2. Project Description (Phases 1 and 2)

Pacific Gas and Electric Company (PG&E or Applicant) has submitted a Development Plan (DP)/ Coastal Development Permit (CDP) (DP/CDP) and Conditional Use Permit (CUP) Application to the County of San Luis Obispo Department of Planning and Building for decommissioning the Diablo Canyon Power Plant (DCPP or plant). This section describes the DCPP Decommissioning Project (Proposed Project or Project) as proposed by PG&E.

2.1 Project Summary

PG&E proposes to decommission the DCPP, which involves the decommissioning (withdraw from service and make inoperative) and dismantlement (break apart, decontaminate, and remove) (together, referred to as D&D) of much of the existing plant. The Proposed Project is in an unincorporated area of San Luis Obispo County. Approximately two-thirds of the DCPP site is within the coastal zone and approximately one-third is outside the coastal zone (see Figure 1-3).

The California Coastal Act (CCA) is the principal planning and regulatory program for the coastal zone of California. Section 23.01.031 of the County's Coastal Zone Land Use Ordinance (CZLUO) requires a CDP for development projects, including decommissioning projects, in accordance with the CCA and the above-referenced section of the CZLUO. In addition, Section 23.02.034 of the CZLUO requires a DP to enable public review of significant land use proposals and to ensure consistency with local ordinance and policy. The area of the DCPP site in the coastal zone is located within the California Coastal Commission (CCC) appeal jurisdiction, meaning that County decisions on the Project may be appealed to the CCC. Furthermore, Section 22.62.060 of the County's Inland Land Use Ordinance requires a CUP for significant land use proposals outside the coastal zone to enable public review and ensure local ordinance and policy consistency.

Part of the DCPP site also is within the original jurisdiction of the CCC and jurisdiction of the California State Lands Commission (CSLC), specifically DCPP features in tidelands and submerged lands, and a CDP and new lease or lease amendment are required from these agencies, respectively, for plant decommissioning activities within these agencies' jurisdictions. Furthermore, the US Nuclear Regulatory Commission (NRC) has exclusive jurisdiction and regulatory authority over the radiological aspects of decommissioning nuclear power plants in the United States.

The DCPP is a two-unit (i.e., two reactor units) nuclear-powered electrical generating station that began commercial operation in 1985 for Unit 1 and 1986 for Unit 2 and is the last nuclear power plant still operating in California. The two reactors are licensed by the NRC to operate until November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2). Between 2009 and 2016, PG&E pursued efforts to renew these licenses, which would have allowed for the continued operation of DCPP until 2044 (Unit 1) and 2045 (Unit 2). In 2016, PG&E decided to forego license renewal efforts and announced plans to close DCPP at the expiration of its current 10 Code of Federal Regulations (CFR) Part 50 facility operating licenses (referred to herein as NRC Part 50 facility operating licenses). This decision was confirmed by the California Public Utilities Commission (CPUC) in 2018. Upon final shutdown of the reactor units and assuming all permit conditions are acceptable, PG&E intends to transition DCPP immediately from an operating status into a decommissioning status, meaning the facility would be shut down and the process of dismantling, decontaminating, and removing it would begin.

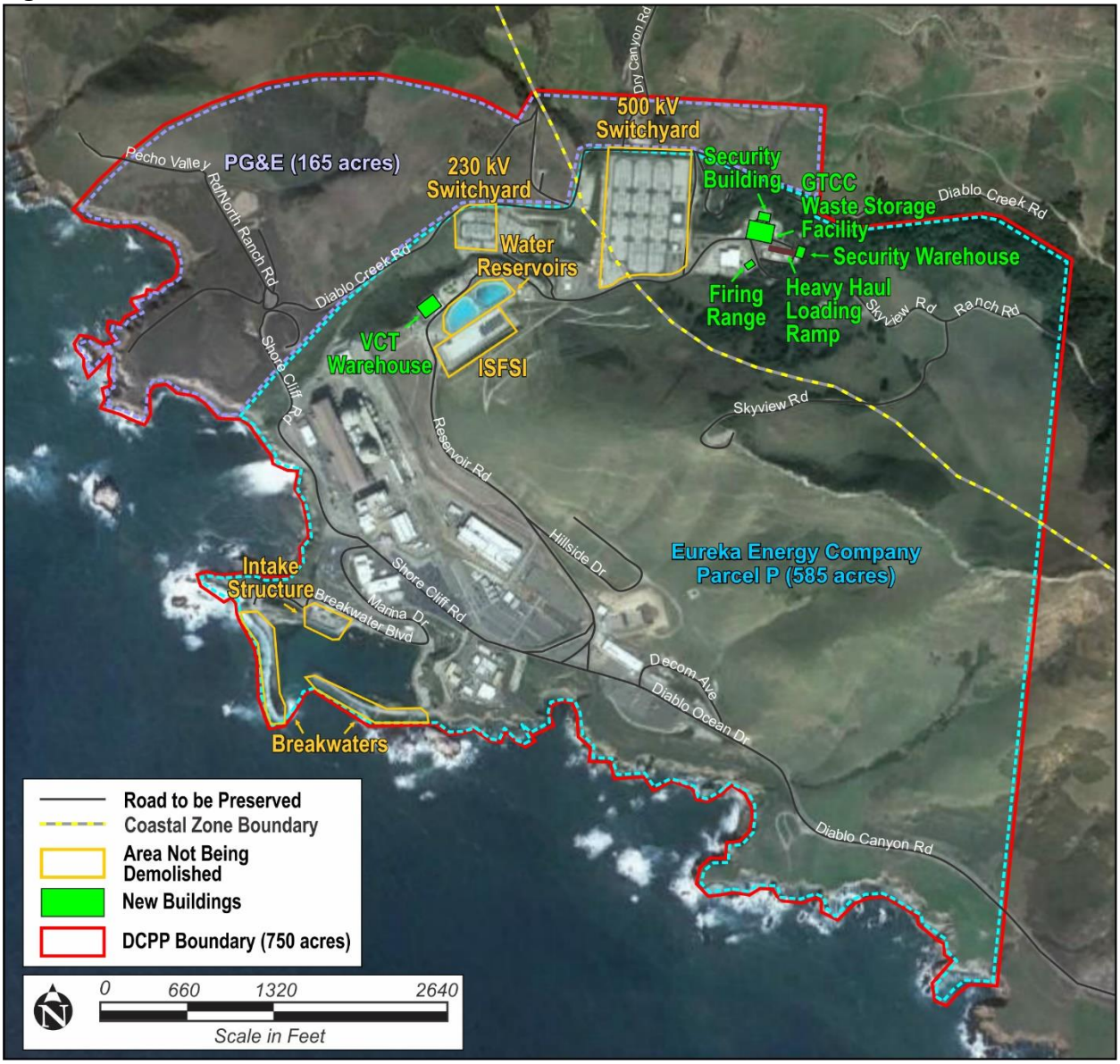
The Proposed Project involves three sites: (1) the DCPP site, (2) the Pismo Beach Railyard (PBR), and (3) a Santa Maria Valley Railyard (SMVR) facility site known as Betteravia Industrial Park (SMVR-SB) (see Figure 2-1).

Figure 2-1. Project Location Map

Source: Google Earth Pro, 2021a.

The DCPP site is on the coast of San Luis Obispo County, California, approximately 7 miles northwest of Avila Beach. The DCPP facility site comprises a 750-acre NRC-licensed site denoted in Figure 2-2 as the red boundary. It contains the 585-acre Parcel P owned by Eureka Energy Company (Eureka), a wholly owned subsidiary of PG&E, and the 165-acre area owned by PG&E. The 750-acre licensed site is surrounded by land owned by either PG&E or Eureka.

Figure 2-2. DCPP Site

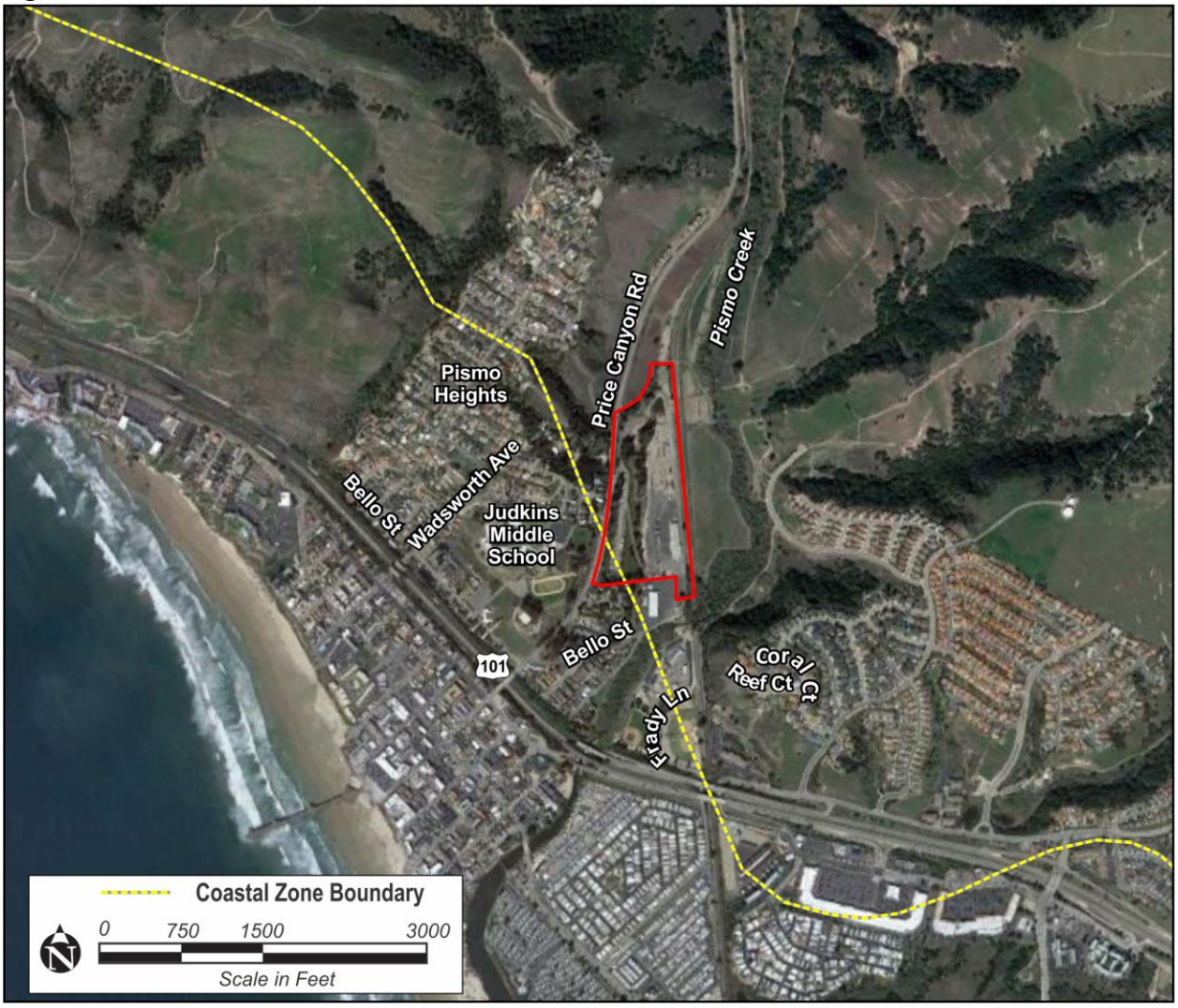


Source: Google Earth Pro, 2021b; ERM, 2023b.

The rail sites would be used to transfer decommissioning waste from trucks to rail cars, where the waste would then be transported by rail to out-of-state disposal facilities (Clive, Utah and/or Andrews, Texas – see Section 2.3.19).

The PBR site was once used by PG&E for equipment and material storage and transportation needs in support of DCPP operations. At present, the site is being used as an equipment staging area and vehicle maintenance facility in support of PG&E's Transmission and Distribution operations. The site is located off Price Canyon Road in the City of Pismo Beach in San Luis Obispo County, approximately 13 miles southeast of the DCPP site (see Figures 2-1 and 2-3). This site would be used as a back-up or contingency site for the transfer of only non-radioactive and non-hazardous decommissioning waste.

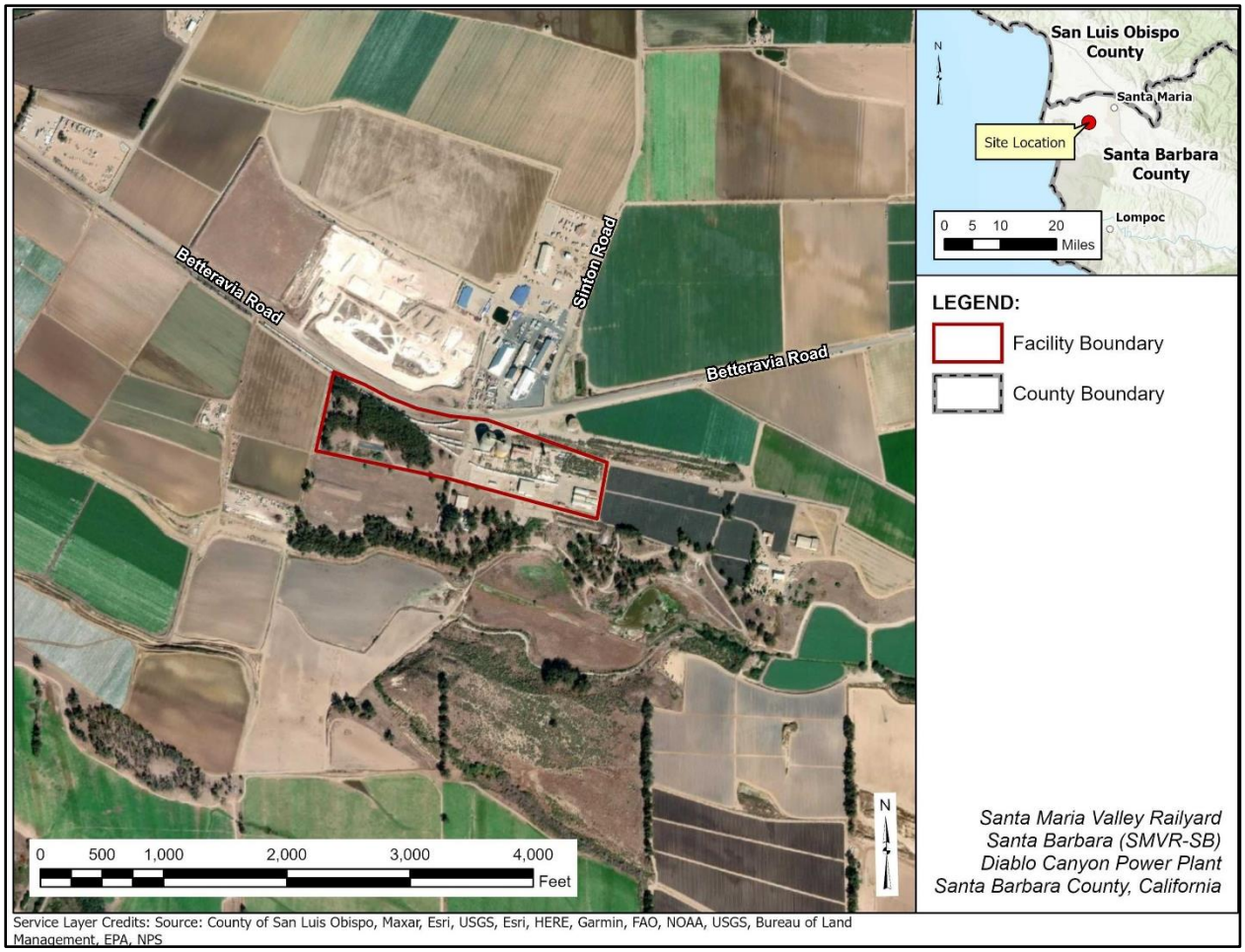
Figure 2-3. PBR Site



Source: PG&E, 2021a; Google Earth Pro, 2021c.

Decommissioning waste would be transported via truck from DCPP to the railyard at Betteravia Industrial Park operated by SMVR (SMVR-SB), located at 2820 W. Betteravia Road in the County of Santa Barbara approximately 30 miles southeast of the DCPP site (see Figures 2-1 and 2-4).

Figure 2-4. SMVR-SB (Betteravia Industrial Park) Site



Source: PG&E, 2021a – Figure 2.2.2-3.

Facility decommissioning would occur in two phases:

- Phase 1 (2024 through 2031): Pre-planning and Decommissioning Project Activities, and
- Phase 2 (2032 through 2039): Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration.

Table 2-1 provides a summary of the Project activities by phase. Each of these activities are discussed in more detail in Section 2.3 for Phase 1 and Section 2.4 for Phase 2.

Table 2-1. Decommissioning Project Activities Summary

Phase 1: Pre-Planning and Decommissioning Project Activities (2024-2031)
▪ **Cold and Dark Modifications.** Install electrical infrastructure to supply power for decommissioning
▪ **Site Security Modifications.** Change security infrastructure to support decommissioning
▪ **Site Infrastructure Modifications.** Change site facilities, civil features, utilities, and equipment
▪ **Railyard Modifications.** Modify (under separate permits) and use railyard(s) for waste shipments (Pismo Beach – contingency site – modifications by PG&E, Santa Barbara County – modifications by SMVR)
▪ **System and Area Closure.** Remove select systems, structures, and components from structures
▪ **Intake Structure Modification.** Modify Intake Structure to load barges for bulk waste transport

Table 2-1. Decommissioning Project Activities Summary

- **Auxiliary Saltwater System Cooling of Spent Fuel Pool (SFP).** Cool SFP via the auxiliary saltwater system (current method)
- **Site Characterization Study.** Identify radioactive and non-radioactive contamination at DCPP
- **Decontamination.** Remove, remediate, and/or abate hazardous materials in structures
- **Building Demolition.** Remove on-site structures
- **Stormwater Management.** Implement compliance measures for stormwater control
- **Waste Transportation.** Transport radiological and non-radiological waste materials off site
- **Reactor Pressure Vessel and Internals Removal and Disposal.** Remove reactor pressure vessels and internal components and transport off site for disposal
- **Large Component Removal.** Remove large components prior to building demolition
- **Utilities, Remaining Structures, Roads, and Parking Area Demolition.** Remove facilities not needed to support decommissioning or final site use
- **Remove Power Plant 230 kilovolt (kV) and 500 kV Infrastructure.** Remove 230 kV and 500 kV lines, poles, and towers from the Power Block to the switchyards (switchyards are to be retained)
- **Discharge Structure Removal and Restoration.** Remove discharge concrete structure and restore area to natural conditions
- **Construct Waste Storage Facilities**
  - Construct a GTCC Waste Storage Facility for storing radioactive materials regulated by Title 10 of the Code of Federal Regulations (10 CFR) Part 72 (Part 72)[1]
  - Construct a Non-Radioactive Waste Storage Facility for storing general demolition debris including hazardous, non-hazardous, and universal wastes (i.e., hazardous wastes more widely produced such as batteries, mercury-containing equipment, lamps, aerosol cans, and pesticides)
- **SNF and GTCC Waste Transfer to ISFSI and new GTCC Storage Facility.** After a cooling and decay period (i.e., time to reduce radioactivity), SNF and GTCC waste would be moved to the ISFSI and new GTCC Waste Storage Facility, respectively, for storage (SNF will be transferred to dry cask storage within approximately 4 years after each reactor shutdown)
- **Water Management.** Produce fresh water and cooling water, and manage wastewater
- **Soil Remediation.** Remediate (i.e., clean up and restore from environmental damage) radiological and non-radiological impacted (i.e., contaminated) soils
- **Initial Site Restoration.** Backfill, grade, and landscape to restore excavated and disturbed features at DCPP to natural conditions
- License Termination Plan (**LTP**)**.** Prepare and submit an LTP to the NRC
- **Final Status Surveys.** Complete surveys to ensure the DCPP site meets the radioactivity release criteria specified in the NRC-approved LTP.
- **Firing Range.** Remove the existing Firing Range and construct a new indoor Firing Range
- **Retain Breakwaters.** Release Breakwaters from Part 50 facility operating license for reuse by others
- **Retain Intake Structure.** Release Intake Structure from Part 50 facility operating license for reuse by others

Phase 2 – Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032-2039)

- **Complete Waste Transportation**. Complete transport of remaining radiological and non-radiological waste materials off site
- **Complete Soil Remediation.** Complete remediation of radiological and non-radiological-impacted soils
- **Complete Final Status Surveys.** Complete surveys to ensure the site meets the release criteria
- **Intake Structure Closure**. Seal openings of Intake Structure with concrete bulkheads and clear top
- **NRC Part 50 License Termination.** Terminate DCPP's NRC Part 50 facility operating licenses
- **Utilities, Remaining Structures, Roads, and Parking Area Demolition.** Remove facilities not needed to support the retained DCPP facilities

Table 2-1. Decommissioning Project Activities Summary

- **Final Site Restoration (FSR).** Continue to backfill, grade, and landscape to restore excavated and disturbed features, including the former Firing Range, at DCPP to natural conditions
- **Long-Term Stormwater Management.** Install post-construction stormwater controls
- **Post-Final Site Restoration Monitoring.** Monitor (up to 5 years) efforts to restore the DCPP site and ensure restoration criteria are met
- **Construct Blufftop Road**. Construct new blufftop road segment to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road

Source: PG&E, 2021a – Table 2.1-1.

Acronyms: CFR = Code of Federal Regulations, DCPP = Diablo Canyon Power Plant, FSR = Final Site Restoration, GTCC = Greater Than Class C, ISFSI = Independent Spent Fuel Storage Installation, kV = kilovolt, LTP = License Termination Plan, NRC = Nuclear Regulatory Commission, SFP = Spent Fuel Pool, SNF = Spent Nuclear Fuel

[1] GTCC wastes are defined as those wastes with concentrations of radionuclides which exceed the limits established for Class C Low-Level Radioactive Waste. For the Project, the GTCC waste inventory includes GTCC waste that has been generated throughout normal operations of the DCPP units and the GTCC waste that would be generated during RPV internals segmentation.

Facilities remaining following completion of Phases 1 and 2 include:

- primary and secondary access roads
- internal roads, including the existing road over Diablo Creek
- 230 and 500 kV switchyards
- Independent Spent Fuel Storage Installation (ISFSI)
- Water Reservoirs
- Vertical Cask Transporter (VCT) Warehouse
- New Security Building, Firing Range, and GTCC Waste Storage Facility (built in Phase 1).

In addition, PG&E proposes to retain the existing East and West Breakwaters and Intake Structure for potential future use by others (Intake Structure would be closed/sealed as part of the Proposed Project – see Section 2.4.6, *Intake Structure Closure*). This proposal is based on CPUC Decision 21-09-003, directing PG&E to evaluate retaining the East and West Breakwaters, subject to regulatory approvals (CPUC, 2021). A Joint Settlement agreement estimated that PG&E could reduce the cost of decommissioning by $400 million if both breakwaters were maintained for repurposing, and $200 million related to other general repurposing of existing facilities, such as the retainment of the Intake Structure for future use (CPUC, 2021) (See Section 2.4.6 and Section 2.7 below for more details).

