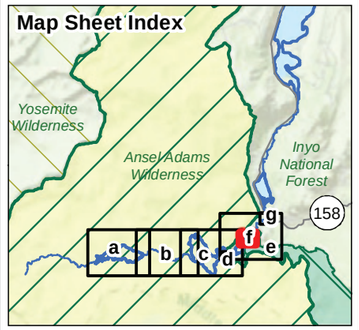
Map Sheet Index



SOUTHERN CALIFORNIA EDISON
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Eastern Hydro Generation

Map 2-4f

Project Facilities
Agnew Dam Details

0 50 100 Feet

Projection: UTM Zone 11
Datum: NAD 83

Date: 9/29/2021

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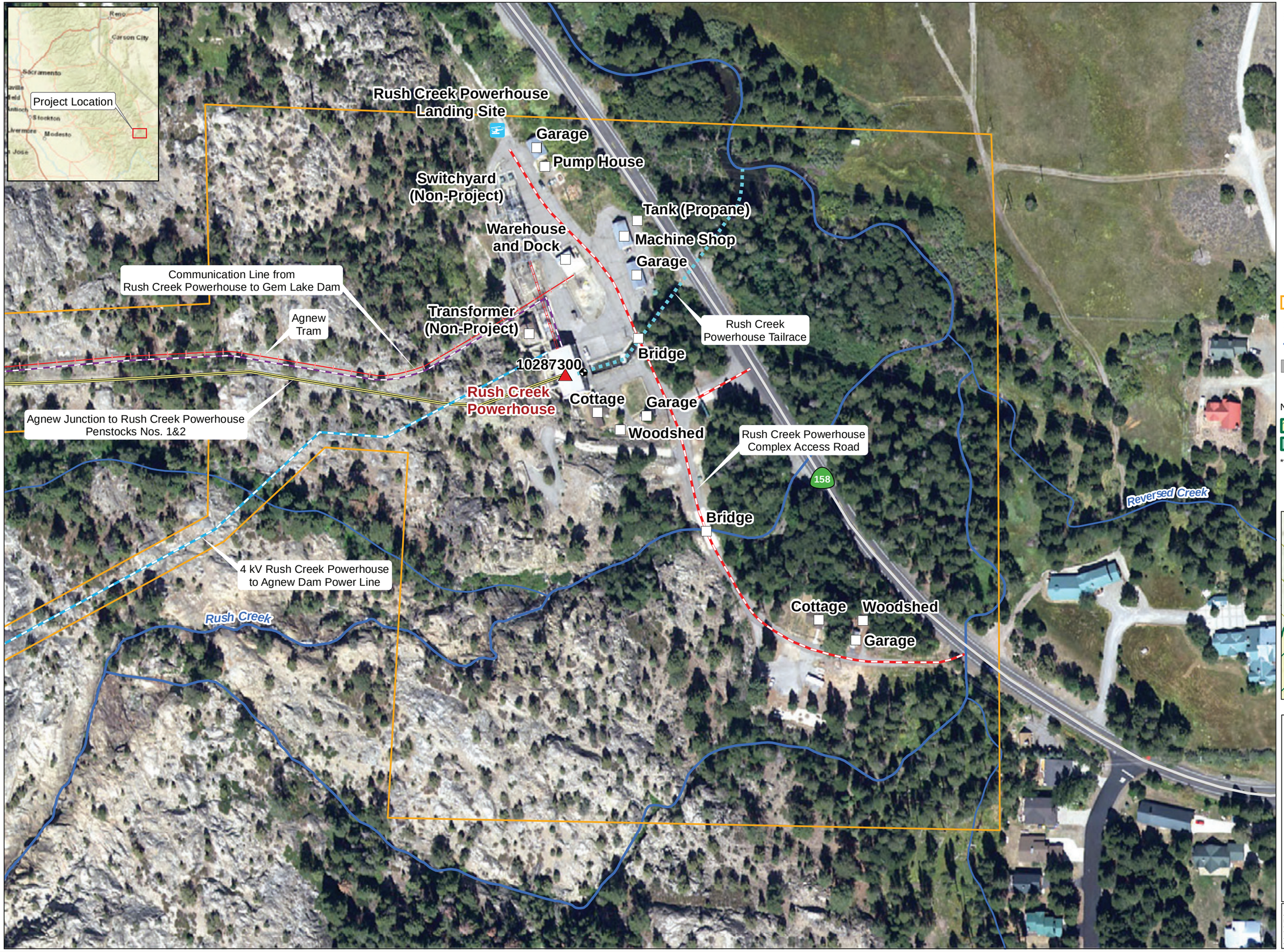

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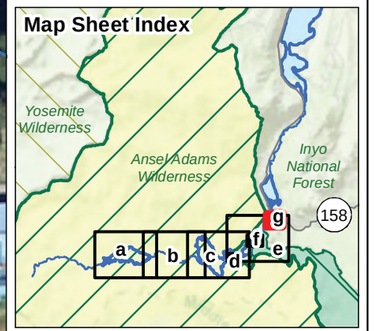
Map Sheet Index



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Eastern Hydro Generation

Map 2-4g

Project Facilities
Powerhouse Details

0 50 100 Feet

Date: 9/29/2021

Projection: UTM Zone 11
Datum: NAD 83

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