Some structures or portions of the structures remaining on site following decommissioning would continue to be managed by PG&E within a designated "Owner Controlled Area" or OCA. An OCA is defined as the land area owned and controlled by PG&E or Eureka (licensee) where access can be limited by the licensee for any reason (PG&E, 2021e – PD-4). Currently, the 750-acre site boundary consisting of the protected area (PA), and radiologically controlled area (RCA) are contained within the existing OCA, which comprises 12,000 acres (see Figure 2-6). PG&E intends to reduce the size of the existing OCA to encompass the remaining facilities once decommissioning of the DCPP has been completed (see Figure 2-17). Activities within the revised OCA would be limited to the area surrounding the ISFSI and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository is available to accept transfer of spent nuclear fuel (SNF) and GTCC waste. Identification of an off-site repository for

long-term storage of SNF and GTCC waste is a concern both for DCPP and for nuclear power facilities across the nation and awaits resolution by the federal government.

PG&E would establish a blufftop road segment at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road, utilizing the Diablo Creek Bridge (see Figure 2-36). Additionally, future actions would require additional permitting for third-party reuse of the Marina (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*).

2.2 Project Setting

The Project would take place at up to two locations within San Luis Obispo County and one location within Santa Barbara County (see Figure 2-1). The primary location is the DCPP site, which occupies a 750-acre high security zone (including the 585-acre Parcel P) within the existing OCA that spans approximately 12,000 acres of coastline property (owned by PG&E and Eureka) in central San Luis Obispo County (see Figure 2-2). DCPP is located within the Irish Hills and coastline approximately 7 miles northwest of Avila Beach, 12 miles west-southwest of the City of San Luis Obispo, and directly southeast of the southern border of Montaña de Oro State Park. Project activities may also take place at the PG&E-owned PBR within the City of Pismo Beach, San Luis Obispo County (contingency site). In addition, Project activities would take place at the SMVR-SB site (see Figure 2-4) within Santa Barbara County.

2.2.1 Local and Regional Setting

2.2.1.1 Diablo Canyon Power Plant

The coastal border of the DCPP site is defined by rocky bluffs with gently to moderately sloping terraces ranging from 70 to 100 feet above sea level. Most of the structures comprising the DCPP complex were constructed several hundred feet from the shoreline on a flat terrace. The reactors and associated primary systems equipment for Units 1 and 2 are housed in separate, but adjacent, containment structures on the main terrace at 85 feet above sea level (see Figure 2-2).

Montaña de Oro State Park is located adjacent to the North Ranch (land north of the DCPP site) of the PG&E property – the North Ranch contains the Point Buchon Trail. Montaña de Oro State Park includes campsites and various hiking trails and other recreational opportunities.

The nearest residential communities are in Avila Beach and Los Osos. Avila Beach is located near the main DCPP Access Gate, which is approximately 7 miles southeast of the DCPP site. Los Osos is situated adjacent to Montaña de Oro State Park and is located 8 miles north of the DCPP site. Other cities and unincorporated residential areas exist along the coast and inland at distances of more than 8 miles from the DCPP site. The closest public facilities to the DCPP site are the Port San Luis Harbor District facilities west of Avila Beach, which are located approximately 5.5 miles southeast of the DCPP site.

There are several existing roads in the DCPP area, although none are open to the public. The primary road is Diablo Canyon Road, also informally known as the “main access road,” is a paved two-lane, approximately 7-mile road running from the Access Gate at Port San Luis to the DCPP. This is the main access road into the property and is primarily used by DCPP employees. Just

north of the Access Gate is Lighthouse Road, which is a paved road that leads to the Point San Luis Lighthouse. The northern portion of the Diablo Canyon lands, between Montaña de Oro State Park and the DCPP facility, include several unpaved and partially paved (North Ranch Road/ Pecho Valley Road) roads. North Ranch Road/Pecho Valley Road serves as a County Fire Department access route, providing access to the DCPP from the north. It is also used as an alternative route for DCPP personnel if the main plant road is out of service, and for ranching/land management activities for the North Ranch. The access route could also be used as an emergency evacuation route for Avila and Port San Luis, if Avila Beach Drive and/or San Luis Bay Drive were compromised. See Figure 2-1 for a regional map showing the location of DCPP.

2.2.1.2 Pismo Beach Railyard

PBR is an approximately 25.5-acre material and equipment storage facility owned by PG&E, located at 800 Price Canyon Road within the City of Pismo Beach. The facility is located approximately 0.3 miles from US Route 101 (US-101) within Price Canyon and adjacent to Pismo Creek (see Figure 2-3). The site geology consists of sandy loams and clay loams that are somewhat poorly drained and alluvial in origin. The soil is moderately permeable with slight to moderate erosion hazards. The majority of the PBR is located on relatively level topography with elevations ranging from 30 to 100 feet above mean sea level (MSL). Some portions in the western area of the site along Price Canyon Road are steeper and drain toward the east. The PBR site slopes west to east and drains into a man-made canal along the eastern boundary of the site, ultimately draining into the Pismo Creek channel and finally to the Pacific Ocean. Most of the site is located within a 100-year flood plain and is adjacent to the floodway of the Pismo Creek channel.

The facility is surrounded by a mix of uses including open space and residences to the north, a Union Pacific Railroad (UPRR) line and open space to the east, a wastewater treatment plant owned by the City of Pismo Beach and a church to the south, as well as residences and Judkins Middle School to the west. Open space areas in the site vicinity consist of non-native grasslands, roadside ruderal areas, riparian areas, and coast live oak woodland.

2.2.1.3 Santa Maria Valley Railyard

The SMVR-SB site, also known as Betteravia Industrial Park, is located at 2820 W. Betteravia Road, approximately 1.6 miles west of the City of Santa Maria and approximately 3.2 miles southeast of the City of Guadalupe in Santa Barbara County, California (see Figure 2-4). The site is approximately 28.4 acres, bordered to the north by Betteravia Road and agricultural fields, on the west and east by agricultural fields, and on the south by agricultural fields and ruderal lands with a building and parking lot. Elevations on site range from 152 to 174 feet (47 to 52 meters) above MSL.

The eastern portion of the site is developed, consisting of several buildings, loading platforms, two large silos, and a furnace stack. The western portion of the site consists primarily of a eucalyptus grove and a railroad track with a few spur lines. Adjacent land uses include industrial businesses, agricultural fields, and undeveloped private lands. Guadalupe Lake is located approximately 350 feet south of the SMVR-SB site. Based on historical imagery PG&E collected from Google Earth (1994-2019), Guadalupe Lake appears to be an ephemeral feature that ponds dur-

ing some years and outlets into an unnamed drainage that flows into Orcutt Creek to the west which flows to Santa Maria River and the Pacific Ocean.

2.2.2 Site History

2.2.2.1 Diablo Canyon Power Plant

In 1966, PG&E leased property (and later purchased the property under its subsidiary Eureka) from the Marre family for a nuclear power plant and a transmission corridor (i.e., land suitable for the installation of electric transmission lines). Of the current 750-acre DCPP facility site (see Figure 2-2), approximately 165 acres are owned by PG&E, which are located north of Diablo Creek. The remaining 585 acres (Parcel P) of the DCPP site, adjacent to and south of Diablo Creek, are owned by Eureka and leased to PG&E. Coastal properties located south of Diablo Creek reaching inland approximately 0.5 miles have been owned by Eureka since 1995. All coastal properties (approximately 4,500 acres) located north of Diablo Creek, extending north to the southerly boundary of Montaña de Oro State Park and reaching inland approximately 0.5 miles were purchased by PG&E in 1988. The two portions of the property, referred to as the North Ranch and South Ranch, are encumbered by two grazing licenses. PG&E owns additional property for the purposes of conveying electrical power via transmission corridors. See Figure 2-5 for a depiction of PG&E- and Eureka-owned lands.

In 1983, the CCC approved CDP No. 4-82-593 for construction of PG&E's Simulator and Training Buildings; this approval included a special condition to construct and operate the Pecho Coast Trail, which has been operational since 1993 (see Section 2.2.3.3, *Existing Mitigations and Encumbrances on the DCPP Property*). The County's LCP was adopted in 1988.

On November 5, 2001, PG&E applied for a DP/CDP with the County to construct and operate in perpetuity an ISFSI at the DCPP site. This permit, DP/CDP D010153D, for the ISFSI was approved by the County in 2004. The County permit was then appealed to the CCC, which subsequently approved CDP No. A-3-SLO-04-035 for the construction and operation in perpetuity of the ISFSI on December 8, 2004. Special condition 3(d) required PG&E to provide a deed restriction for the Point Buchon Trail to ensure its legal protection in perpetuity. The location of the deed restricted trail is identified in Figure 2-5. Pursuant to the deed restriction, public pedestrian access must be provided during daylight hours to the accessways identified in the plan.

Figure 2-5. Land Ownership

Source: PG&E, 2023c.

In 2006, the County approved DP/CDPDRC2004-00165 and CUP DRC2004-00166 for the Steam Generator Replacement Project (SGRP). The County CDP was then appealed to the CCC, which then approved CDP No. E-06-011 and A-3-SLO-06-017 for the SGRP. Special Condition 3(c)

required PG&E to prohibit development on 1,200 acres of a coastal bluff in the vicinity of Point San Luis by means of a deed restriction. The location of the deed restriction area is identified in Figure 2-5. The future use of the Deed Restriction Area would be limited primarily to open space and agriculture, with perpetual preservation of human remains, funerary objects, sacred objects and items of cultural patrimony originating in San Luis Obispo County. These resources may require relocation and reburial for protection at the direction of the recognized descendants or as otherwise designated by the Native American Heritage Commission and approved by the Commission or its Executive Director.

2.2.2.2 Pismo Beach Railyard

The PBR supports PG&E's operations and has been used for various equipment and material storage and transport needs in support of DCPP. The site contains a rail spur off a UPRR line, which has been used to transport large components, waste, and other various pieces of equipment during the construction and operation of DCPP. The facility was once used as a satellite facility for DCPP, operating for a time as a security inspection area for goods and equipment bound for the plant site. The PBR does not currently transport any materials by rail; the existing rail spur has not been used for at least 10 years (PG&E, 2021d – LAND-2).

At present, the site is being used as an equipment staging area and vehicle maintenance facility in support of PG&E's Transmission and Distribution operations. Additionally, the single building present on site is occupied by PG&E staff within the Transmission and Distribution departments, as well as contractors responsible for PG&E's Vegetation Management program (see Figure 2-3).

2.2.2.3 Santa Maria Valley Railyard

Prior to use by the SMVR as a railyard, the SMVR-SB site (i.e., Betteravia Industrial Park) was a sugar factory operated by the Union Sugar Company. The site still contains structures previously used for the sugar factory, including several buildings, loading platforms, two large food-grade storage silos, and a furnace stack. The site also contains on ground and covered storage and warehouse space. The western portion of the site consists primarily of a eucalyptus grove and a railroad track with a few spur lines. The SMVR-SB site is served by the SMVR and can be accessed by truck from Betteravia Road. This site does not appear to be actively used for transporting materials off site by rail, but rather currently serves as storage for rail cars (PG&E, 2021d – LAND-2). The SMVR-SB site is generally surrounded by agricultural and industrial uses (see Figure 2-4).

2.2.3 Existing Project Setting

2.2.3.1 Power Generation

In 1967 and 1969, the CPUC issued PG&E Certificates of Public Convenience and Necessity for construction of DCPP Units 1 and 2, respectively. Construction of Unit 1 began in 1968 and construction of Unit 2 began in 1970. In 1973, the US Atomic Energy Commission (the precursor to the NRC) conducted an environmental review under the National Environmental Policy Act for the construction of DCPP.

Due to construction, design, and regulatory issues, Units 1 and 2 were not completed until the 1980s. The NRC issued the current full power operating licenses on November 2, 1984, and August 26, 1985, for Unit 1 and Unit 2, respectively. Unit 1 began commercial operation in May

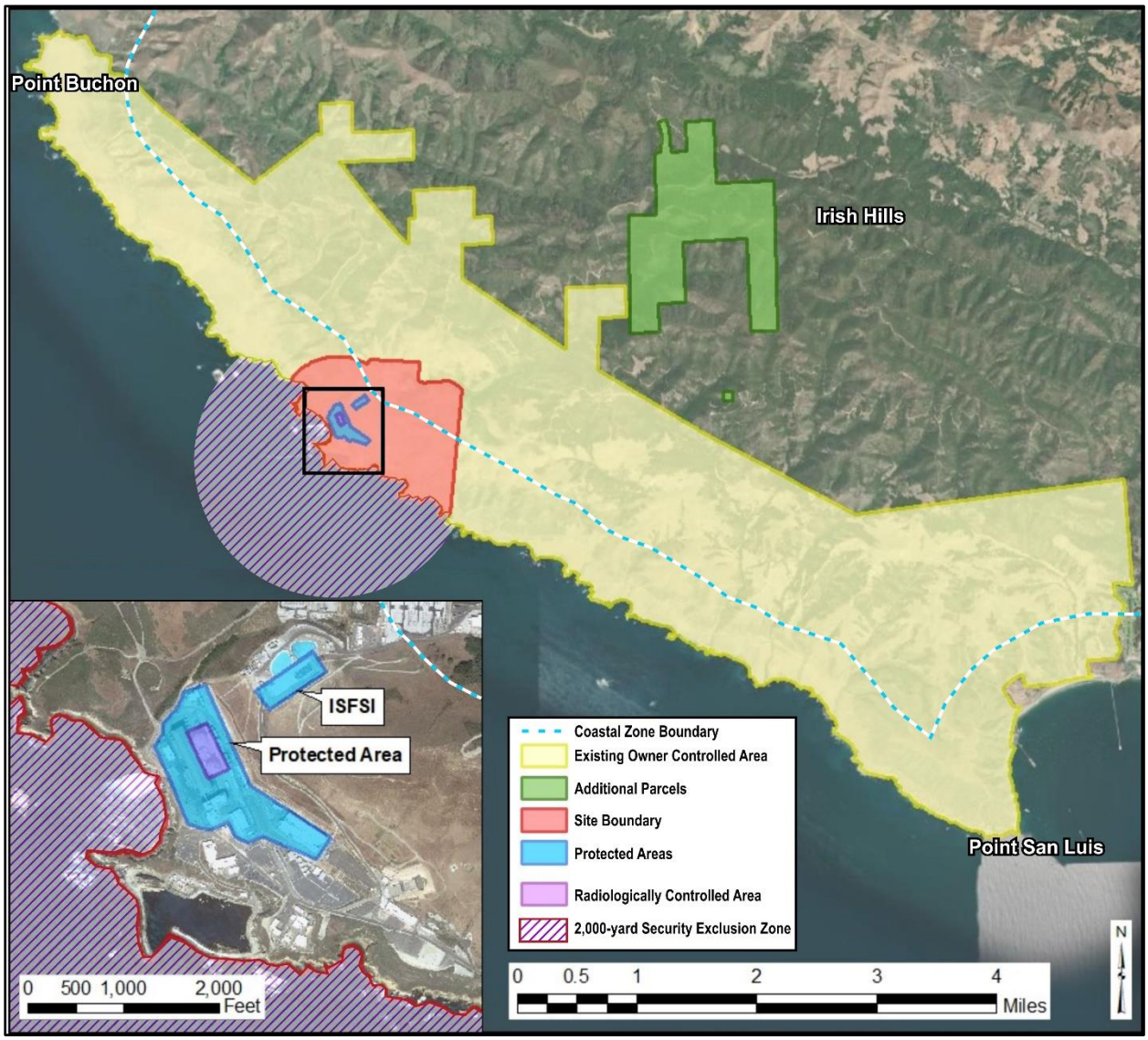
1985 and Unit 2 began commercial operation in March 1986. The two nuclear reactors (Units 1 and 2) are housed in separate, but adjacent, containment buildings. Each unit has a pressurized water reactor coupled with steam generators (SGs), feed water systems, and cooling water systems. The two reactors share some common equipment, including a shared fuel handling building, a radioactive waste storage building, an auxiliary building containing emergency safety systems and other support systems, a turbine building containing turbines and generators, high-voltage step-down transformers, and switching equipment. Each unit is refueled approximately once every 18 months.

DCPP operates 24 hours a day year-round, and currently employs 1,157 workers (as of the 2021 CDP Application), but generally employs up to approximately 1,400 workers under typical operating conditions. There is an augmented contractor force of over 100 personnel on site. Additionally, the number of DCPP workers fluctuates depending on plant requirements such as scheduled fuel replacement (i.e., refueling) outages, routine maintenance, and other special projects. Over 1,000 support personnel are routinely used during a refueling outage.

DCPP Units 1 and 2 are located within a security zone or PA along with several support buildings, including a six-story office building, a medical facility, and a spare equipment warehouse with office space. There are two PAs at DCPP – one containing Units 1 and 2 and support buildings, and one containing the ISFSI. The current PA, RCA, and OCA are depicted on Figure 2-6. Support buildings and infrastructure are also located outside of the PAs at DCPP, including, but not limited to, a water treatment system, transmission infrastructure, fire department, intake and discharge structures, Intake Cove/marina, simulator/training building, and access buildings. All of the PAs and other related areas are within the existing OCA, however, only the area within the Site Boundary (illustrated in red in Figure 2-6) is currently regulated by the NRC.

In addition to the PA, RCA, and OCA, there is a 2,000-yard (1 nautical mile) security exclusion zone (see Figure 2-6) maintained around the DCPP site, which limits how close private boats can get to the DCPP (PG&E, 2022b). This security exclusion zone was established by the US Coast Guard and US Department of Transportation and became effective in January 2003 to increase safety and security measures on the water fronts of nuclear power plants following the September 11, 2001, terrorist attacks against the United States. Entrance into the zone is prohibited unless specifically authorized by the US Coast Guard Captain of the Port for Sector Los Angeles-Long Beach (US Coast Guard and US Department of Transportation, 2002).

Figure 2-6. Protected Area, Radiologically Controlled Area, and Existing Owner-Controlled Area



Source: PG&E, 2021a – Figure 2.2.3-1 (revised to add Coastal Zone Boundary).

2.2.3.2 Independent Spent Fuel Storage Installation

In December 2001, PG&E applied for a site-specific NRC license to build and operate an ISFSI to be located on the DCPP site. On March 22, 2004, the NRC issued Materials License No. SNM-2511, pursuant to 10 CFR Part 72, authorizing PG&E to receive, possess, store, and transfer SNF and associated radioactive materials resulting from the operation of DCPP to an ISFSI at the site for a term of 20 years. As stated in the site history discussion in Section 2.2.2.1, *Diablo Canyon Power Plant*, PG&E also applied for a DP/CDP for construction and operation of the ISFSI in perpetuity with the County in 2001, which was approved by the County and subsequently appealed and approved by the CCC in December 2004. Construction of the ISFSI began shortly thereafter. The ISFSI consists of seven storage pads containing space for 20 fuel storage casks each. PG&E began transferring SNF to the ISFSI in 2009. The ISFSI contains its own separate PA (i.e., security zone)

from the plant, as depicted on Figure 2-6. Transfer of SNF from the Spent Fuel Pool (SFP) to the ISFSI is scheduled to be completed by 2029.

2.2.3.3 Existing Mitigations and Encumbrances on the DCPP Property

CDP No. 4-82-593 for construction of PG&E's Simulator and Training Buildings required construction and operation of the Pecho Coast Trail, which has been operational since 1993. The 3.75-mile roundtrip Pecho Coast Trail runs from the DCPP's entrance at Port San Luis to the now-retired Point San Luis Lighthouse. There is also an 8-mile roundtrip hike along the Pecho Coast Trail northward to just beyond Rattlesnake Canyon that can be scheduled. The trail ends about 4 miles south of the DCPP PA and lies within the DCPP OCA. All hiking on these trails is docent-led.

The 1983 CDP also required PG&E to develop a public access plan to provide coastal access within the Diablo Canyon lands. The resulting Pecho Coast Trail Accessway Management Plan, and a subsequent memorandum of understanding between PG&E and the CCC, provides for public access to the Pecho Coast Trail via docent-led, day use-only hikes. The plan also included a payment by PG&E into an escrow account to pay for developing and maintaining the trail improvements.

As stated in the site history discussion in Section 2.2.2.1, *Diablo Canyon Power Plant*, CCC CDP No. A-3-SLO-04-035 for the construction and operation of the ISFSI mandated a deed restriction for the Point Buchon Trail to ensure its legal protection in perpetuity. The Point Buchon Trail extends from Montaña de Oro to Crowbar Canyon on the northern portion of the Diablo Canyon lands. The deed restriction was recorded on July 29, 2019. Hikers are required to sign in with trail docents to access the Point Buchon Trail and the number of visitors is limited to 275 hikers daily. Access to the trail is also limited to Thursday through Monday.

CCC permits, CDP No. E-06-011 and A-3-SLO-06-017, for DCPP's SGRP also mandated several public access enhancements including:

- funding access improvements to the Pecho Coast Trail, which included moving the trail entrance to its current location next to the DCPP Security Station on Avila Beach Drive;
- providing an access easement for the 1.8-mile Lighthouse Road, extending from just past the DCPP front entrance to the Lighthouse, for use by the Port San Luis Harbor District; and,
- recording an approximately 1,200-acre deed restriction around Point San Luis.

2.2.4 Ongoing Safety and Environmental Activities

Many ongoing safety and environmental-related activities currently in place at the operating DCPP site, including some required by the NRC, would continue throughout decommissioning and are not specific to the Proposed Project.

In addition to the ongoing safety and environmental-related activities at DCPP, Table 2-2 summarizes additional plans and programs that would be developed or are ongoing as part of the Proposed Project.

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Biological Resources Monitoring Plan				■	The plan will outline all protocols and procedures for protection of sensitive on-site biological resources including responsible parties and contact information. The plan will require all initial ground disturbance and vegetation clearing within or immediately adjacent to undeveloped areas be monitored by a qualified biologist.	4.3, *Biological Resources - Terrestrial*
DCPP Hazardous Materials Business Plan		■	■		Existing plan to manage the hazardous materials inventory, emergency contacts, response strategies, and procedures for on-site refueling (refueling stations and fuel tank locations, maintenance, and operation) and provides a site plan.	4.10, *Hazardous and Radiological Materials*
Discharge Structure Demolition and Restoration Plan				■	Conceptual plans were developed (Application Appendix C and Appendix F) for the demolition of the Intake and Discharge Structures (removal of the Intake Structure is an alternative). A revised plan was prepared as part of the 30% design plans (July 2022). Demolition will be accomplished through conventional demolition means or a crane outfitted with a large steel ingot (i.e., wrecking ball), and will require installation of a cofferdam.	2.3.14, *Discharge Structure Removal,* and 2.3.15*, Discharge Structure Restoration*
Emergency Plan (Police Protection)	■		■	■	NRC-approved Emergency Plan for DCPP that contains existing requirements (letters of agreement and memorandums of understanding) for maintaining the capability to obtain off-site agency support as-needed for DCPP emergencies. In addition, NRC-approved Emergency Plans will be implemented throughout the Project commensurate with the potential radiological risks at each stage. The Emergency Plans include: (1) requirements for Emergency Planning staff trained to address unanticipated events for a permanently defueled facility 7 days per week/ 24 hours per day; (2) coordination and communication with off-site partners; and (3) on-site emergency preparedness drills and routine fire, medical, and emergency communication drills with off-site partners.	4.14, *Public Services and Utilities*
Erosion and Sediment Control Plan		■		■	The plan was developed for the DCPP site (Application Appendix B) and will be implemented along with a Storm-water Pollution Prevention Plan (SWPPP) to minimize erosion and runoff concerns. If disturbance at the SMVR-SB site exceeds one acre, a SWPPP would be prepared for this site.	4.8, *Geology and Soils*; 4.11, *Hydrology and Water Quality*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Grading Plan		■		■	A Preliminary Grading Plan for the DCPP site has been prepared to estimate the required amount of fill material needed on site through areas of cut (i.e., areas where the finished grade is lower than the existing grade) and re-use of clean, crushed on-site concrete derived through the demolition of structures (see Site Grading and Concrete Re-use Strategy Plan). The Grading Plan would also address DCPP site drainage.	2.3.16.1, *Remaining Grading and Fill Activities*
Groundwater Protection Program Plan		■		■	This plan will be developed to ensure the existing DCPP Groundwater Protection Program will continue to be implemented as the plant transitions into and completes decommissioning activities. The monitoring program under the Groundwater Protection Program will be updated to ensure the program complies with the requirements of the Nuclear Energy Institute's Ground Water Protection Initiative (NEI 07-07, Rev 1). The long-term monitoring program shall demonstrate the attenuation of tritium to levels below 20,000 pCi/L in the site monitoring wells.	2.3.21.1, *Groundwater Remediation*
Historical Site Assessment (HSA) Report	■				An HSA was performed in 2018 and will serve as the basis for the Site Characterization Study (SCS). The HSA Report is required by the NRC for a licensee's License Termination Plan and describes, among other things, the level and locations of radiological contamination.	2.3.7, *Site Characterization Study*
Discharge Demolition Anchoring Plan				■	A preliminary plan was developed (Application Appendix D). A revised plan was prepared as part of the 30% design plans (July 2022). This plan provides information on mooring and anchoring at the DCPP site for marine barges engaged in the demolition of the DCPP Discharge Structure.	4.4, *Biological Resources - Marine*
Intake Structure Closure and Barge Loading Plan				■	A preliminary plan was developed (Application Appendix T). This plan provides details on the permanent sealing and closure of the Intake Structure and three concepts for loading and unloading Intermodal Containers on deck barges. This Project Description incorporates the applicable information.	2.3.19, *Decommissioning Waste Transportation and Disposal*
License Termination Plan (LTP)	■			■	In accordance with 10 CFR 50.82(a)(9), PG&E is required to submit a LTP at least 2 years before termination of the NRC Part 50 facility operating licenses. At the point of terminating the licenses,	2.4.3, *NRC Part 50 Facility Operating Licenses Termination*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					the DCPP site would meet radio-activity release criteria for unrestricted use, in accordance with NRC regulations. The California Coastal Commission (CCC) is responsible for consistency reviews for the Coastal Zone Management Act related to LTPs approved by the NRC.	
Oak Tree Inventory and Mitigation Plan				■	A preliminary plan was developed (Application Appendix W). This plan identifies oak trees that may be removed or impacted by Proposed Project activities, provides avoidance and minimization measures for protection of oak trees located adjacent to Project activities, and proposes mitigation for oak tree removals and impacts.	4.3, *Biological Resources - Terrestrial*
Oil Spill Response Plan		■		■	A preliminary Oil Spill Response Plan (OSRP) was developed (Application Appendix G). A revised OSPR was pre-pared as part of the 30% design plans (July 2022). The OSRP was prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300) as per the USEPA. This plan outlines the notification and initial response plans and procedures in the event of a nearshore (i.e., within 500 feet of the shoreline) oil spill incident during decommissioning.	4.4, *Biological Resources – Marine*; 4.11, *Hydrology and Water Quality*
Operating, Monitoring, and Maintenance Plan (OM&M)				■	The OM&M Plan will be included in the Storm-water Management Plan (SWMP), discussed below, and will consist of monitoring by a Qualified Storm Water Practitioner, or trained delegate, until the Notice of Termination for coverage under the Construction General Permit (CGP) is accepted (final stabilization is reached).	2.4.5, *Long-Term Stormwater Management*
Operational Plan			■	■	Developed by PG&E in cooperation with San Luis Obispo County Fire, the existing Operational Plan provides for the unified response in the event of an incident at DCPP. This plan is reviewed and updated on an annual basis. This plan addresses authorities, training and drills, firefighting pre-plans, incident command system, dispatch and notification, communications, security, radiation protection, safety, and support capabilities. Last updated May 12, 2021. Fire protection service needs at DCPP will change once all SNF has been moved to the ISFSI (2029). As such, the Operational Plan will be amended to specify the terms of the transition	2.3.23, *Site Conditions at End of Phase 1*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					process for fire protection services (see Transition Plan below).	
Pecho Coast Trail Accessway Management Plan		■	■		This is a public access plan required as part of the 1983 Coastal Development Permit (CDP) from the CCC (CDP No. 4-82-593). The plan provides for public access to the Pecho Coast Trail via docent-led, day use-only hikes on Wednesdays and Saturdays (to the Lighthouse) or the first Monday of the month (to the Rattlesnake Canyon loop). The permit also required a payment by PG&E into an escrow account to pay for developing and maintaining the trail improvements, which has been fully expended.	2.2.3.3, *Existing Mitigations and Encumbrances on the DCPP Property*
Radiological Environmental Monitoring Program (REMP)		■	■		Tritium groundwater sampling was initiated at DCPP in 2006 through the Radiological Environmental Monitoring Program (REMP). DCPP implements the NEI 07-07 Groundwater Protection Initiative through a plant procedure. The REMP samples from several onsite observation wells, as well as Deep Well #2, to monitor for tritium. Results of REMP are submitted to local, State, and Federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.	2.3.21.1, *Groundwater Remediation*; 4.11, *Hydrology and Water Quality*
Radiological Protection Program	■		■	■	This program is based on numerous detailed plans and procedures implemented through comprehensive training and certification programs to ensure that employees are qualified and capable of conducting all operations safely and in compliance with applicable regulations, and that they are trained to respond to emergencies to protect workers and the public. The plans, procedures, and other requirements are specified in the DCPP facility operating license (and other regulatory permits, as appropriate), and the NRC provides regulatory oversight to verify that operations are conducted in compliance.	4.10, *Hazardous and Radiological Materials*
Revegetation Plan				■	This plan supports Phase 2 of the Proposed Project. Previous mitigation commitments for projects at DCPP have required that revegetation plans provide for long-term native plant cover compatible with surrounding areas of undisturbed native vegetation and wildlife habitat using local genetic sources of seed or cuttings for all native plant material. This same restoration goal will be adopted for final site restoration	2.4.4, *Grading and Landscaping (Final Site Restoration)*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					at DCPP. Following grading activities returning areas to natural contours, areas will be revegetated to establish native vegetation that is consistent with native plant communities and wildlife habitat.	
Site Characterization Plan / Site Characterization Study (SCS)	■			■	The SCS will be executed in the form of a Characterization Plan. This plan will include physical sampling and analysis based on the requirements contained in NUREG-15753 and regulations promulgated by the USEPA. This plan will provide for methodically documenting areas containing both radio-logical and/or chemical contamination throughout the DCPP site. The SCS is expected to be initiated in 2024.	2.3.7, *Site Characterization Study*
Site Grading and Concrete Re-use Strategy Plan				■	A preliminary plan was developed (Application Appendix O). A revised plan was prepared to reflect the 30% design plans (September 2022). This plan presents a strategy and recommendations for site grading, sources for fill material, and concrete reuse from building demolition activities to achieve an on-site cut/fill balance.	2.3.16.3, *Recycled Concrete*
Site-Specific Stormwater Pollution Prevention Plan (SWPPP)		■		■	A site-specific SWPPP will be prepared in compliance with the State's National Pollutant Discharge Elimination System (NPDES) in support of a CGP that will be required as the area of disturbance is greater than one acre. If disturbance at the SMVR-SB site exceeds one acre, a SWPPP will be prepared. The SWPPP will specify erosion and sediment controls to minimize construction impacts on surface water quality and be designed specifically for the hydrologic setting of the DCPP site. The SWPPP will identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove.	2.3.17, *Stormwater Management*
Spill Prevention, Control, and Countermeasure (SPCC) Plan		■	■	■	Required by 40 CFR 112 for facilities maintaining an inventory of more than 1,320 gallons of oil or oil-based pro-ducts. The SPCC Plan limits but does not eliminate the risk of oil spills through several measures including: proper storage and handling procedures, standard hazardous waste transport, training of personnel, procedures for fueling and maintaining construction equipment, and an emergency response program to ensure quick and safe cleanup of accidental spills.	4.10, *Hazardous and Radiological Materials*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Stormwater Management Plan (SWMP)		■		■	Following final site restoration activities, a SWMP will be prepared in accordance with the Low Impact Development (LID) requirements of the Central Coast Regional Water Quality Control Board, and any additional conditions as part of a 401 Water Quality Certification. The purpose of the SWMP is to implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish, and to minimize any sediment impacts from the site to Diablo Creek and the Pacific Ocean. The SWMP will include an analysis of the site hydrology and a design of post-grading stormwater conveyance systems and a post-construction monitoring program to support successful restoration.	2.4.5, *Long-Term Stormwater Management*
Transition Plan				■	This plan will provide for transitioning fire protection services from the DCFD to San Luis Obispo County Fire in a manner agreeable to both entities. It is anticipated this transition would occur once all SNF has been transferred to the ISFSI (2029).	2.3.23, *Site Conditions at End of Phase 1*; 4.14, *Public Services and Utilities*
Turbidity Monitoring Plan				■	A draft Turbidity Monitoring Plan was prepared (Application Appendix H). A revised plan was prepared as part of the 30% design plans (July 2022). This plan contains recommendations to avoid and minimize impacts to water quality associated with the demolition of the DCPP Discharge Structures and restoration of the area following removal. The plan describes protocols and methods to be implemented to minimize impacts to water quality, specifically turbidity, in accordance with standards in the California Ocean Plan.	4.4, *Biological Resources – Marine*; 4.11, *Hydrology Water Quality*
Waste Management Program	■		■	■	This program includes procedures describing the disposal of radiological and non-radiological waste from DCPP. The program involves required training and provides for the packaging and transport of different types of waste in compliance with regulatory requirements.	4.10, *Hazardous and Radiological Materials*
Wastewater Discharge Program		■	■	■	The water management approach to decommissioning is based on the ap-proved permit issued for DCPP power operations (NPDES CA0003751). PG&E plans to use similar areas for ocean intake and wastewater discharges as for existing DCPP operations.	2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
DCPP Wildfire Safety Policy			■	■	The policy establishes the Fire Potential Index Rating, which determines the risk of fire and its likely behavior. The policy also includes the Wildfire Mitigation Matrix, which is a list of work activities, descriptions, and general risk reduction measures based on the Fire Potential Index Ratings for work within or near any forest, brush, or grass-covered lands.	4.17, *Wildfire*

Acronyms: CCC = California Coastal Commission, CDP = Coastal Development Permit, CFR = Code of Federal Regulations, CGP = Construction General Permit, DCFD = Diablo Canyon Fire Department, DCPP = Diablo Canyon Power Plant; HSA = Historical Site Assessment, LTP = License Termination Plan, NRC = Nuclear Regulatory Commission, NEI = Nuclear Energy Institute, NPDES = National Pollutant Discharge Elimination System, NUREG = US Nuclear Regulatory Commission Regulation, OM&M = Operation, Monitoring, and Maintenance, pCi/L = picocuries per liter, REMP = Radiological Environmental Monitoring Program, SCS = Site Characterization Study, SNF = spent nuclear fuel, SPCC = Spill Prevention, Control, and Countermeasure, SWMP = Stormwater Management Plan, SWPPP = Stormwater Pollution Prevention Plan, USEPA = US Environmental Protection Agency.

2.3 Proposed Project Activities Phase 1 – Pre-Planning and Decommissioning Project Activities (2024-2031)

Phase 1 of the decommissioning activities would commence after DCPP Unit 1 shuts down in November 2024.

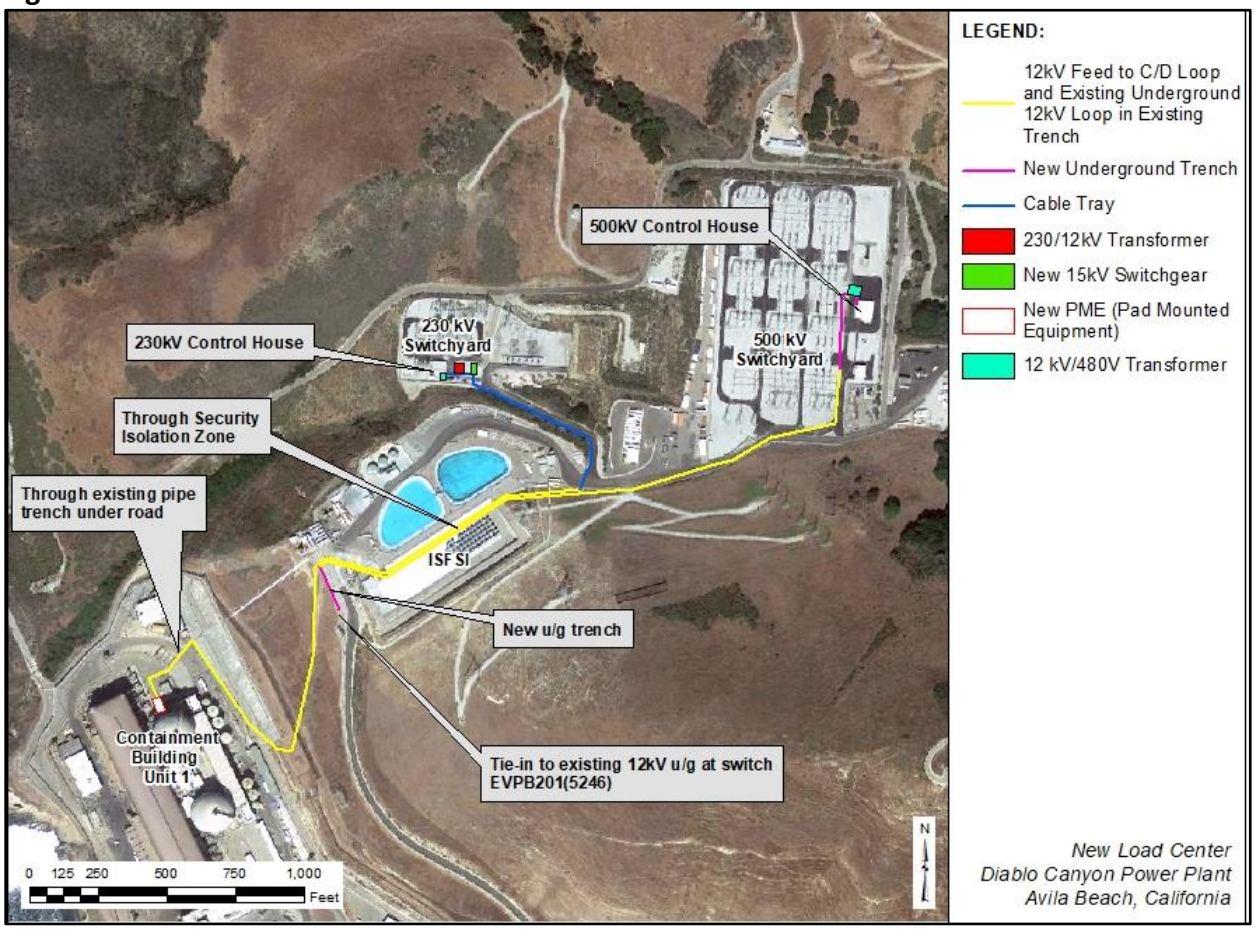
2.3.1 Cold and Dark Modifications

To reduce the risk of electrical injury during demolition, industry practice is to remove or disconnect the original power supplies from structures and components before starting demolition. This requires installing an alternate external power supply, which is referred to in the industry as Cold and Dark power, to support Project activities. The Cold and Dark power system would provide long-term power for existing Power Block systems and equipment that must continue to operate after the original main power system is deenergized to support decommissioning activities. The system would be in place prior to de-energizing and the portion covering the Power Block distribution system would be removed toward the end of Power Block demolition. The remaining portion of the system providing power to the ISFSI and GTCC Waste Storage Facility would remain in service until all SNF and GTCC waste has been removed from the DCPP site.

This system would make extensive use of existing electrical infrastructure, including the existing 12 kV underground distribution system and re-purposing of the existing 230 kV switchyard. The modifications to the existing 230 kV infrastructure involve installing a 230/12 kV transformer and load center in or near the 230 kV switchyard. The new load center would provide metering,

electrical protection, an interconnection to the Cold and Dark system, as well as the 12 kV underground system (see Figure 2-7).

Figure 2-7. New Load Center



Source: PG&E, 2021a – Figure 2.3.1-1.

Maintenance of equipment that must continue to operate during the Proposed Project would be performed under the DCPP lockout/tagout process to ensure that energy sources, including electrical power, are controlled in a deenergized state during necessary maintenance activities. This process is called e-SOMS and uses tags to identify the equipment that cannot be operated. It includes clearances, danger tags, caution tags, red tags, and information tags. The end state of this activity is referred to as an "air gap" since it creates a visually confirmable, permanent disconnection of the equipment from the original main power system. (PG&E, 2021d – PD-2)

Clearances are the electronic (computerized) paperwork to remove a system/component from service. The primary purpose is to remove energy from plant equipment to protect people and/or equipment during maintenance and testing. Clearances also authorize work, track and control and alignment of plant systems (configuration control), control the removal from service of plant equipment for tagging, and control the return to service of plant equipment after tagging. Danger Tags are used to maintain personnel safety by tagging devices to isolate sources of liquid, steam, or gas; and to isolate electrical power. Danger Tags are also used if a valve must be closed as a clearance boundary for personnel protection. Caution Tags are used to designate open vents and drains on clearances, control plant equipment configuration for testing, operating procedures,

or work orders. Red Tags are used by clearance holders (maintenance department) and workers to provide personnel protection by ensuring that a clearance point would not be violated. Information Tags are used to provide general information regarding the status of equipment. (PG&E, 2021d – PD-2)

2.3.2 Site Security Modifications

Security infrastructure includes various structures, systems, and components (SSCs) such as the Personnel Access Facility, fences, and gates. Although the existing security infrastructure is adequate for the current site layout and uses, some modifications are required to reflect the changing site, including a new security building, new security area, upgraded fencing, defensive positions, cameras, lighting, roads, and access paths/sidewalks. For safety reasons and based on federal preemption, details of these security modifications are not discussed in this document or other public forums.

DCPP Security would maintain security responsibilities throughout decommissioning. Once all the SNF is in the ISFSI and the DCPP site has been released from the NRC Part 50 facility operating licenses, the revised OCA would be established (see Figure 2-17) and the Avila Gate Guard House Facilities at Avila Beach Drive/Diablo Canyon Road would be removed (estimated to occur in 2035 as part of Phase 2). Existing and new guard gates would be in place (see Figure 2-17) to limit access to the area including an existing gate on North Ranch Road/Pecho Valley Road limiting access from the north, a new gate to be installed on Reservoir Road at the intersection of Diablo Canyon Road/Diablo Ocean Drive limiting access to the revised OCA, and a new gate within the Marina area at the start of the new blufftop road segment (see Figure 2-36) limiting access north along the new blufftop road and Diablo Creek Bridge. DCPP Security would maintain security responsibilities for the revised OCA. (PG&E, 2023d)

Public access to the open area outside the revised OCA would be restricted and not allowed, unless on the designated Pecho Coast Trail, Point Buchon Trail, or at the DCPP Marina. Assuming a third party leases the Marina area (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*), public access to open areas outside the revised OCA would be restricted to the Marina and Diablo Canyon Road. No other public access would be provided. (PG&E, 2023d)

2.3.3 Site Infrastructure Modifications

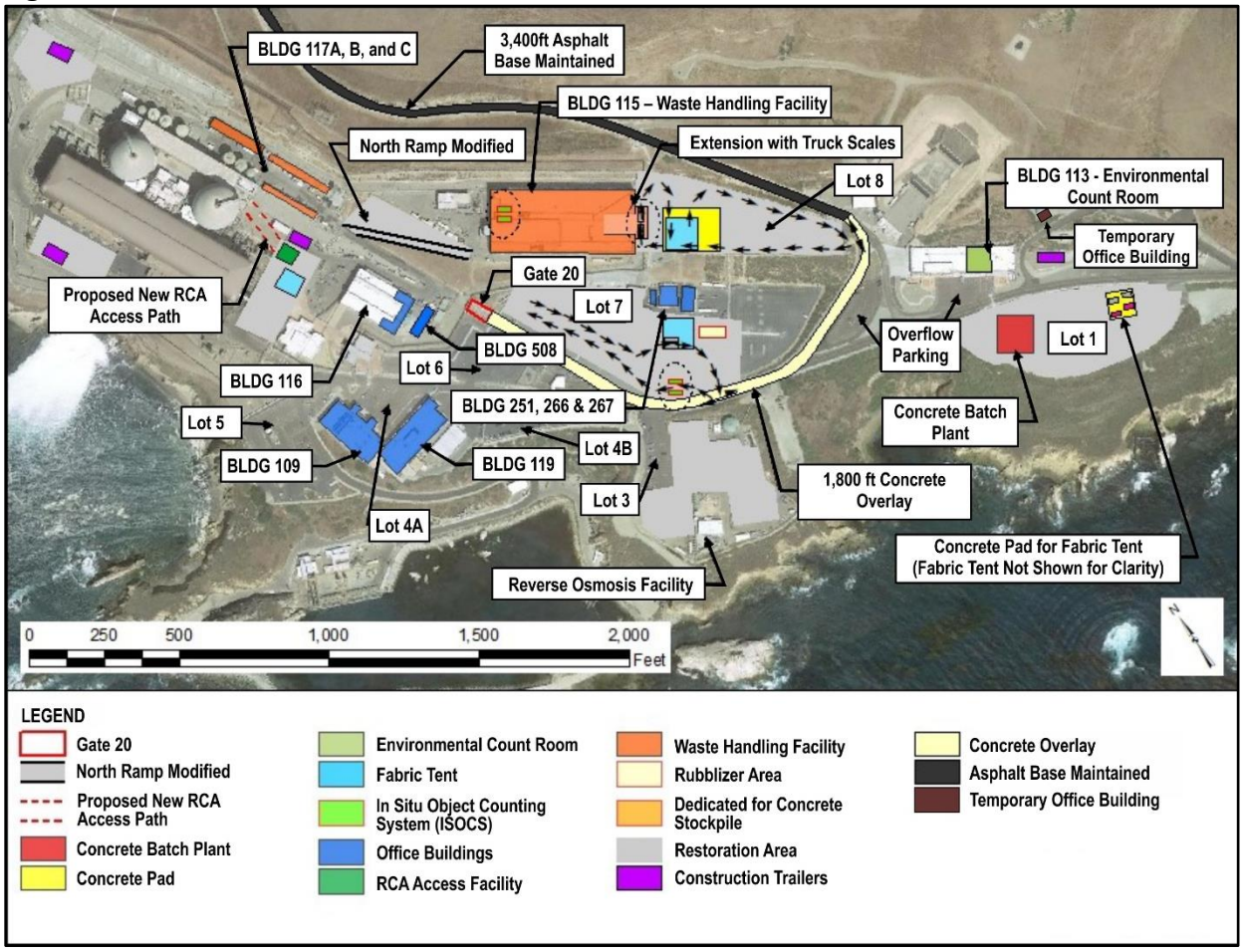
Site infrastructure modifications help to transition DCPP from an operational site to a decommissioning site and provide the necessary infrastructure to successfully execute the Project. These modifications involve changes to site facilities, civil features, utilities (in addition to Cold and Dark discussed above) and bringing in equipment to support general decommissioning activities. Additional facilities as well as modifications to existing structures (see Figure 2-8) would be completed to provide the following:

- Decommissioning Office Building
- Intermodal Repair Facility
- Waste Handling Facility (BLDG 115)
- Environmental Count Room/Lab (BLDG 113)
- Laydown Areas
- Rubb Tents
- Stockpile Areas
- Concrete Batch Plant
- Barge Loading Facility (crane) on the Intake Structure

For example, approximately eight Rubb tents, which are constructed using a rigid frame with a sturdy fabric stretched over the frame and tensioned to provide structural support, would be used to store and provide shelter for materials, equipment, debris, and waste. Approximate locations are indicated in Figure 2-8; all tents would be sited in previously disturbed areas. (PG&E, 2021e – PD-3)

The decommissioning office building would be located off of Decom Avenue and constructed on top of a concrete slab on grade (see Figures 2-8 and 2-9). The office would be metal, 2,880 square feet, 48 feet wide, and approximately 22 feet tall (ERM, 2023b). Utilities including electricity, water, wastewater treatment, and communications would be required for this building (ERM, 2023b). The existing sanitary wastewater treatment plant would be used to support this decommissioning office building through 2031 (end of Phase 1).

Figure 2-8. Lower Site Infrastructure Modifications



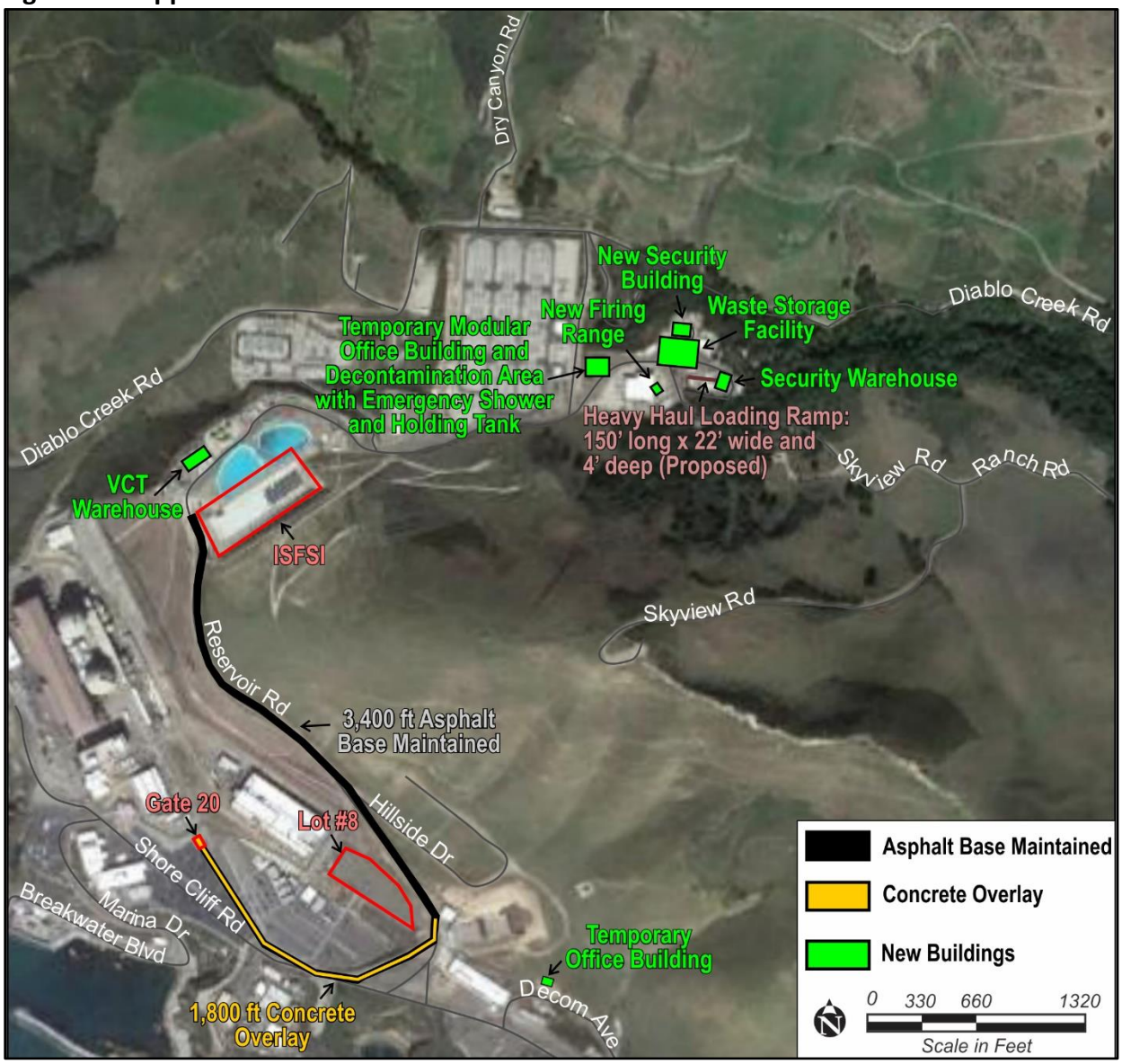
Source: PG&E, 2021a – Figure 2.3.3-3 (modified to correct label for BLDG 115); ERM, 2023b.

In the revised OCA (East Canyon Area), an approximately 12,000 square-foot building would be constructed to serve as the new Security Building for the ISFSI and the GTCC Waste Storage Facility (see Figure 2-9). This building would be no greater than two stories with a maximum height of 40 feet (PG&E, 2021d – PD-3). A new indoor Firing Range would also be built in the area adjacent to the GTCC Waste Storage Facility and Security Building. It would be approximately

3,000 square feet, have a maximum height of 25 feet (PG&E, 2021d – PD3) and be designed to meet NRC licensing requirements. The new indoor Firing Ranch would contain the following:

- Multiple firing lanes
- Floor to ceiling steel plating
- Bullet traps
- Target systems Range controls
- Sound treatment
- Range lighting
- Control Room

Figure 2-9. Upper and Lower Site Infrastructure Modifications



Source: PG&E, 2021a – Figure 2.3.3-2 (revised); ERM, 2023b.

In addition to the new Security Building and indoor Firing Range, a separate outbuilding would be constructed in the vicinity of the main new Security Building (see Figure 2-9). The intent of this separate building is to provide storage for larger material, vehicles, trailers, maintenance equipment, etc. This outbuilding is anticipated to be no more than 15,000 square feet (PG&E, 2021d – PD-3). A Security Warehouse is also proposed in the revised OCA (see Figure 2-9) as a permanent structure intended to support security-related long-term operations of the ISFSI. This metal warehouse would be constructed on top of a concrete slab on grade, and would be approximately

4,800 square feet, 60 feet wide, 80 feet long, and 25 feet tall (ERM, 2023b). In addition, a temporary modular office building would be installed to provide construction office space in the revised OCA to support site personnel during decommissioning along with a decontamination area with an emergency shower and a holding tank (see Figure 2-9). To support SNF transport, a new VCT Warehouse would be constructed north of the ISFSI pad (see Figure 2-9). The metal building would be approximately 5,400 square feet, 60-feet wide, 90-feet long, and up to 40 feet tall (ERM, 2023b). Utilities, such as electricity and communications, would be installed to support these facilities as required (ERM, 2023b).

An existing septic and dispersal system, designed and implemented circa 1968 to serve the facilities in the East Canyon Area, currently serves 10 toilets, 3 urinals, and 9 sinks for a building in the East Canyon Area (PG&E, 2023f). To support the improvements in the revised OCA, this existing septic and dispersal system would be upgraded, or a new septic system established to ensure consistency with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22) including setbacks from water sources, and Regional Water Quality Control Board requirements, as appropriate (PG&E, 2023f). Based on the proposed facilities within the revised OCA, the anticipated footprint of the septic and leach field is estimated to be between 10,000 and 20,000 square feet.

A new GTCC Waste Storage Facility would be constructed on the east end of Parcel P at the East Canyon Area. Specifically, the site would be located directly east of the 500 kV switchyard and approximately 1,500 feet east of the existing ISFSI. A concrete pad approximately 150 feet wide by 200 feet long would be constructed (PG&E, 2021e – PD-7) to accommodate up to 10 GTCC waste storage containers, which would be similar to the horizontal spent fuel casks that will be at the ISFSI. Construction of the GTCC Waste Storage Facility would be similar in design to the ISFSI concrete pad and constructed in accordance with NRC regulations. GTCC waste is discussed further in Section 2.3.18. A heavy haul loading ramp would also be constructed for the off-loading/loading of ISFSI and GTCC waste transportation casks for transport to an off-site repository when one becomes available.

The primary ingress and egress to DCPP is via Diablo Canyon Road, which is a paved, 7-mile, two-lane road from Port San Luis to the DCPP site. This road would host traffic during decommissioning ranging from trucks and other specialty equipment carrying construction debris, waste, and large components to routine employee travel. This access road would be maintained to support this type of equipment and traffic. Maintenance activities include chip sealing, crack sealing, asphalt patching, asphalt overlays, and grinding efforts followed by replacement asphalt inlays.

The recently improved secondary access road (North Ranch Road/Pecho Valley Road) is approximately 4.5 miles long and consists mostly of a hard-packed, permeable surface, with some of the steeper areas paved. The road extends from the southern boundary of Montaña de Oro State Park to the DCPP site and is not used for day-to-day plant operations. No modifications are planned for this road as part of the Project. However, it would remain an alternate route for site vehicular traffic if the south access road were out of service (e.g., a landslide or extended repairs) and it supports ongoing agricultural activities. The road also serves as a County Fire Department access road and could be used as an emergency evacuation route for Avila and Port San Luis, if Avila Beach Drive and/or San Luis Bay Drive were compromised. The North Ranch Road/Pecho Valley Road would require periodic maintenance, mostly for weather-related reasons, depending

upon its level of use. As noted in Section 2.4.7, *Blufftop Road Segment*, a road segment would be constructed at the end of decommissioning to reconnect Diablo Canyon Road with the existing Diablo Creek Bridge and North Ranch Road/Pecho Valley Road. This would return historic vehicular movement through the DCPP site as well as provide a more direct secondary emergency vehicle access route than the current route, which requires traversing from Diablo Canyon Road to Reservoir Road, then past and east of the 500 kV Switchyard, and then back west behind the 500 kV Switchyard on Pecho Valley Road, where it then proceeds northward on North Ranch Road/Pecho Valley Road.

As shown in Figures 2-8 and 2-9, an 1,800-foot concrete overlay would be applied on the entire roadway from the Gate #20 entrance (to the PA) to the Parking Lot 8 entrance to facilitate transport around the lower DCPP site. An asphalt base would be maintained on the 3,400-foot-long road from Parking Lot 8 up towards the ISFSI (also known as Reservoir Road). Additional roadway repairs are planned to occur after major heavy load activities are completed (e.g., the SNF/GTCC waste are transferred to the ISFSI and GTCC Waste Storage Facility, respectively, and other large components from the OSGSF east of the ISFSI are shipped off site).

Site utilities would need to be modified to support changing conditions and added or upgraded to meet the future intended use. Some of these modifications include relocating fire hydrants and underground piping, installing domestic and wastewater piping, and removing and relocating telecommunications and information technology equipment.

Specialty equipment needs to be installed throughout the DCPP site to support decommissioning processes. Some of this equipment includes truck scales, portal monitors, and assay survey systems, which would be located in previously disturbed areas of the DCPP site.

An Alternate Access Control Facility would be constructed to provide additional access to the RCA. The facility would reduce impacts to the critical radiological activities, reduce non-essential personnel on the 85-foot elevation of the Auxiliary Building where the existing RCA access control is located, and provide alternate RCA access for waste loading and transportation personnel.

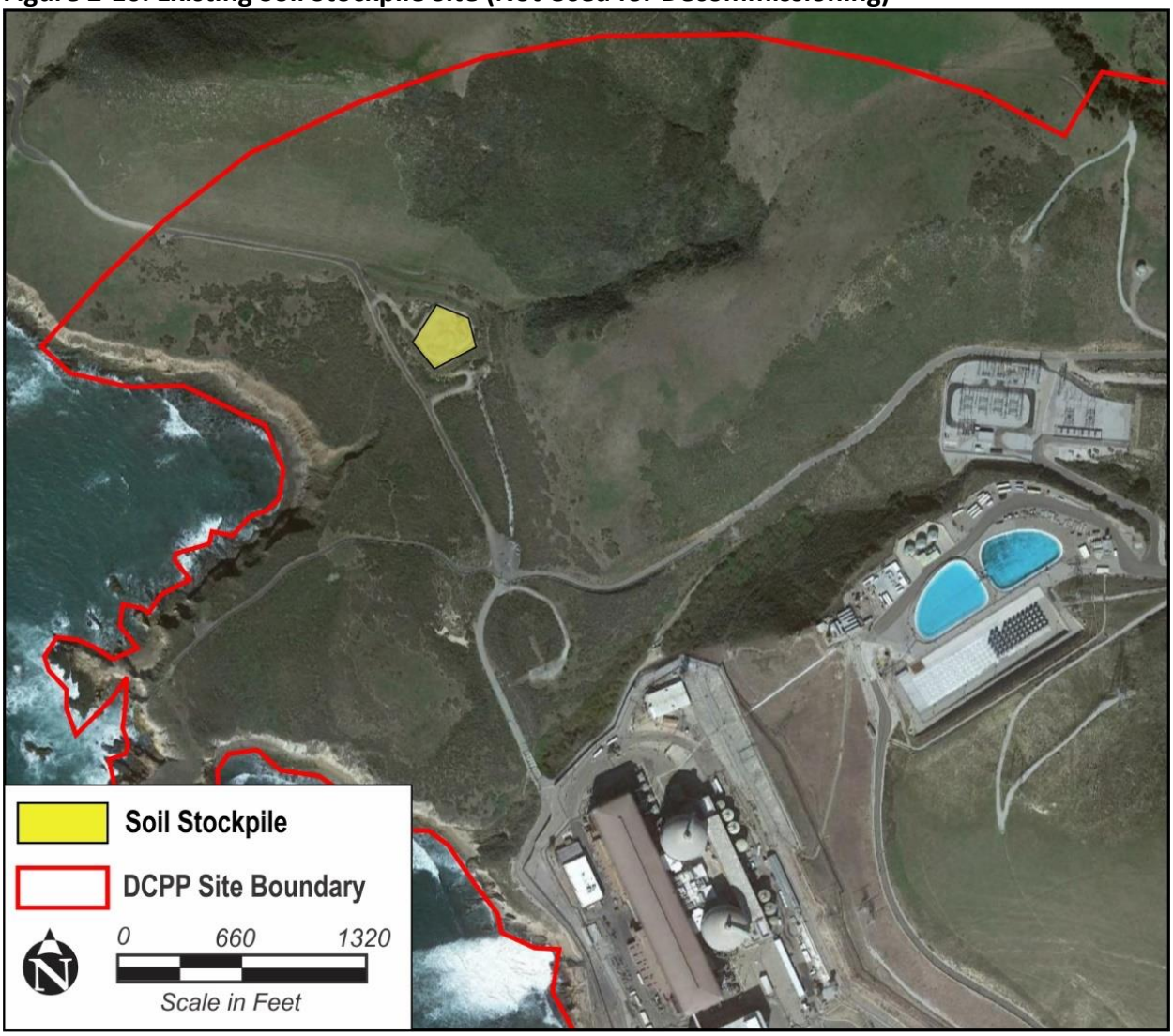
Parking would be provided within existing Parking Lots 3, 4A, 4B, 5, 6, the northern portion of Lot 1, as well as overflow parking adjacent to Building 113 (see Figure 2-8). This would provide adequate parking for decommissioning staff and no off-site parking/shuttle service is expected.

Most decommissioning staff would utilize Buildings 109, 119, 251, 266, 267, 508 and a portion of 116 (see Figure 2-8). These are existing structures and minimal improvements are expected to support decommissioning. Additionally, PG&E intends to utilize approximately 10 double-wide temporary office trailers with an estimated size of 60 feet by 28 feet. Most on-site decommissioning personnel would be accommodated in existing buildings / office spaces, with the use of the temporary office trailers limited to craft trades and to increase efficiency for specific scopes of work. As decommissioning progresses and existing on-site office spaces are demolished, the workforce is expected to decrease in size and eventually transition into the temporary office trailers, which would be placed either on paved surfaces or previously disturbed areas. (PG&E, 2021e – PD-3)

Parking Lots 7, 8, and portions of Lot 1 would be utilized as laydown areas, as would the slab of Building 104 (Administration Building) south of the Power Block and adjacent to the RCA access

facility. A concrete rubblizer (i.e., a machine that breaks up concrete into small pieces) would reside in the southern portion of Lot 7, while a concrete batch plant would be sited in the northern portion of Lot 1. Spoils created by digging and grading activities would be temporarily stored on site in existing disturbed areas, such as the Firing Range; the existing stockpile area north of the Power Block and Diablo Creek (see Figure 2-10) would not be utilized (i.e., no improvements, no material generated from this area, no material placed).

Figure 2-10. Existing Soil Stockpile Site (Not Used for Decommissioning)



Source: PG&E, 2021a – Figure 2.3.3-4 (revised to reduce scale).

Modifications to the Intake Structure and surrounding area would be made to load barges for waste transportation using a crane. A fendering system as well as various mooring points would be installed on the face of the Intake Structure and breakwater for barges.

2.3.4 Modifications and Operations at Rail Facilities

Class A, B, and C radioactive waste from the reactor pressure vessels and internals (as discussed in Section 2.3.10) and radiologically contaminated large components (as discussed in Section 2.3.11) may be hauled by heavy truck or specialty heavy-haul transport vehicle (oversized

truck/trailer) directly out of state for disposal or to the SMVR-SB site (Betteravia Industrial Park) for transport out of state via rail for disposal (PG&E, 2021e – AQ-17). It is not anticipated that the waste transported to the SMVR-SB site would include asbestos materials, hydrocarbons, or other toxic air contaminants, fine particulates, or odor containing materials (PG&E, 2021e – AQ-17).

Non-radiological and non-hazardous waste may be trucked to the PBR, as a contingency, for transport out of state via rail for disposal. Improvements and proposed operations at these facilities are discussed further below. Construction of these improvements could be accomplished within one month; however, based on possible contracting delays or other factors, it is assumed construction could take up to 12 months. Construction activities would occur 7:00 a.m. to 5:00 p.m., Monday through Friday (PG&E, 2021c – PD-4).

2.3.4.1 Santa Maria Valley Railyard Modifications

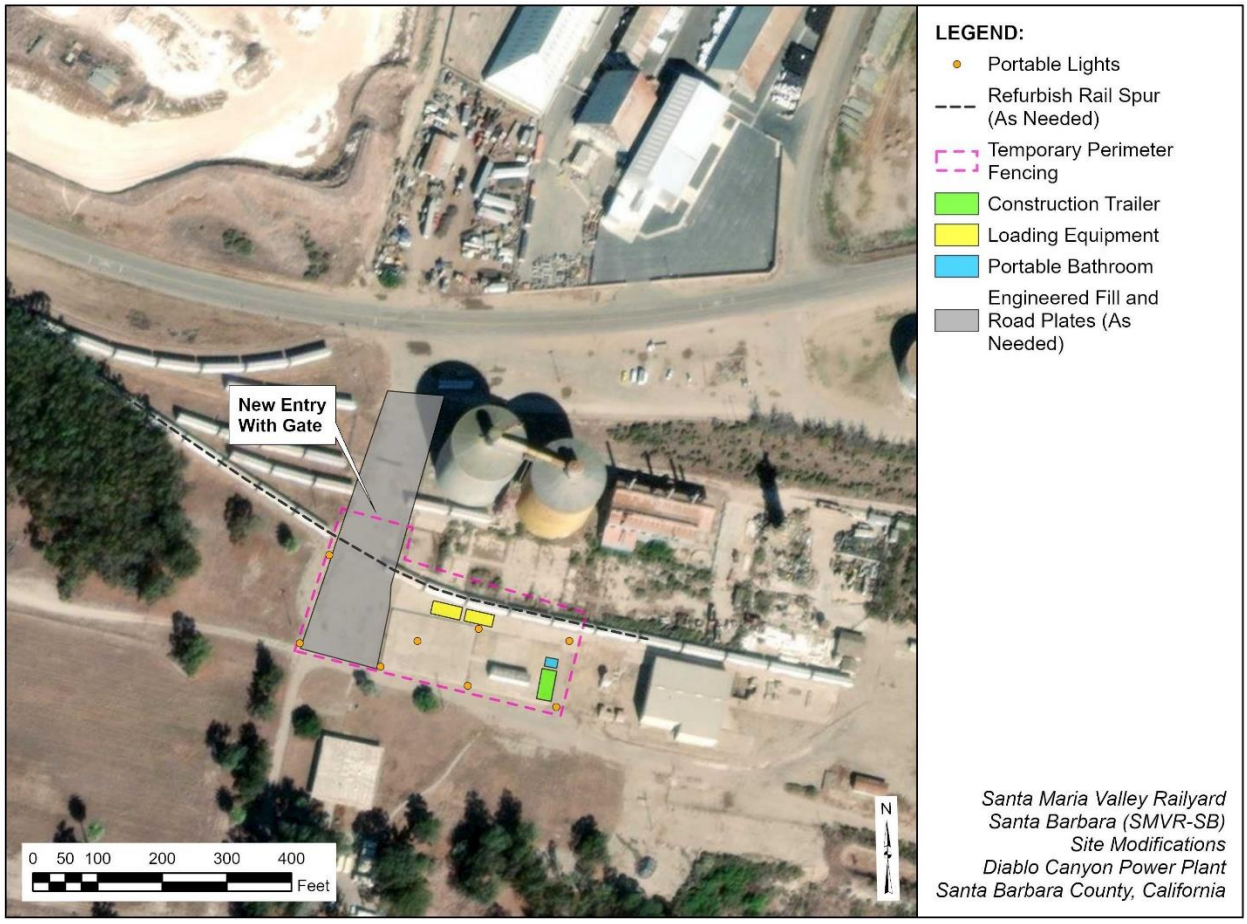
Infrastructure Modifications. Modifications at the SMVR-SB site (Betteravia Industrial Park) would be completed by SMVR (not PG&E). Modification would be limited to an approximately 2-acre area (PG&E, 2021f) and include mostly aboveground temporary components. Specifically, modifications at the SMVR-SB site would include (PG&E, 2021c – PD-4; PG&E, 2021g):

- refurbishment of existing rail spurs; no changes to the existing grade are expected
- placement of steel road plates or installation of approximately 3 to 4 inches of Class 2 road base (approximately 500 cubic yards) where existing base is degraded and unable to support heavy loads
- temporary installation of an 8-foot-high chain link perimeter fence with three strands of barbwire at the top and privacy screen attached in adherence with federal regulations for protection of members of the public as well as vendor equipment
- equipment for loading material from trucks to railcars, which could include:
  - one temporary 400-ton electric gantry crane with generators
  - two truck-mounted cranes
  - two diesel-powered scissor lifts
  - two diesel-powered reach lifts
  - two diesel-powered forklifts
  - railcar mover (need has yet to be determined)
- temporary site lighting
- temporary office trailer to support on-site staff (see security discussion below); no overnight habitation is required
- temporary security cameras attached to towers mounted to compact, portable trailers the provide the foundation and power[5]
- portable toilets and bottled water service (e.g., 5-gallon water cooler bottles) for on-site staff
- portable power supply which may include a 425-kilowatt trailer-mounted diesel generator, or similar sized equipment to provide power to the site.

[5] For an example of security cameras mounted on portable trailers: http://www.securitasmobileus.com/netvision.

No grading is planned as part of the proposed site improvements at the SMVR-SB site (PG&E, 2021f). Figure 2-11 depicts the proposed modifications at the SMVR-SB site. The approximate locations of stationary equipment such as the gantry crane, office trailer, and portable toilets are provided. The remaining equipment is mobile and would be used throughout the site.

Figure 2-11. Betteravia Industrial Park (SMVR-SB) Modifications



Source: PG&E, 2021a – Figure 2.3.4.1-1.

Operation. The hours of operation for the SMVR-SB site would be 24 hours, Monday through Friday. See Section 2.5.2 for staffing requirements. As noted in Table 2-7 (see Section 2.3.19.2), a maximum of 99 shipments (truck trips) would occur during 2024-2029 (no shipments are anticipated between 2030 and 2031 – PG&E, 2021e – AQ-19). During this timeframe, an average of one to six shipments would take place per month. However, there is the possibility that a maximum of 15 shipments could occur in any month and conversely, there could be several months where no shipments occur. No more than two shipments (truck trips) to the SMVR-SB site would occur on a given day. Shipments to the SMVR-SB site and unloading and loading onto rail would occur during varying times of the day and night; however, no shipments would occur between 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m. No right-of-way access restrictions would be imposed on surrounding land uses. (PG&E, 2021c – PD-4)

Security during receipt and storage of the Class A, B, and C wastes would be maintained pursuant to 49 CFR 172.820. Due to the possibility of loaded railcars needing to remain at the site for a maximum of seven days before being transported via rail to the out-of-state destination, a

security presence would be maintained for the duration of time when each shipment is received and temporarily stored at the SMVR site. Based on the applicability of 49 CFR 172 for the Class A, B, and C wastes that would be shipped to and from the SMVR site, 49 CFR 172.802 requires a Security Plan be developed that includes definition of the personnel and duties for each position that is responsible for implementing the Security Plan. Although the applicable Security Plan is not yet developed, PG&E intends to specify the requirement for a security presence to be maintained for the duration of time when each shipment is received and temporarily stored at the SMVR site (PG&E, 2021c – PD-4). Sections 2.3.10 and 2.3.19 discuss how Class A, B, and C wastes would be stored, packaged, and transported out of state for disposal (also refer to Appendix G).

2.3.4.2 Pismo Beach Railyard Modifications

The PBR site is approximately 9 miles south of the Avila Beach security gate for DCPP. It has been identified as a possible facility for transporting non-radiological waste and non-hazardous waste via rail out of state. No radiological nor hazardous waste is proposed to be transported via the PBR. It is merely identified as a back-up or contingency facility for potentially shipping non-radiological and non-hazardous waste and other materials. Access to the PBR site would occur via the existing Bello Street driveway and not from the existing Price Canyon driveway. The existing security gate is operated via a security key card that would be used to allow trucks into the site. The process time would be approximately 30 seconds or less such that there would be no expected queuing of trucks (PG&E, 2022b – DR#8, Transportation 4).

Infrastructure Modifications. Modifications at the PBR would be limited to refurbishing existing rail tracks within the limits of the existing facility. Refurbishment would include replacing approximately 1,100 feet of track, wood railroad ties, and adding gravel (PG&E, 2021b – CUL-4). No additional ground disturbing activities are planned within the PBR site. No upgrades to the access route are needed (PG&E, 2021c – PD-8). The same equipment proposed for loading material from trucks to railcars at the SMVR-SB site may be used at the PBR, except for the 400-ton gantry crane and truck-mounted cranes (PG&E, 2021e – AQ-18).

Operation. If the PBR site is used, PG&E has committed to shipping non-radiological and non-hazardous waste outside peak traffic periods (7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) and to limit truck idling to the extent feasible (PG&E, 2021b – Noise-1). The daily average number of trucks leaving the site is dependent on the activities being performed during that time frame; a maximum of five truck trips per day is anticipated (PG&E, 2022b – DR#8, Transportation 3).

The PBR site would be operated during normal business hours, 7:00 a.m. to 5:00 p.m. Monday through Friday (PG&E, 2021b – Trans-4). However, as noted above, truck trips would not occur during peak traffic periods, including the morning drop-off (approximately 8:30-9:30 a.m. Monday; 7:30-8:30 a.m. Tuesday-Friday) and afternoon pickup (approximately 2:00-3:00 p.m. Monday-Friday; 11:00 a.m. – 12:00 p.m. on Minimum Days) periods for students at Judkins Middle School (Lucia Mar Unified School District, 2023). See Section 2.5.2 for staffing requirements.

Temporary storage of any non-radiological or non-hazardous waste at the rail sites would be kept at least one foot above any existing Federal Emergency Management Agency (FEMA) 100-year floodplain elevation (PG&E, 2021b – Hydro-2).

2.3.5 System and Area Closure

Before site buildings are demolished, each building or structure (whether contaminated or non-contaminated) would be prepared for demolition by removing selected SSCs – this preparation process is termed System and Area Closure. The Site Characterization Report (see Section 2.3.7) would identify potential hazards and contaminants at the site and would be used to guide the initial D&D activities, including System and Area Closure. It would be supplemented by ongoing site characterization throughout the D&D process.

Controlling the spread of radioactive or other hazardous materials during removal of SSCs would be accomplished using industry standard control methods based on the degree of contamination. A typical approach is to (1) isolate the immediate work area from other areas, (2) control access into that area, and (3) cover or apply a protective coating or fixative (referred to as "lockdown" and is typically a polymer-based latex paint) to lock down contamination once an SSC is removed from its installed location. Several SSC dismantlement and removal examples are provided below.

- For a building or other structure containing SSCs with high levels of radioactivity, these SSCs would be dismantled and removed while the structure is intact (i.e., before structure demolition), as appropriate. The structure provides a barrier to prevent the release of radioactive materials to the environment.
- Where minimally contaminated or non-contaminated systems are present (e.g., in the Turbine Building), SSCs may be removed during structure demolition. Heavy equipment would be used to demolish the SSCs into a large rubble pile, with the material then segregated by types or waste stream, as required.
- In a structure with both hazardous and non-hazardous SSCs, hazardous SSCs would be removed. Remaining non-hazardous SSCs would be removed during structure demolition using heavy equipment, as appropriate.
- Non-hazardous SSCs would be sorted or segregated as required for disposal.

Although most SSCs would be removed from within structures, any SSCs that remain below grade and meet the NRC-approved release criteria (to be determined based on Final Status Surveys [FSS]) would be backfilled, grouted, plugged, or filled with concrete to not create a void space over time after the area is backfilled. Repurposed, clean material would be utilized for backfill purposes and local suppliers would provide slurry backfill, if needed.

2.3.6 Auxiliary Saltwater System

The current configuration for SFP cooling utilizes the original once-through-cooling auxiliary saltwater system, component cooling water system, and the SFP cooling system. The existing once-through-cooling auxiliary saltwater cooling system would remain in place as the method for SFP cooling until all SNF is transferred to the ISFSI (to be completed by 2029).

2.3.7 Site Characterization Study

The Site Characterization Study (SCS) would determine the nature and extent of potential radioactive and non-radioactive contaminants that may exist at the DCPP site. A Historical Site Assessment (HSA) was performed in 2018 and would serve as a basis for the SCS. The HSA was a

preliminary investigation designed to collect existing information describing the history of the DCPP site from start of operations to present. The HSA documents an investigation relying on historical and current information regarding plant operation and activities to determine the potential for contamination of structures and areas at the DCPP site. The HSA identified potential, likely, or known sources of radioactive and non-radioactive contamination based on information collected and reviewed during this effort. The assessment consisted of record review, regulatory reporting, radiation/contamination survey data, and personnel interviews.

During completion of the HSA, the DCPP site was broken out into discrete areas of study and classification. A preliminary classification of "impacted" or "non-impacted" was given to each discrete study area based on the potential of containing both radiological and non-radiological contamination. The SCS would be executed in the form of a Site Characterization Plan. The intent of the SCS is to methodically document areas containing both radiological and/or chemical contamination throughout the DCPP plant site. The Site Characterization Plan would include physical sampling and analysis based on the requirements contained in NUREG-1575 and regulation promulgated by the US Environmental Protection Agency (USEPA).

The SCS would inform D&D methods and determine which areas would require excavation or remediation to remove any radiological or chemical contamination to allow for restoring such areas to a natural environmental state and prepare the site for FSS in order to release the DCPP site from the NRC Part 50 facility operating licenses.

The SCS would be carried out in two steps. Step 1 would be a limited characterization of the East Canyon Area to support site infrastructure improvements to be carried out in 2024, including construction of the new security building and GTCC Waste Storage Facility. The East Canyon Area will remain an operating industrial area subject to a Part 72 NRC License, such that the site characterization and any required remediation in this area will focus on management of soils disturbed by infrastructure construction activities and protection of future site occupants.

Step 2 would be initiated in 2024 (after the shutdown of Unit 1) to determine the areas and extent of chemical and radiological contamination at the DCPP site and its structures, including all sumps, drains, and pits and any accumulated debris, prior to removal and shipment for off-site disposal. This study cannot be initiated sooner as there is a possibility of soil contamination occurring during DCPP operations, which would alter the baseline established by the SCS. (PG&E, 2021d – PD-4)

With respect to existing contamination at the site, PG&E has not collected samples to confirm the presence or absence of Polychlorinated Biphenyl (PCB [a manmade chemical]) contamination in the turbine building Galbestos siding, in the wiring and insulation within the DCPP structures, or in building coatings or caulking. The current waste management program at DCPP assumes the positive presence of PCBs in specific operational waste streams (e.g., light ballasts, transformers, capacitors, etc.). Those waste streams are managed and disposed of according to federal and state regulations and sampling to test for the presence of PCBs is not required. As part of the SCS, PG&E will evaluate the potential for PCB contamination in plant components and/or the surrounding environment, and if found, would be removed and disposed of according to federal and state regulations. (PG&E, 2021e – PD-13)

The site does have asbestos containing materials (ACM) in certain structures, systems, and components. There are also discrete areas containing Halon fire suppression and multiple areas of equipment containing Chlorofluorocarbon (CFC) refrigerant. Refrigerant containing systems would be evacuated by licensed contractors and the fluids recycled as required. Similarly, equipment containing oil would be drained and/or vacuumed from equipment and disposed of or recycled per state and federal regulations. Where lead (PB) paint is found, it would be controlled as follows: (1) tightly adhered coating would be disposed of with general debris; and (2) loose coatings would be disposed of as a Resource Conservation and Recovery Act (RCRA) waste stream at a licensed out of state disposal facility. All regulatory requirements related to the removal and abatement of ACM and PB would be followed. Concrete would be characterized for radiological and hazardous constituents throughout the site; any contaminated concrete would be properly handled and shipped off site for disposal. (PG&E, 2021d – PD-4, PD-5)

DCPP has a robust hazardous waste program, is a Large Quantity Generator (generates greater than 2,200 pounds of RCRA waste per year) and is a Treatment Storage and Disposal Facility with a part B permit that would continue to be utilized throughout the Proposed Project. Operational Universal waste is currently disposed of by truck to a licensed disposal facility. All oil-containing wastes are profiled, recycled, and disposed per Federal and State regulation. During decommissioning, all hazardous wastes would be removed from DCPP by barge or truck to licensed out of state disposal facilities (see Section 2.3.19). (PG&E, 2021d – PD-4)

2.3.8 Decontamination

Decontamination activities during decommissioning would be carried out in three distinct work programs. It begins with the removal, remediation, and/or abatement of all known hazardous and/or regulated materials in advance of either removing a system from within a structure, removing a large component from within a structure, and/or demolishing a structure. All abatement and/or remediation activities would comply with applicable regulations regarding abatement and/or remediation activities.

The next step involves preparation of a structure for open-air demolition by limited surface decontamination efforts for either special and/or unique cases. An example of a special or unique case would be a surface area exhibiting alpha-emitting contamination, or in a case wherein the application of either a fixative or some other form of lockdown media is deemed insufficient to seal off loose contamination.

The third step involves radiological decontamination of the residual surfaces of a structure following open-air demolition in support of FSS (see Section 2.3.22) and the follow-up independent third-party confirmatory surveys. Decontamination efforts would be completed to achieve a dose level that meets a derived concentration guideline level (DCGL). The DCGL is the driver for how much radioactive contamination must be removed to meet the criteria set forth by the License Termination Plan (LTP) as prescribed by the NRC. This means any residual remaining radioactivity must meet the standard of a resident farmer, whereby if a farmer were residing at the DCPP, that person must not receive greater than 25 millirem dose in a year from any remaining radioactivity remaining on the site (PG&E, 2021d – PD-5).

All site decontamination activities would comply with approved site procedures as well as applicable radiological and hazardous regulations. Various options and techniques exist for decontamination of surfaces during decommissioning. The approach used for decontamination is mainly determined by the site characterization for that area and the amount of surface area undergoing decontamination. It is anticipated that for vertical walls, handheld scabblers would be used to decontaminate smaller areas and a sponge blasting system would be used for larger areas. Horizontal floor surfaces would be decontaminated utilizing either a floor shaver or a scaling drum. The floor shaver would be used to perform the bulk of the horizontal decontamination workload. The scaling drum would be used to decontaminate floor areas that are heavily cracked and are somewhat deteriorated, where the floor's surface was exposed to long-term radiologically contaminated liquids that may have penetrated deep into the concrete.

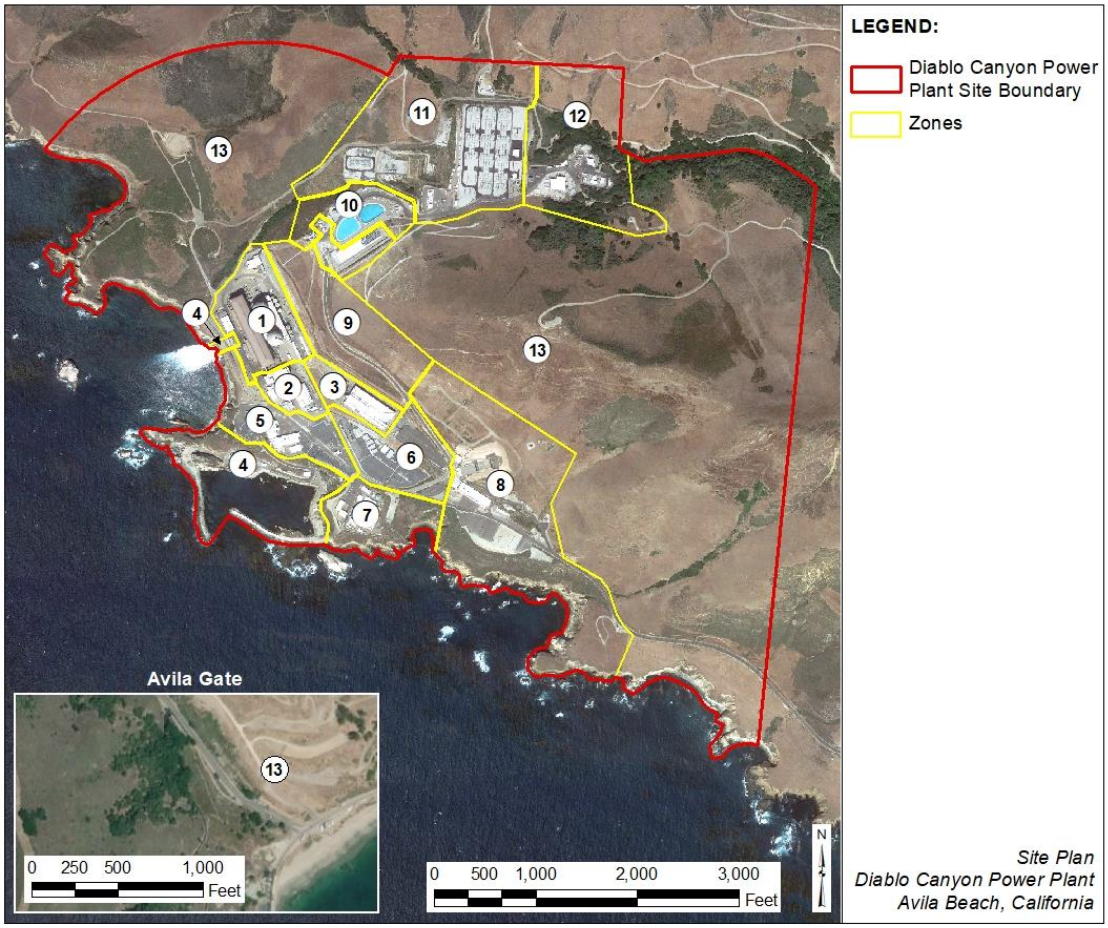
2.3.9 Building Demolition

The DCPP site has over 100 buildings containing over 1.4 million square feet of floor space. Most of the buildings directly related to generation of electricity are robust concrete and steel structures. Ancillary buildings of various construction types are also located throughout the DCPP site. Building demolition consists of demolition and removal of above-grade structures, and removal of all or some foundations. The extent of foundation removal is determined on a structure-by-structure basis. Foundations would either be removed to a depth of 3 feet (minimum) below local grade or entirely removed to a depth of greater than 3 feet with the remainder to be backfilled, as specified by NRC regulation.[6]

For planning purposes, the DCPP site was divided into twelve zones (1 through 12), as shown in Figure 2-12. Separate zones allow for certain areas to be demolished and released in smaller-sized pieces. A thirteenth zone was created to include all other items outside these 12 distinct zones, as well as larger items that cross multiple zone boundaries (e.g., the circulating water tunnels). An inventory of site buildings by zone is provided in Table 2-3.

[6] When demolishing nuclear power plant facilities, the industry standard is to remove structures a minimum of 3 feet below adjacent grade. Release criteria for the DCPP site is set for unrestricted use in accordance with 10 CFR 20.1402, and the minimum of 3 feet below grade is the generally accepted depth to allow for potential future use. Final Status Surveys, including NRC verification surveys, would be conducted on any below grade structure prior to backfilling with suitable fill materials and grading. Any remaining below grade structures would be analyzed to demonstrate compliance with applicable NRC release criteria. (PG&E, 2021b – PD-9)

Figure 2-12. DCPP Site Plan



Source: PG&E, 2021a – Figure 2.2.1-2.

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
1	Power Block and Northern PA	Unit 1 and 2 Containment Structures Unit 1 and 2 Auxiliary Building Unit 1 and 2 Fuel Handling Buildings Unit 1 and 2 Pipeway Structures Unit 1 and 2 Turbine Building Outdoor Water Storage Tanks RCA Laundry and Radwaste Storage Facilities RCA Calibration Facility Unit 1 and 2 Transformer Yard Oil Retention Basins Service Air Building I&C/Medical Facility Auxiliary Boiler Enclosure–Craft Facility - Storage and Assembly Building Warehouse A Paint Department Facility Modular Office Buildings Toilet Trailer

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
		Abandoned Diesel Storage Tanks
2	Southern Lower PA	Administration Building Security Office Building Protected Area Access Facility Cold Machine Shop Office Trailers
3	Southern Upper PA	Main Warehouse Liquids Storage Facility
4	Intake/Discharge Areas	Discharge Structure. In addition, the following structures could be retained or removed: Intake Access Facility Divers Shower/Lab Facility Intake Control Building Intake Maintenance Shop Underground Sewage Holding Tank/Lift Station Chemical Storage Tanks and Pad
5	Lower Parking Lots and Training Bldg. Area	Telephone Terminal Building Meteorological Tower No. 1 and Building Training Building Maintenance Shop Building Maintenance Shop Annex Building Fitness for Duty/Access Building Steam Generator Mock-up Building
6	Upper Parking Lots	Gas Cylinder Enclosure Storage Buildings Modular Office Buildings Toilet Facilities
7	Area 10	Sandblasting and Spray Paint Facility Turbine Generator and Rotor Equipment Warehouse Hazardous Waste Facility Seawater Reverse Osmosis (SWRO) Facility Fabrication Shop Sewage Treatment Plant Fire Water Tank and Pumphouse Modular Office Buildings
8	Shooting Range and Southern Areas	Fire Department and Fukushima Flexible and Diverse Coping Strategy (FLEX) Equipment Storage Security Training Tower Security Training Building Soils Lab Secondary Meteorological Tower and Control Building Miscellaneous Office and Storage Buildings
9	Hillside Behind Plant	Site Overlook Facility
10	Reservoir Area	Wastewater Holding and Treatment Equipment Enclosure Long Term Cooling Water Pump Storage Building
11	Switchyard Area	Secondary FLEX Equipment Storage Facility Miscellaneous Storage Yard Facilities and Office Buildings

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
12	East Canyon Area	Vehicle Maintenance Shop and Offices OSGSF Document and Project Files Storage Buildings Miscellaneous Break Room and Toilet Facilities
13	Remainder of site	Avila Gate Guard House Facilities Underground Septic Tanks and Pump Stations Above Ground Water Storage Tanks Water Wells Security Structures Circulating Water Tunnels

Source: PG&E, 2021c – Table 2.3.9-2.

Acronyms: FLEX = Fire Department and Fukushima Flexible and Diverse Coping Strategy, I&C = Instrumentation and Controls, OSGSF = Old Steam Generator Storage Facility, RCA = Radiologically Controlled Area, SWRO = Seawater Reverse Osmosis

Building demolition would use an approach that removes selected contaminated systems and components from each structure prior to demolition; identified systems would be removed during the System and Area Closure scope of work (see Section 2.3.5) prior to demolishing a structure, and specifically identified large components would be removed during the Large Component Removal scope of work (see Section 2.3.11) prior to demolishing a structure. Other systems and large components would remain in their present locations and would be removed and downsized for disposal purposes during the demolition of the associated building.

The following activities would be performed to prepare each structure for demolition:

- A pre-demolition engineering report would be prepared, as required by 29 CFR 1926.850(a).
- Decontamination of the structure would be completed pursuant to the decontamination procedures outlined in Section 2.3.8. Fixative coatings would be applied where required to prevent the spread of any loose contamination.
- Hazardous and regulated materials would be removed.
- If required by the work plans, a dust suppression system such as a “water mister” or other similar technology and supporting high-efficiency particulate air (HEPA) filters would be installed, along with required temporary power and water supplies.
- Remaining equipment, piping, components, etc., would be drained, purged, and air gapped (i.e., a common construction technique to prevent backflow).

Regarding the use of water for dust suppression, any runoff would be captured by a groundwater collection and treatment system (GWTS) prior to release. The GWTS would be developed in the early stages of decommissioning, sized in accordance with the results of the SCS, and located on a previously disturbed area (PG&E, 2021e – PD-14). The GWTS would collect and process water accumulated in open excavations from direct rainfall and groundwater intrusion utilizing a combination of settling ponds and tanks or filtration equipment. Treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. Additionally, PG&E would obtain a Construction Stormwater General

Permit (CGP) and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to start of construction activities to address the requirements for control of fugitive dust emissions from the DCPP site. (PG&E, 2021d – PD-7)

Building demolition would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to track mounted backhoes, articulated wheel loaders, and small-scale tool carriers. Demolition tools include hydraulic hoe-rams, hydraulic shears, concrete pulverizers, universal processors, various grapples, trucks, and other such industrial tools. The use of explosives is not a primary demolition method; however, some targeted applications are planned as an option for the containment structure demolition.

Throughout building demolition activities, equipment and personnel are monitored for radioactive contamination prior to release or exit from a contaminated area. Contaminated equipment must be cleaned of all radioactive contamination and proven clean by survey prior to release. If a piece of equipment cannot meet the criteria for release, the equipment would be disposed of as radioactive waste (PG&E, 2021d – PD-9).

In keeping with efficient demolition work practices and good housekeeping objectives, demolition debris would be moved away from the active demolition area in a safe and expeditious manner to reduce interferences. For example, concrete that is to be reused as fill would be transferred to the south end of Parking Lot 7 for processing (see Figure 2-8), utilizing specialized concrete crushing equipment (PG&E, 2021d – PD-8). Once moved away from the active demolition area, the demolition debris would be segregated by materials (e.g., structural steel, pipe, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning (i.e., act of disposing an asset).

When the demolition phase of a given structure is completed, the area would be turned over for Final Site Restoration (FSR), including FSS (see Section 2.3.22), backfilling, and landscaping activities.

The sections that follow discuss the anticipated approach for the demolition activities that would be performed for the Power Block facilities (i.e., the containment, auxiliary/fuel handling, turbine buildings, and pipeway structures), and for the remainder of the structures listed in Table 2-4. See Sections 2.3.16 for a specific discussion on the Discharge Structure demolition.

2.3.9.1 Unit 1 and Unit 2 Containment Structures

The containment structure for each unit is a steel-lined, reinforced concrete building of cylindrical shape with a dome roof that completely encloses the reactor pressure vessel (RPV) and reactor coolant system; it contains various internal structural elements that support these systems. The containment structures for Units 1 and 2 are essentially identical but are mirror images. The following discussion applies to both units.

The containment structure removal sequence would occur in the following major steps:

- interior demolition (including the polar crane)
- liner plate decontamination
- exterior concrete shell removal
- base slab foundation removal

After the foundation is removed, building demolition would be completed, and the area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

To protect the SNF located in the nearby SFPs, demolition of the containment structure exterior shell would not start until all SNF and GTCC waste generated from RPV and RPV internals segmentation have been relocated to the ISFSI and GTCC Waste Storage Facility, respectively.

Before interior concrete can be released for demolition, the following activities would be completed:

- RPV and internals segmentation would be completed, and all waste materials and tooling would be removed from containment (see Section 2.3.10 for details).
- Large components: The SGs, pressurizer, reactor coolant pumps (RCPs) and motors, RPV head, and manipulator cranes would be removed from containment. The containment opening at the 140-foot level that was created to remove these components and the associated closure doors would still be in place (see Section 2.3.11 for details).
- System and Area Closure: Systems containing radioactive materials above a certain threshold level would be removed from containment (see Section 2.3.5 for details).

The following additional activities would be performed to prepare the containment structures for demolition:

- A second containment opening would be provided at elevation 91 feet. A temporary ramp would be provided to access materials and equipment at the local grade (elevation 85 feet).
- Characterization of containment would be performed. The extent of any radiologically contaminated concrete cannot be fully known until after removal of the RPV. It is assumed that only the concrete of the bio-shield wall in the areas directly adjacent to reactor fuel elements is contaminated.

Some systems and components not identified above would remain in the containment structure and would be demolished with the structure. The different waste components would be separated after demolition and transferred to a predetermined location for packaging and disposal.

Interior Demolition

One or more excavators with appropriately sized hydraulic hoe-ram and hydraulic shear attachments would be used inside the containment buildings to demolish the polar crane, interior concrete walls and slabs, and the annulus steel structure down to the foundation level at elevation 91 feet. Loaders would be used to move the demolition debris out of the structure through the lower construction opening at ground level. The top portion of the foundation (approximately 2-feet thick) would be removed to expose the lower portion of the liner plate that is embedded in the foundation. All material would then be transferred to the Waste Handling Facility (see Figure 2-8 – BLDG 115) for processing and disposal.

During the removal of the interior structures and components, the exterior shell would be utilized as a ventilation boundary to prevent the release of any radiological contamination.

Liner Plate Decontamination

The liner plate would be left in place after interior concrete demolition. The liner plate would be decontaminated, then it would be demolished at the same time as the exterior concrete shell and disposed of as non-detectable (i.e., below detectible limits) demolition debris.

Exterior Concrete Shell Removal

The demolition of the containment exterior shell would most likely be carried out by using excavators fitted with hoe-rams and shears. These machines would utilize a sequence that removes a small section from the bottom of the structure at a time, allowing the structure to fall vertically in a controlled manner. This sequence would be repeated until all the cylindrical sections of the containment structure have been removed and only the top dome section remains, which has been lowered to grade level. The dome would be demolished in place by conventional excavator-mounted equipment.

Alternatively, PG&E may elect to demolish the exterior concrete shell of containment by use of explosives. This method would consist of the following steps:

- Create large openings in the structure in the form of archways using hydraulic hammers mounted on excavators. This also includes cutting away the liner in these locations.
- Attach explosive charges to the "legs" left through the creation of the archways. Using a controlled explosion, the legs disintegrate and the upper part of the structure, essentially the hemispherical shaped dome, falls to grade level.
- Utilize excavator mounted hoe-rams to rubblize the remainder of the structure.

All debris would be transferred to the Waste Handling Facility (see Figure 2-8 – BLDG 115) for processing and disposal.

Foundation Removal

The entire foundation of each containment building would be removed using similar excavator equipment in a top-down approach. At a point in the demolition sequence, excavation of the perimeter soil would be required to access the lower elevations. The ground adjacent to these lower elevations would be sloped or benched in accordance with standard construction criteria (from California Division of Occupational Safety and Health or CalOSHA) to prevent excavation instability. Ramps would be excavated in strategic locations so that demolition and debris removal equipment (e.g., excavators and dump trucks) can access this area. All debris would be transferred to the waste processing areas for disposal.

At this point, the building demolition scope of work for the containment structures would be completed.

2.3.9.2 Unit 1 and Unit 2 Pipeway Structures

The pipeway structure for each unit is a steel frame structure attached to the outside of the containment shell, the auxiliary building, and the turbine building. The pipeway structure in one unit is essentially a mirror image of the other.

Each pipeway structure would be demolished on a column bay by column bay basis (e.g., demolish everything between column line A to column line B, column line B to column line C, etc.). This allows for structural stability as the demolition work progresses. Typical backhoes with steel shear attachments would be used for this demolition.

2.3.9.3 Unit 1 and 2 Auxiliary Building

In general, there is substantially more structural concrete in the auxiliary building than there is structural steel. Therefore, the demolition of the auxiliary building would mainly utilize concrete specialty demolition tools such as hoe-rams, concrete pulverizers, and concrete processors. Structural steel specialty demolition tools like hydraulic shears would be utilized less.

Multiple excavators fitted with the appropriate demolition tools and extended reach booms would be utilized to demolish the auxiliary building from its topmost elevation down to the bottom of the building at elevation 60 feet. The resulting debris would be moved out of the area and segregated by materials (e.g., structural steel, concrete rubble, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning.

As demolition progresses, larger systems or components would be cut into smaller sized pieces for handling, either by using a hydraulic shear attachment on a backhoe or by thermally cutting.

The end state of the walls and slabs below grade would be as follows:

- remove internal walls and slabs below local grade to the top of the base slab (i.e., to the bottom-most foundation slab)
- remove the first 3 feet of all exterior foundation walls to an elevation 3 feet below local grade

At this point, demolition of the auxiliary building would be considered complete, and the area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

2.3.9.4 Unit 1 and 2 Turbine Building

The turbine building removal sequence would occur in the following major steps:

- remove and demolish the overhead crane and steel superstructure above 140-foot elevation
- demolish main turbine building
- partially remove the foundation

Prior to any demolition occurring on the turbine building, the siding would be removed during the Decontamination scope of work (see Section 2.3.8).

All systems and components not removed by the System and Area Closure and Large Component Removal scopes of work would remain in the turbine building and would be demolished with the structure.

The different waste components would be separated after demolition and transferred to a predetermined location for packaging and disposal.

The overhead cranes would be demolished first, followed by the portion of the turbine building situated above the elevation 140-foot operating deck of the building. The resulting material would be size-reduced utilizing excavators fitted with appropriate demolition hydraulic shears and the resulting debris separated and moved to the waste processing area for further processing and packaging for disposal.

The building's demolition would advance on a column bay by column bay basis (e.g., demolish everything between column line A to column line B, column line B to column line C, etc.). As the demolition progresses, larger systems or components would be cut into smaller sized pieces for handling, either by using a hydraulic shear attachment on a backhoe or by thermally cutting.

Once removed from the active demolition area, the demolition debris would be segregated by materials (e.g., structural steel, concrete rubble, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning.

The concrete turbine pedestals would remain in place until the entire turbine building steel superstructure has been demolished. Multiple excavators fitted with the appropriate demolition tools and extended reach booms would be utilized to demolish the turbine pedestals from their topmost elevation down to the floor situated at elevation 85 feet.

The end state of the walls and slabs below grade would be as follows:

- remove internal walls and slabs below local grade to the top of the base slab (e.g., to the bottom-most foundation slab)
- remove the first 3 feet of all exterior foundation walls to an elevation 3 feet below local grade.

The demolition of the turbine building would continue until the only items that remain are its perimeter walls and its lowermost floor slab. The area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

2.3.9.5 Other Structures

As stated previously, building demolition of all other structures would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to excavators or backhoes, articulated wheel loaders or typical dump trucks, and small-scale tool carriers. In general, structures would be demolished in a top-down manner, and the resultant debris moved to the waste processing area for further dispositioning.

All above grade portions of structures would be removed, as well as the foundations to a minimum depth of 3 feet below local grade. Below grade pull boxes and tanks and other retaining structures would either be completely removed or removed to a minimum depth of 3 feet below grade and the remainder filled with suitable backfill material to remove below grade voids.

The scope of work associated with building demolition for the circulating water tunnels is limited to the installation of structural bulkheads at each end of all the intake and discharge tunnels. These bulkheads would seal the ends of the tunnels. Localized roof sections of the circulating water tunnels would be removed for access, then the tunnels would be backfilled with soil/crushed concrete later by the grading and fill operations discussed in Section 2.3.16 and left in place. These tunnels are deeper than 3 feet below local grade.

2.3.10 Reactor Pressure Vessel and Internals Removal and Disposal

Reactor Pressure Vessel (RPV) and internals removal and disposal would consist of all activities necessary to remove the RPVs and internals from the DCPP containment buildings. The removal of the RPVs and internals would be accomplished by a combination of (1) in-place segmentation and dismantling of the radioactive components, (2) packaging the segmented waste in various containers designed to meet applicable NRC and US Department of Transportation requirements, and (3) depending on waste classification, transporting the loaded packages to either an on-site storage location, or to off-site waste disposal facilities licensed to accept radioactive waste.

One of the largest items to be removed during nuclear decommissioning is the RPV, which is a massive vertically mounted cylindrical pressure vessel that is 42.3-feet-tall, with a 173-inch internal diameter, and weighs approximately 674,000 pounds. Inside the RPV are two structures, referred to as the internals, consisting of the lower internals assembly and the upper internals assembly. The lower internals for Unit 1 weigh approximately 325,000 pounds and weigh approximately 270,000 pounds for Unit 2, and the upper internals for each unit weigh approximately 142,000 pounds. These structures function to support the reactor core and maintain alignment of the nuclear fuel assemblies, direct coolant flow past the fuel assemblies to remove heat, and to shield the RPV from the effects of gamma and neutron radiation generated during operation.

Due to being in close proximity to the nuclear fuel, the RPVs and internals have become highly radioactive; the radionuclide concentrations estimated to be present at DCPP shutdown would result in extremely high levels of radiation emanating from the materials. To ensure the amount of Class B and Class C radioactive waste is minimized, the RPVs and internals would be disassembled and segmented into smaller pieces to allow segregation of the materials by radioactive waste classification. The high levels of radiation coming from the RPV and internals requires the use of specially designed equipment for all aspects of the decommissioning process, including segmentation, handling, packaging, and shipment of these materials to licensed waste disposal facilities. Segmentation and dismantling of the internals components are primarily performed underwater to provide both shielding from the radiation and prevention of airborne contamination. The process of segmenting and dismantling the internals components is highly complex and is often accomplished using numerous cutting technologies. To complete the specialized task of segmenting the RPV internals, robust mechanical cutting equipment (e.g., saws, drills, shears, etc.) capable of remote operation and designed specifically for supporting, handling, and dismantling the massive components would be employed.

The mechanical cutting equipment used for segmentation of the DCPP internals components would be of similar design and technology to that used during the most recent RPV internals segmentation project at Zion Nuclear Station Units 1 and 2, and that which is planned to be used for segmentation of the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 internals.

Like the internals components, the RPVs have become highly radioactive, making the process of segmenting the RPVs challenging. However, the total radionuclide concentrations estimated to be present within the RPVs is substantially less than that present in the internals components, therefore allowing the segmentation of the RPVs to occur in a dry condition without the need for water shielding. The RPVs would be segmented into multiple large pieces using a thermal cutting technology similar to that used for the most recent segmentation of the RPVs at Zion Nuclear

Station Units 1 and 2 and that which is planned to be used for segmentation of the RPVs at SONGS Units 2 and 3. Thermal cutting, or thermal segmentation refers to the technique of cutting without making direct contact using a high-energy process. Unlike the mechanical cutting process used for segmenting the internals, the thermal cutting process uses a heat source to melt or weaken the RPV material to enable separating manageable segments from the massive RPV.

Segmentation of the RPV would be executed in the reactor cavity using the thermal cutting equipment after the connecting reactor coolant system loop piping has been separated from the RPV. Prior to commencement of segmentation, a shielded platform would be installed to shield personnel from radiation, mount and carry the thermal cutting system, provide a ventilation enclosure to avoid spreading airborne contamination into the containment building, and to serve as a working platform for preparation of tools for cutting processes. Additionally, a specially designed lift fixture would be installed on the floor above the reactor cavity to lift and support the RPV during thermal cutting operations. With the segmentation system and all ancillaries installed, thermal cutting would commence by cutting from the outside of the RPV inward. The thermal cutting process would volatilize surface layers of the material being cut and disperse fine particles, off-gas, fumes, and smoke in the vicinity of the cutting operation. Therefore, standard measures to mitigate airborne material would be implemented, including employing local, HEPA filtered ventilation to collect and filter the particles, fumes, and smoke prior to the off gas being directed to the main containment ventilation discharge plenum (the plenum is an air-distribution box attached directly to the supply outlet of the HVAC equipment). As individual segments are removed from the RPVs, they would be packaged in designated waste containers, which would be readied for either temporary on-site storage at the waste storage facility or immediate shipment once the container has been loaded with all assigned contents.

At the conclusion of RPV segmentation activities, equipment used during cutting operations, including the primary cutting system, cutting debris, ventilation and filtration equipment, and miscellaneous support equipment, would be packaged for disposal, and non-contaminated equipment, materials and supplies would be surveyed for release and removed from site as part of demobilization activities.

Depending upon the waste classification of the containers that have been loaded with radioactive waste, some of the loaded waste packages would be immediately transported off site to designated radioactive waste disposal facilities using shipping containers licensed either as shielded Type A boxes and shipping casks, or as Type B shipping casks. Some segmentation waste may require on-site storage prior to disposal anywhere from one week to one year due to unexpected delays in transportation logistics (PG&E, 2021d – PD-10). These waste packages, which would include Class A, B and C waste, may be stored in facilities currently used for storage of materials including but not limited to the existing Old Steam Generator Storage Facility (OSGSF) and other existing on-site buildings located inside and outside of the RCA (PG&E, 2021e – PD-15). Storage would be for varying durations until such time that delays encountered during the transportation cycle have been resolved. The materials classified as GTCC waste, would be loaded into storage containers and casks, and transferred to the (proposed) on-site GTCC Waste Storage Facility for storage, remaining there until a licensed repository becomes available, another entity takes possession, or the US Department of Energy (DOE) accepts the containers for off-site disposal.

Waste transport off site would include truck transportation for some Class A waste containers (e.g., intermodals, shielded boxes, 14-195 casks), with the large-capacity Class A, B, and C waste containers transported in licensed Type B shipping casks via permitted routing from DCPP to the SMVR-SB facility where they would be loaded by crane onto railcars for transport to the designated waste disposal facility or directly trucked to the designated waste disposal facility. Transportation of the large Type B shipping casks from DCPP to the SMVR-SB site or directly trucked out of state for disposal would be accomplished using California-compliant specialty heavy-haul transport vehicles capable of handling the oversize/overweight loads (see Figure 2-13). See also Section 2.3.19.

Figure 2-13. Specialty Heavy-Haul Transport Vehicle

Source: PG&E, 2021a – Figure 2.3.12-1.

Examples of the Class A and Class B/C waste packages are presented in Figures 2-14 and 2-15.

Figure 2-14. Example of Class A Waste Package

Figure 2-15. Example of Class B/C Waste Package

2.3.11 Large Component Removal

Large components that would be removed as part of the Project have been divided into three categories with a corresponding means and methods process for each. These categories are discussed in this section.

2.3.11.1 Category 1 – Radiologically Contaminated Large Components

Category 1 consists of radiologically contaminated large components including the SGs, RCP assemblies, pressurizers, and RPV closure heads housed within the containment buildings. Category 1 also includes the legacy SGs and RPV closure heads presently stored in the OSGSF.

Each containment building would be modified to include a construction opening called the containment access opening. The removal of large radioactive components and the RPVs from each containment building would begin by increasing the size of the building's access opening (e.g., by enlarging the existing equipment hatch or creating a new opening). A larger opening would simplify rigging operations required to install disassembly equipment and remove large components. Likely steps to create a larger or new opening include: (1) removing the existing equipment hatch; (2) using abrasive cutting or other mechanical equipment to remove sections of the containment building reinforced concrete walls; and (3) installing a temporary door for environmental controls when the opening is not being used.

Each containment building at DCPP contains the following Category 1 large components, as detailed below.

Four SGs mounted in a vertical position, standing about 68-feet-tall and weighing about 350 tons each. Structural supports and attached piping would be removed from each SG using disassembly methods such as mechanical or thermal cutting. Each SG would be lifted and rotated to a horizontal position, placed on a transport vehicle, and transported to an area that is set up for segmentation into two pieces. The segmentation area would be located at the OSGSF where the legacy SGs would also be segmented. Before shipping each piece, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pieces would be shipped as low-level radioactive waste (LLRW) to a licensed disposal facility.

One pressurizer, mounted in a vertical position, standing about 53-feet-tall and weighing about 112 tons. Structural supports and attached piping would be removed from the pressurizer using disassembly methods such as mechanical or thermal cutting. The pressurizer would be lifted and rotated to a horizontal position, placed on a transport vehicle, and transported to an area to prepare the pressurizer for shipment. Before shipping, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pressurizers would be shipped as LLRW to a licensed disposal facility.

Four RCP/motor assemblies mounted in a vertical position, each about 45-feet-tall and weighing about 99 tons. The motors would be separated from the RCPs, removed from containment, and prepared for transportation. The RCPs would be removed by having their structural supports and attached piping removed using disassembly methods such as mechanical or thermal cutting.

The RCPs would be rigged from containment and prepared for shipment. The RCPs would either be sealed or loaded in shipping containers. The motors/RCPs would be shipped by truck as LLRW to a licensed disposal facility.

One RPV closure head with an integrated service structure assembly weighing 185 tons. The integrated service structure would be removed and segmented into smaller pieces by mechanical or thermal methods. The smaller pieces would be loaded into standard low-activity waste shipping containers for shipment as LLRW to a licensed disposal facility. The RPV closure head weighing about 97 tons would be removed from containment and prepared for shipment. The RPV closure head would be painted with a protective (lockdown) coating to affix any possible surface contamination before being placed in a special container for shipment. The RPV closure head and service structure would be shipped by truck as LLRW to a licensed disposal facility.

One manipulator crane, a gantry type crane with a span of 27 feet and weighing 9.5 tons. The manipulator crane would be segmented in place by using mechanical or thermal methods into pieces that would fit into standard low-activity waste shipping containers. The shipping containers would be trucked as LLRW to a licensed disposal facility.

The OSGSF at DCPP contains the following Category 1 large components:

Eight SGs stored on saddles in the horizontal position. Each SG weighs about 330 tons and would be moved out of the storage facility using special lift systems. Each SG would be moved to the segmentation area at the OSGSF where they would be cut into two pieces. Before shipping each piece, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pieces would be shipped as LLRW to a licensed disposal facility.

Two RPV closure heads mounted within a cradle and weighing about 90 tons each. Each head would be moved out of the storage facility and prepared for shipment. The RPV closure head would be painted with a protective (lockdown) coating to affix any possible surface contamination before being placed in a special container for shipment. The RPV closure head and service structure would be shipped by truck as LLRW to a licensed disposal facility.

2.3.11.2 Category 2 – Turbine Buildings Large Components

Category 2 large components are all housed within the turbine buildings and are associated with the secondary steam side of the plant's operations except for the emergency diesel generators. These large components cannot be demolished at the same point in time that the turbine building is being demolished because they cannot be removed in a safe and efficient manner by the same conventional and planned demolition methodologies planned for the turbine buildings. These Category 2 large components would be segmented (either mechanically or thermally) in place prior to removal from the turbine buildings.

Category 2 large components situated in the turbine buildings consist of the following items: main exciters and generators, high pressure turbine assemblies, low pressure turbine assemblies, main condensers, moisture separator re-heaters, #2 feedwater heaters, and the emergency diesel generators. These large components would be segmented either by mechanical or thermal

methods in situ into "manageable" sized pieces that would be removed from the turbine buildings and transitioned to a laydown area for further downsizing and processing. The prepared ferrous metal would be recycled outside of the State of California.

2.3.11.3 Category 3 – All Other Large Components

Category 3 large components are all the large components that are not designated as being either Category 1 or Category 2. The Category 3 large components would be demolished and downsized in the same timeframe when the structure or building housing the Category 3 large components is being demolished, downsized, and prepared for disposal.

2.3.12 Utilities, Remaining Structures, Roads, and Parking Areas Demolition

In addition to the various buildings that would be demolished, as described in Section 2.3.9, various utilities, structures, roads, and parking areas that are not required to support the long-term operation of the ISFSI or the 230 kV/500 kV switchyards or towers would be demolished, as listed in Table 2-4. The majority of these would be removed during Phase 2; however, some would be removed during Phase 1.

Specific demolition items include:

- above ground and underground utilities
- various structures (refer to Table 2-4)
- miscellaneous storage areas, laydown yards, etc., and the contents of these yards, including trailers and equipment (refer to Table 2-4)
- support areas (sidewalks, retaining walls, hardscape slope protection, etc.)
- paved roads and parking areas
- road and parking area curbs and barriers
- fences
- Avila Gate Guard House Facilities at Avila Beach Drive/Diablo Canyon Road (removed when area released from the NRC Part 50 operating licenses)
- 230 kV transmission lines and support poles between the Power Block and the 230 kV switchyard (see Section 2.3.13)
- 500 kV transmission lines and support towers between the Power Block and the 500 kV switchyard (see Section 2.3.13).

Table 2-4. List of Other Demolition

Zone	Zone Description	Bldg. No.	Name	Building Construction	Qty	Notes
1	Power Block, North half of PA West RCA		Laydown Yard Contents	Varies	>50	Containers, equipment, and supplies
1			Guard Towers	Steel	5	
1			500 kV Transformers	Steel/Copper	12	
1			230 kV Transformers	Steel/Copper	3	
2	South Half of Plant PA		Trailers around Building 116	Varies	~ 20	
2			Laydown Yard Contents	Varies	Many	Equipment and supplies

Table 2-4. List of Other Demolition

Zone	Zone Description	Bldg. No.	Name	Building Construction	Qty	Notes
3	Main Warehouse Area		Laydown Areas	Varies	>20	Containers, equipment, and supplies
4	Intake and Discharge Structures Area		Laydown Areas	Varies	>10	Containers, equipment, and supplies
4			Observation Stand	Varies	1	
4			Bins	Steel	~ 20	
5	Lots 4, 5 and Training Area		Trailers	Varies	~5	
5		107	Meteorological Building for Tower 1	Steel	1	
5			Met Tower 1	Steel	1	
6	Lots 7 and 8		Stairways Between Lots 7 and 8	Concrete	2	
7	Area 10		Laydown Yard Contents	Varies	Many	Containers, equipment, and supplies
7			Exterior Stairs	Wood	1	To shoreline
8	Firing Range, Warehouse B, Lot 1		Support Containers	Varies	~10	Containers, equipment, and supplies
8		501	Meteorological Building for Tower 2	Steel	1	
8			Meteorological Tower 2	Steel	1	
8			Gasoline Tanks	Steel	3	

Source: PG&E, 2021a – Table 2.3.14-3.
Acronyms: kV = kilovolt, PA = Protected Area, RCA = Radiologically Controlled Area

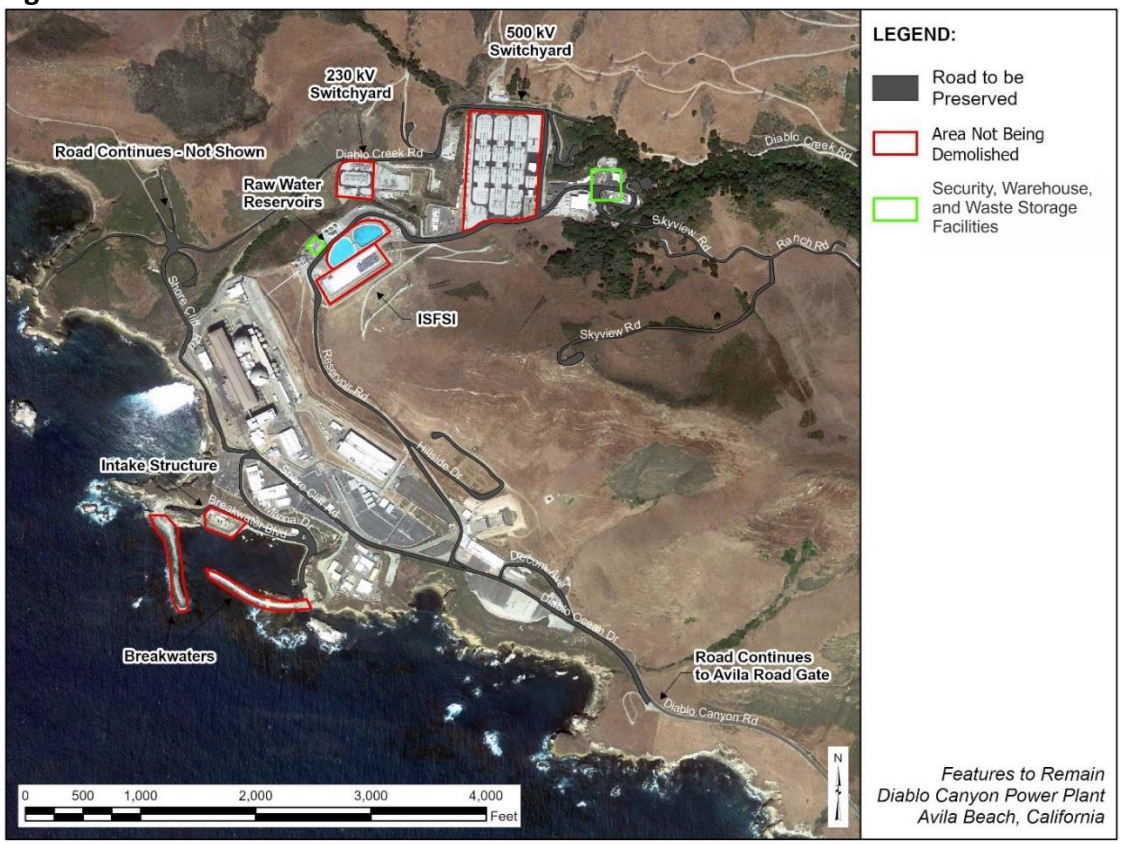
Retained facilities are shown in Figure 2-16 and include the following:

- Primary and Secondary Access Roads – provides access to the DCPP site and serves as a secondary emergency access route for Port San Luis and Avila Beach, if authorized by County emergency agencies[7]
- Internal Roads, including culverted road over Diablo Creek – provides access to DCPP site and serves as secondary emergency access route for Port San Luis and Avila Beach, if necessary
- Skyview Road – provides scenic overlook; upgrade to improve deteriorated pavement and drainage features, including slope repairs at the drainage that crosses the road where a deep gulley with a small landslide has formed (PG&E, 2023e)
- 230 kV and 500–kV Switchyards - needed to meet existing customer needs
- ISFSI – required for long-term storage of SNF

[7] The Secondary Access Road (North Ranch/Pecho Valley Road) is not a County/Cal Fire official evacuation road since it does not meet the standards specified in the County Fire/ Cal Fire SRA Fire Safe Regulations, 14 CCR Division 1.5, Chapter 7 Fire Protection, Subchapter 2, Articles 1-5.

- East and West Breakwaters (and Intake Cove/Marina) – available for reuse by a third party
- Intake Structure – available for potential reuse by PG&E to support barging operations during future/final decommissioning and by a third party
- Water Reservoirs – for use as a firewater supply for protection of the ISFSI.

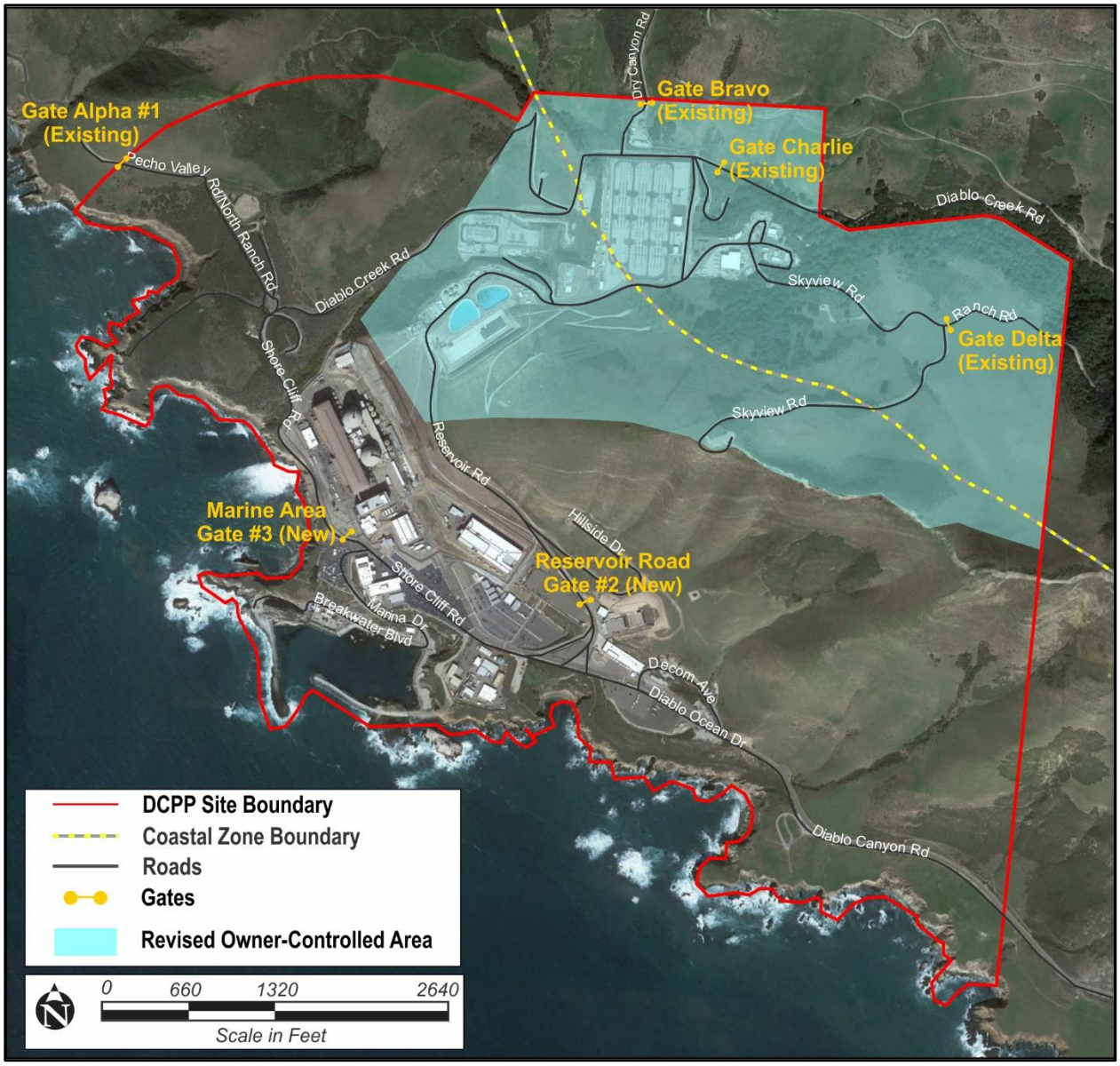
Figure 2-16. Retained Facilities



Source: PG&E, 2021a – Figure 2.3.14-1; modified to include Skyview Road overlook.

The structures remaining on site following decommissioning would continue to be managed by PG&E. The existing OCA would be reduced to encompass the water reservoirs, switchyards, ISFSI, new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and outbuilding (see Figure 2-17). The limits of future PAs and Radiologically Controlled Areas have not yet been developed (PG&E, 2021e – PD-4). As previously noted, activities at the DCPP site would be limited to ISFSI and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository becomes available.

Figure 2-17. Revised Owner-Controlled Area



Source: PG&E, 2021e – PD-4/Appendix C; PG&E, 2023d; PG&E, 2023e.

2.3.12.1 Utilities

Underground utilities are present at varying depths (as shallow as 1 foot below grade) throughout the DCPP site. The depth depends on the types of utilities, their design minimum depth requirements, surface topography, and presence/absence of improvements (e.g., slabs, roads, buildings) directly over the utility runs. Utilities not required to remain in service for decommissioning activities or for long-term operation of the ISFSI or 230 kV/500 kV switchyards would be removed during decommissioning, including those utility lines servicing buildings to be removed during building demolition. Initial utility removal efforts would be sequenced with demolition activities, as follows:

- Utilities that served demolished buildings would be verified to be inactive and air gaps confirmed.

- Each building or feature to be demolished would be isolated from all its utilities prior to its demolition. Isolation consists of de-energizing the utility line, and then removing a portion of the utility line to create a physical air gap.
- Following isolation of aboveground electrical power, the power cables, transformers, and poles may be removed before or after the demolition of each individual building, at the discretion of the demolition contractor.
- The aboveground power cables, appurtenant fixtures, and equipment would be removed, processed on site as scrap, or disposed of offsite.

Underground utility removal would involve electrical lines, the lines of various water systems, sanitary sewer, communications, and security network. Removal of storm sewers would be addressed under Phase 2 of decommissioning.

All underground utilities would be addressed as follows:

- Utilities would be excavated and removed to a minimum depth of 3 feet below grade. Excavation deeper than 3 feet is at the discretion of the demolition contractor if deeper excavation is deemed less complicated and/or less costly than cutting off a utility at the 3-foot depth.
- Wires and cables would be pulled from conduits and processed for scrap.
- Removed metal piping or conduit would be processed for scrap.
- Removed plastic piping, conduit, pull-boxes, and similar items would be processed for scrap or disposed of offsite as waste.
- All asbestos pipes would be removed, regardless of depth, and disposed of offsite.
- Concrete pipes and spillways would be removed and evaluated for off-site disposal or reuse.

Utility features left in place (i.e., deeper than 3 feet below grade) would be permanently abandoned in place rather than being removed, as follows:

- Remaining pipe-like voids (pipes, conduits) would be pressure grouted.
- Remaining parts of large boxes, vaults, manholes, utility chases, tunnels, and similar objects would be broken open as necessary and filled with borrow fill material or non-shrink grout at the discretion of the demolition contractor.

All utility removal work (not including the overhead transmission lines and towers) can be performed with conventional mid-sized construction/demolition equipment. Specialty equipment is not necessary for this work.

2.3.12.2 Remaining Structures

The remaining buildings and key site structures to be demolished are shown in Figure 2-16. The demolition/removal of buildings and structures applies to relatively small buildings and would include concrete slabs and any foundation/basement features to a depth of 3 feet below grade. Remaining foundation elements such as piers or footers may be removed at the discretion of the demolition contractor if removal is easier than the effort of cutting off the elements at the 3-foot depth (see Section 2.3.9, *Building Demolition*, for explanation regarding 3-foot removal depth as specified by NRC regulation). Any remaining “bathtub” basement or vault that could hold

rainwater would be broken up to promote drainage, and remaining voids would be filled with fill material prior to additional grading/fill operations.

The structures would be demolished using a combination of standard demolition equipment and methods, including excavators with hydraulic breaker/pulverizer, shear, thumb, and bucket attachments, front-end loaders, skid steers, torches, and concrete saws.

The structures would be visually observed for potential signs of structural failure. Should any structural concerns be identified during the survey, demolition sequencing and/or methods may need to be adjusted as needed to complete the demolition in a safe manner. The structures would also be visually observed to confirm that all regulated materials identified in/at the structures by the hazardous material surveys have already been abated/removed and that the structures are ready for open-air demolition.

In addition, the proposed demolition perimeter and immediate surrounding areas would be visually observed for potential changes in topographic configuration and associated storm water flow patterns. Should such changes be identified, the layout and/or type of storm water sedimentation/erosion measures specified in a SWPPP may need to be modified as needed to minimize the potential for releasing demolition-related materials beyond the demolition limits.

Demolition debris of any small buildings and objects in lay-down areas would be removed with small-tracked equipment and skid steers and transported to the main processing area by articulated dump trucks. This methodology would minimize disturbance to the remote areas.

2.3.12.3 Roads

The scheduling and sequencing of any roadway removals would be dependent on the overall phasing and sequencing of the entire Project. In other words, the removals would have to be coordinated with any necessary access to adjacent buildings, the scheduled building demolitions, and the intended earthwork grading and drainage work.

The demolition of the roadways would involve the removal of only the asphaltic concrete (surface) course or layer and any asphalt or cement concrete curbs. The aggregate subbase and base course would be left in place for incorporation into the grading work.

Asphalt removal would involve stripping the asphalt and recycling. The limited amount of cement concrete removed as part of road removals could be set aside for crushing and/or reuse. The road removal work would be performed with conventional excavation equipment.

2.3.12.4 Parking Areas, Concrete Areas, and Sidewalks

Like road removal, the scheduling and sequencing for removal of parking areas, concrete areas, and sidewalks would be dependent on the overall phasing and sequencing of the entire Project. Parking Lot 7 would remain until the end of FSR as a primary laydown and support area.

The demolition of the surface areas would involve the removal of only the asphaltic concrete (surface) course in paved areas and the cement concrete where it is present. The aggregate subbase and base courses beneath these surface coverings would be left in place for incorporation into the grading work.

Conventional excavation equipment would be used to strip or remove asphalt. The concrete removal would be performed with conventional demolition equipment. Asphalt and concrete would be assessed for their suitability for recycling. It is anticipated that clean concrete would be crushed for reuse on site, surplus concrete would be recycled off site, and asphalt would be recycled off site.

The shotcrete (i.e., sprayed concrete) at the Power Block is a wire-mesh reinforced shotcrete with rock anchors embedded into the slope features. Total square footage of the shotcrete is approximately 3 acres. The shotcrete facing would be broken and removed only where it would be exposed in the final grading plans. Facing located beneath proposed final grade would remain in place. Where the facing is removed, the rock anchors would be torch cut flush with the surface of the rock substrate. No effort would be made to remove the anchoring rods or concrete grout embedding the rods inside the slope.

2.3.12.5 Other Features to be Removed

Other miscellaneous features would require demolition and/or removal from the DCPP site, including the following:

- retaining walls
- fences and razor wire
- concrete block barriers along roads
- concrete highway barriers along roads
- steel guardrails along roads

The removal of retaining walls, guard rails, and fencing would be done with conventional demolition equipment. Footings for these would be removed to a minimum depth of 3 feet. The other concrete items listed above can be removed simply by lifting with conventional equipment onto transport vehicles.

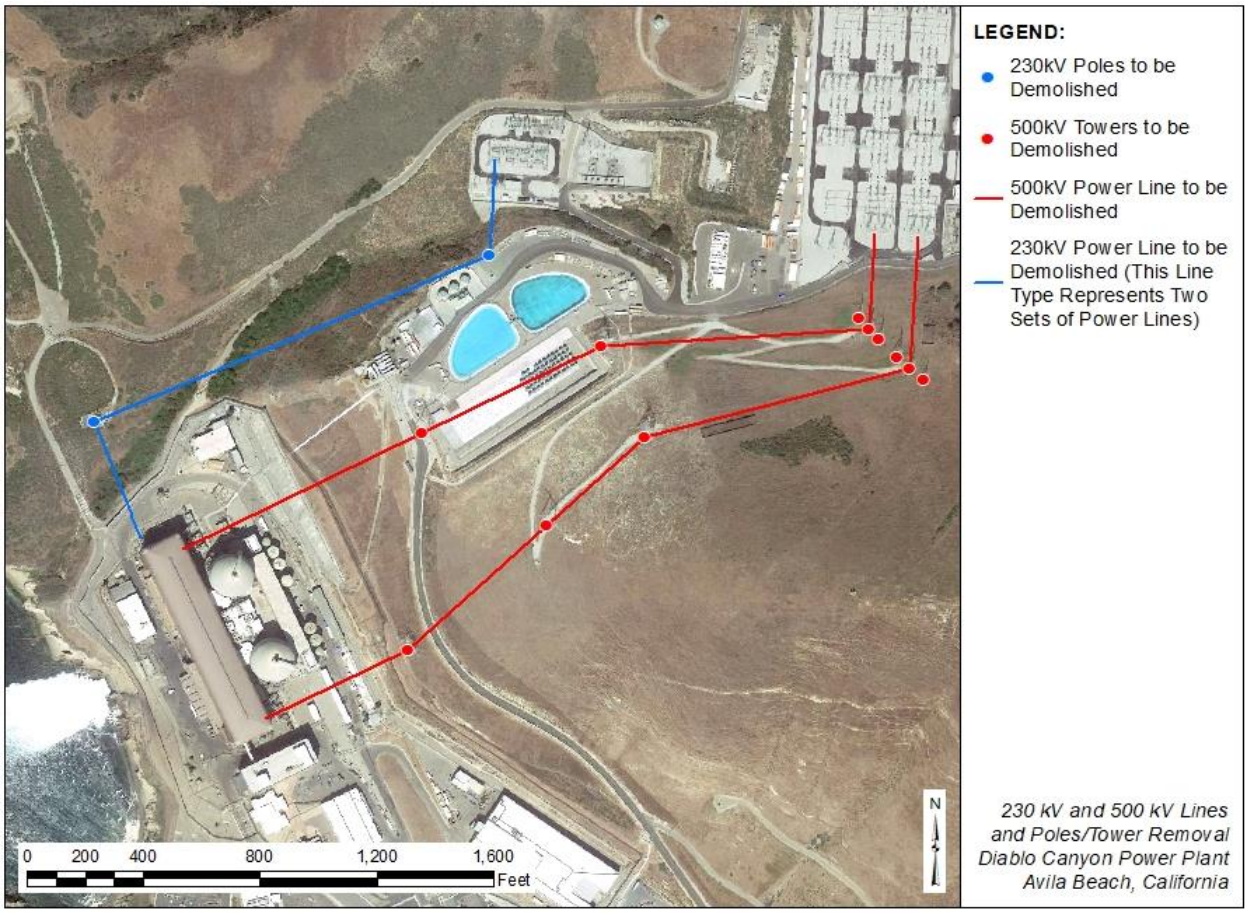
All these materials can be reused or scrapped; otherwise, the materials would be disposed.

2.3.13 Removal of 230 kV Lines and Poles and 500 kV Lines and Towers from Switchyards to Diablo Canyon Power Plant

While both the 230 and 500 kV switchyards are proposed to be retained, the following transmission lines and support structures (see Figure 2-18) would be removed in Phase 1:

- two support poles and 2,100 linear feet of 230 kV, three conductor transmission lines between the turbine building and the 230 kV switchyard
- eleven support towers and 6,000 linear feet of 500 kV, three conductor transmission lines between the turbine building, and the 500 kV switchyard.

Figure 2-18. 230 kV and 500 kV Lines and Poles/Tower Removal



Source: PG&E, 2021a – Figure 2.3.15-1.

Conventional demolition equipment and methods would be used to remove the 230 kV poles, the transmission line disconnects from the turbine building, and the transmission line up to the switchyards. For the southwest 230 kV pole, the pole foundation and guy wire foundations would be abandoned in place. The demolition contractor could opt to remove the 500 kV towers either with conventional equipment, long-reach equipment, or by helicopter since some of the towers are in locations that are more difficult to access.

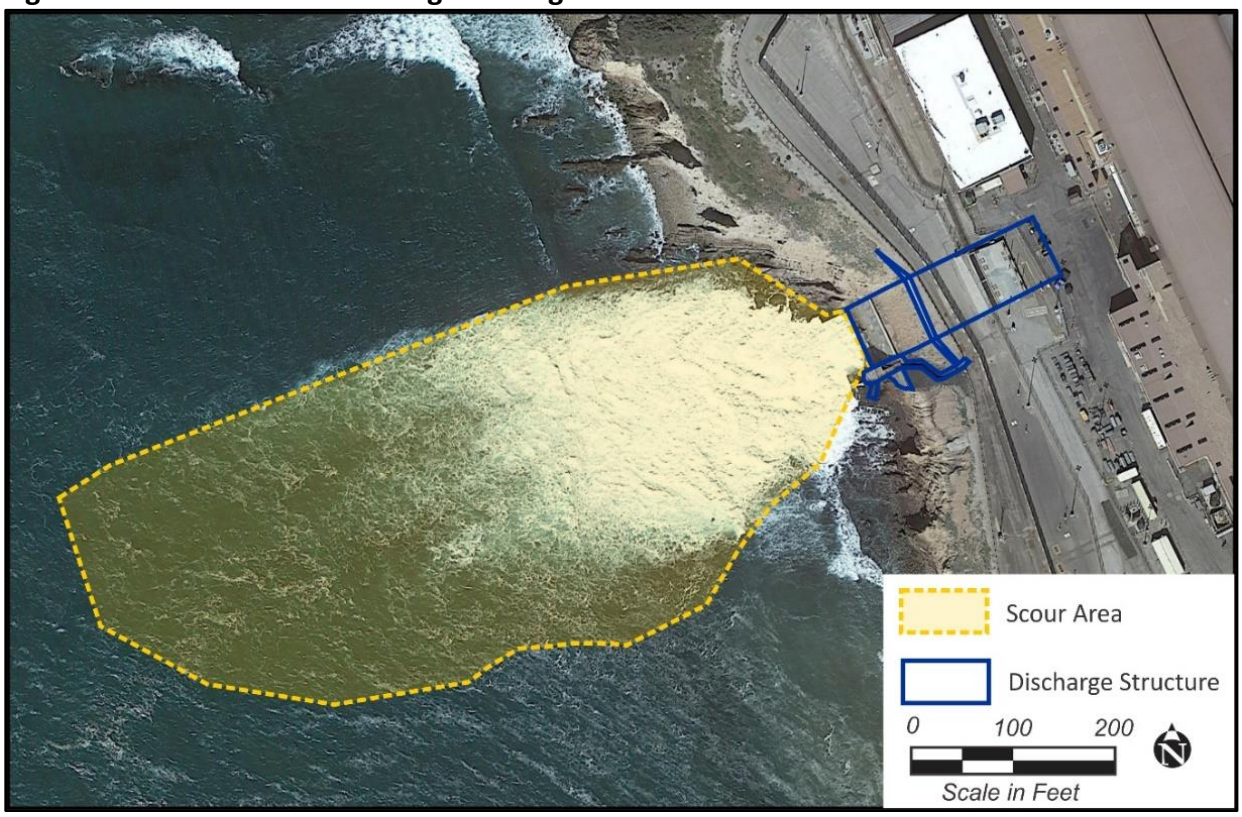
The concrete pole/tower support foundations would be broken with a hoe-ram and removed down to the surrounding grade level. Any rebar would be cut at grade level. A 10 foot by 10-foot area is anticipated to be restored for each tower foundation removed.

2.3.14 Discharge Structure Removal

The Discharge Structure is located to the west of the turbine building and is an irregularly shaped stepped structure with an associated stairwell system (see Figures 2-19, 2-20, and 2-21). The structure was constructed to direct the flow of water from the plant's discharge conduits out to the Pacific Ocean. The Discharge Structure was built into the bluff west of the turbine building, occupying a footprint of approximately 13,000 square feet. A portion of the Discharge Structure is below MSL and would require that the demolition area be isolated from the ocean. A cofferdam

system and dewatering system would be utilized to keep the Discharge Structure's demolition area dry.

Figure 2-19. Plan View of Existing Discharge Structure and Scour Area



Source: PG&E, 2021a – Figure 2.3.17-2; PG&E, 2022c – Appendix 1.

Figure 2-20. Discharge Structure Components

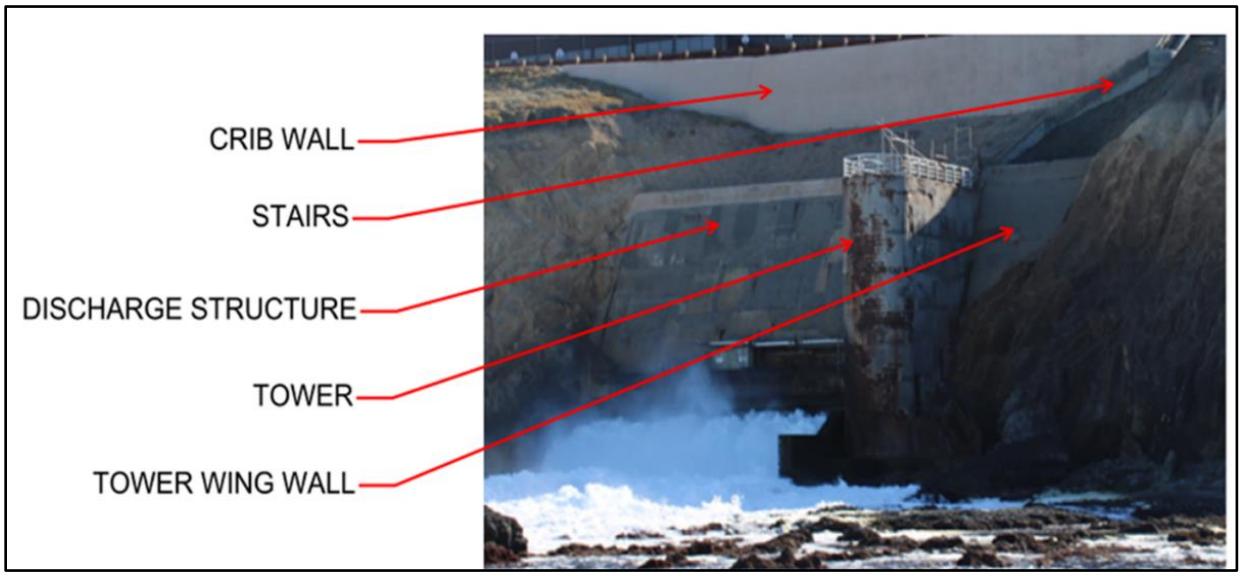
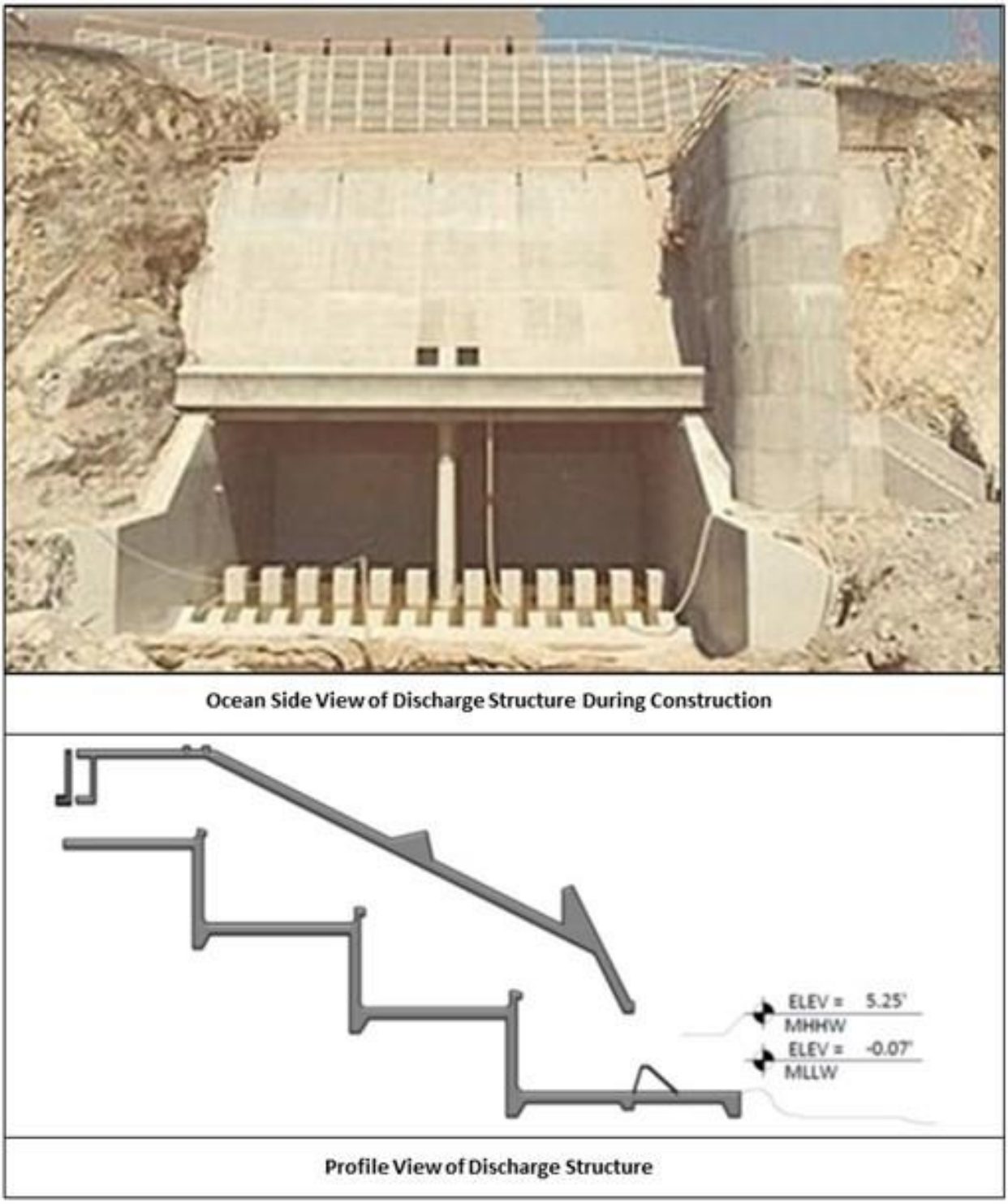


Figure 2-21. Discharge Structure During Construction and Cross-Section View



Source: PG&E, 2021a – Figure 2.3.16-1.

Three options for demolition and restoration of the discharge structure were evaluated by PG&E using a Net Environmental Benefit Analysis (NEBA) approach to determine the option that would have the greatest environmental benefits. Results of the NEBA indicated that the full removal of the discharge structure (i.e., removal of all concrete down to bedrock, followed by full backfill of the void with quarry rock) and partial removal of the discharge structure (i.e., leaving the

sidewalls in place followed by full backfill with quarry rock) provided the highest environmental benefits compared to the other options. However, when factoring in NRC license termination activities (i.e., removal of any residual radiological contamination and meeting NRC release criteria), full removal/full backfill was deemed to be the preferable approach.

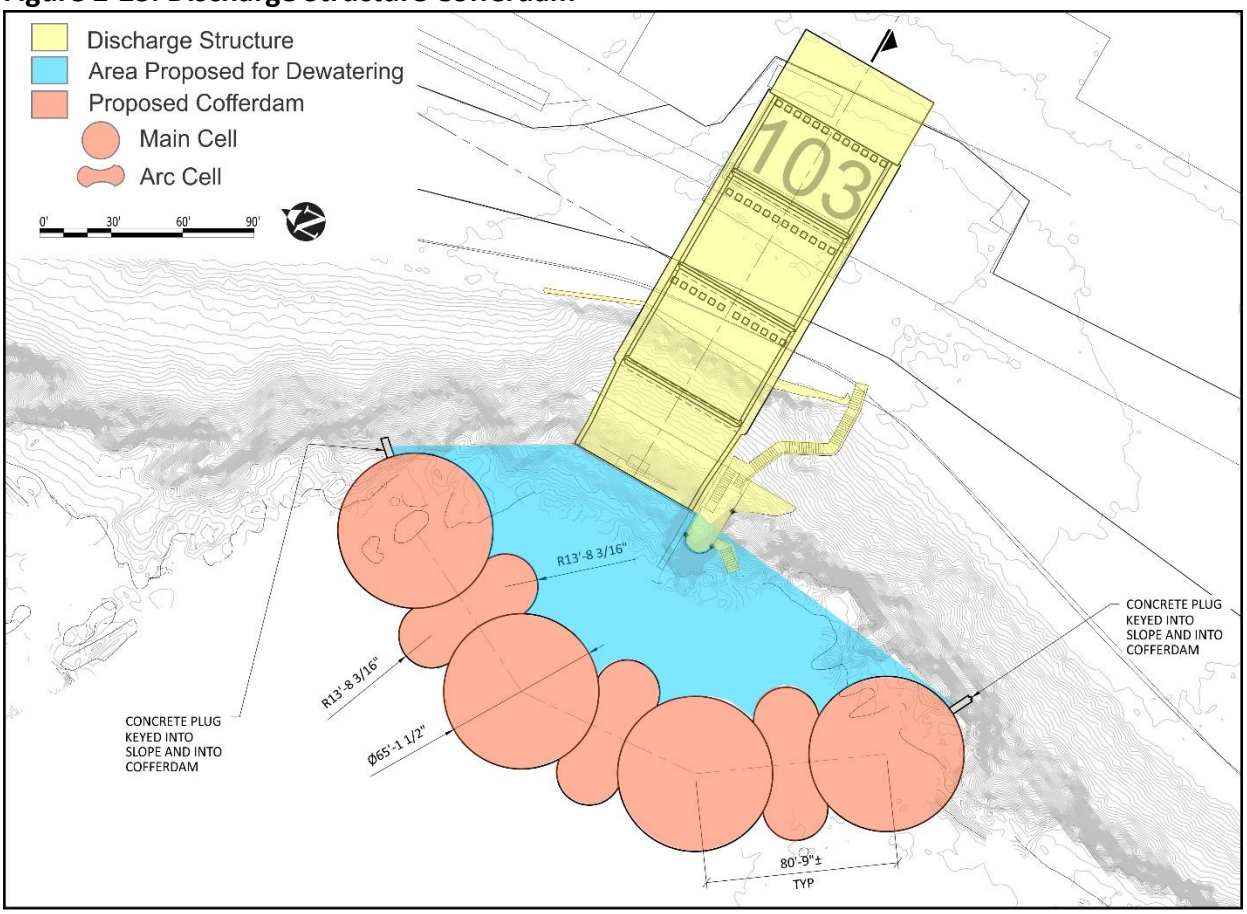
To support removal of the Discharge Structure, a circular cell steel sheet pile cofferdam would be installed prior to demolition to isolate the demolition area from the ocean. A similar cofferdam design was utilized during the initial construction of the Intake Structure in the early 1970s (see Figure 2-22).

Figure 2-22. Photo from Original Intake Structure Cofferdam Construction

Source: PG&E, 2022c – Figure 4.1.1-3, Threading Sheets.

Benefits of a circular cell style cofferdam include it being a gravity structure that does not require substantial anchoring into the ground (as opposed to a conventional cantilevered sheet pile wall), and its ability to perform as a reliable water barrier. Due to the rocky seafloor conditions, difficult pile driving conditions are anticipated making a cantilevered wall system costly. Since the cofferdam design relies solely on gravity and friction, little pile embedment is required during cofferdam construction; pile driving would utilize a crane-mounted vibratory hammer. The circular cell cofferdam system is comprised of two major elements: the main cell and the arc cell to be comprised of more than 600 sheet piles, which may be referred to in some uses as the “major cell” and “minor cell,” respectively (see Figure 2-23).

Figure 2-23. Discharge Structure Cofferdam



Source: PG&E, 2022c – Appendix 1, Figure S2.01: Discharge Area - Site Plan.

The cells would be comprised of interlocking flat sheet piles. Each cell would be filled with concrete to create a concrete plug, followed by gravel. Each cell along the bottom inner rim would be filled with concrete to create a concrete seal approximately 2-feet-high and 2-feet-wide creating a wedge to seal any gaps beneath the cell wall and ocean floor, followed by gravel to the top of the cell wall (PG&E, 2023b). As the cells are filled with gravel, large tensile forces would develop in the interlocks connecting the sheets, similar to the tension that develops in the rings of a wooden barrel. The sheets "bulge" outward, establishing full-length contact between the adjacent interlocking sheets. The interlock contact is typically watertight and does not require additional measures for sealing.

Construction of the circular cell cofferdam would proceed in a linear direction cell-by-cell, with work crews and equipment staging on the previously constructed main cell. An additional benefit of the circular cell design is the ease of removal. Since the steel sheets are not embedded deeply into the substrate, removal is made easier. A circular cell cofferdam is recommended for consideration as the method of isolating the Discharge Structure, to enable the structure to be demolished and the surrounding shoreline disruption to be mitigated during the demolition phase.

The cofferdam would have a surface area of approximately 17,175 square feet. Approximately 1,272 cubic yards (CY) of concrete would be placed in the cofferdam to create a concrete plug, and approximately 38,167 CY of gravel would be placed in the cofferdam. The concrete would be

brought on site via approximately 142 ready mix truck trips, and the gravel would be transported from the Port of Long Beach to Diablo Cove via approximately 15 barge round trips. Following removal of the Discharge Structure, the cofferdam would be dismantled. Prior to removal of the sheet piles, gravel fill would be removed with a dredge or excavator bucket, then after all the gravel fill is removed, the sheet piles would be removed along with the concrete seal attached to the sheet piles (PG&E, 2023b). Any remaining gravel, concrete, or sheet piles pieces would be removed by a dive team and dredge or excavator bucket (PG&E, 2023b). All gravel and concrete would be removed in its entirety. Concrete from the cofferdam would be reused to backfill the water tunnels (see Section 2.3.16.4) and the gravel reused for restoration of the bluff (approximately 8,828 CY) and backfilling of the Firing Range (approximately 29,339 CY). See Section 2.3.16.2 for discussion of removal of the existing Firing Range.

The Discharge Structure would be removed in its entirety back to the water tunnels and the water tunnels would be sealed with a concrete bulkhead to isolate them from the ocean. The demolition of the Discharge Structure would be conducted by first removing the overburden atop the Discharge Structure with conventional excavation equipment or a dragline bucket or clamshell bucket attached to a crane. The different waste components from the Discharge Structure would be separated after demolition and transferred to a debris staging area anticipated to be located in Zone 6 (see Figure 2-12) for processing, packaging, and disposal.

After the Discharge Structure has been demolished and while the cofferdam is still in place, the shoreline would be turned over for FSR, including FSS (see Section 2.3.22), restoration (see Section 2.3.15) of the void created by removal of the discharge structure, and landscaping activities.

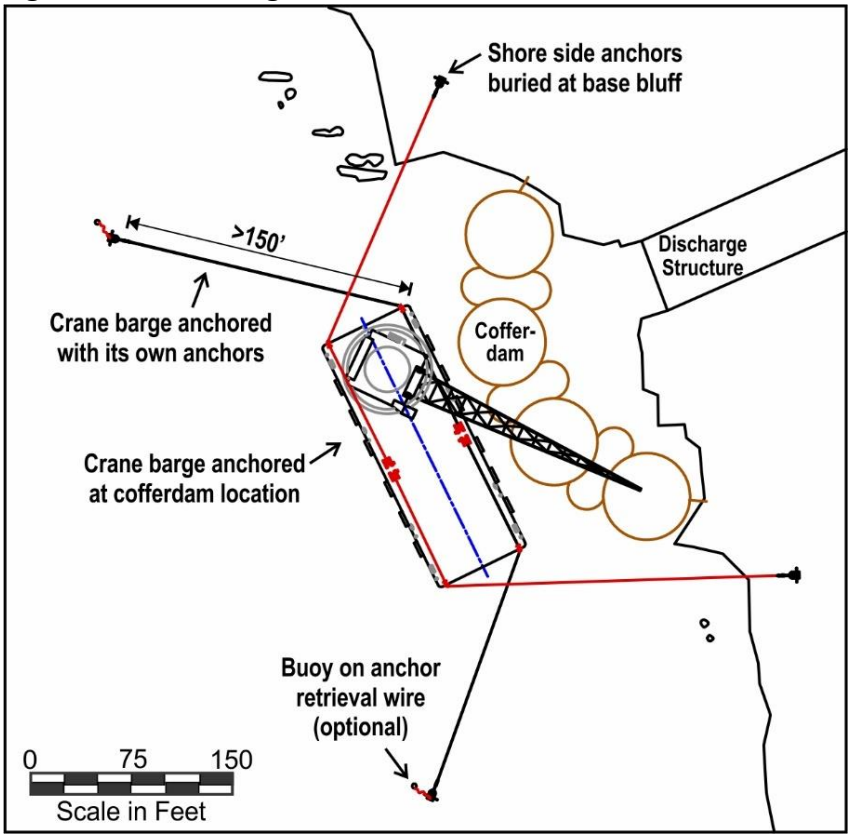
Discharge Structure Demolition Anchoring Approach

The crane barge used to support removal of the Discharge Structure would utilize a four-point anchoring system, two shore side anchors placed above the high tide line and two anchors from the crane barge (see Figure 2-24). With the help of an assist tug, the crane barge would be moored by dropping an anchor in the target location, and then subsequently dropping the next anchor until all four anchors are on the sea bottom. Then all four anchor wires can be tensioned to move the crane barge into the target working location. PG&E may consider other anchoring options, such as spud barge anchoring.[8]

When anchored away from the Discharge Structure cofferdam, the barges would utilize "offshore" pre-installed mooring buoys (water depths are approximately 30-50 feet in this offshore area) (see Figure 2-25). The buoys with anchors would be oriented such that if the barge is tied to it with mooring ropes from the four corners, the barge would face west into the dominant wave direction.

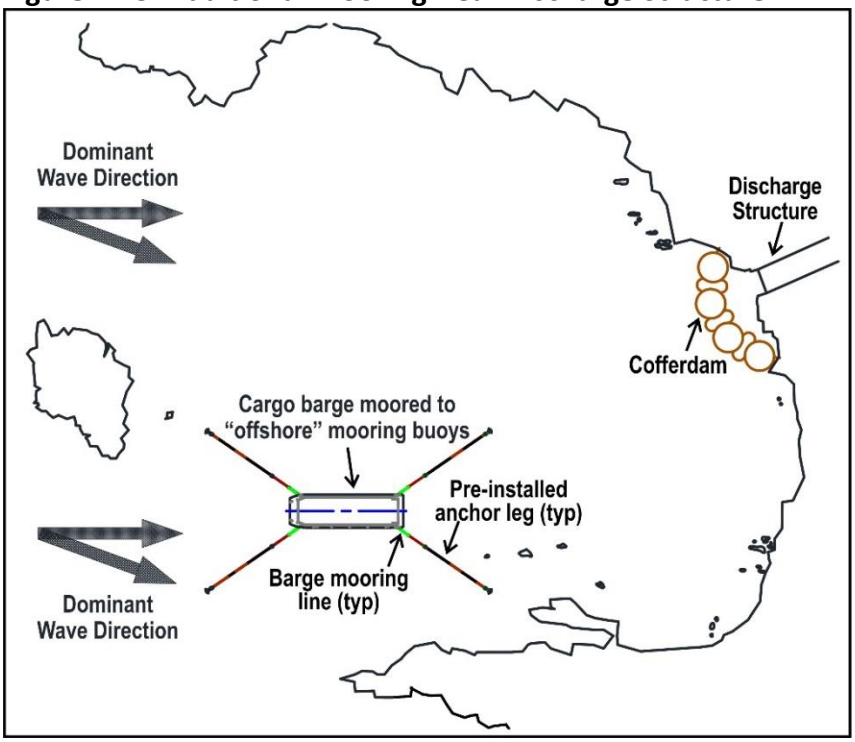
[8] A spud barge is moored by steel shafts or through-deck piling, which are essentially pipes driven into the soil or sand at the bottom of the water to provide stability. These are referred to as spuds. (Naylor Law Team, 2019)

Figure 2-24. Mooring in Diablo Cove



Source: PG&E, 2022c – Appendix 4, Drawing 20/2005-004.

Figure 2-25. Additional Mooring Near Discharge Structure



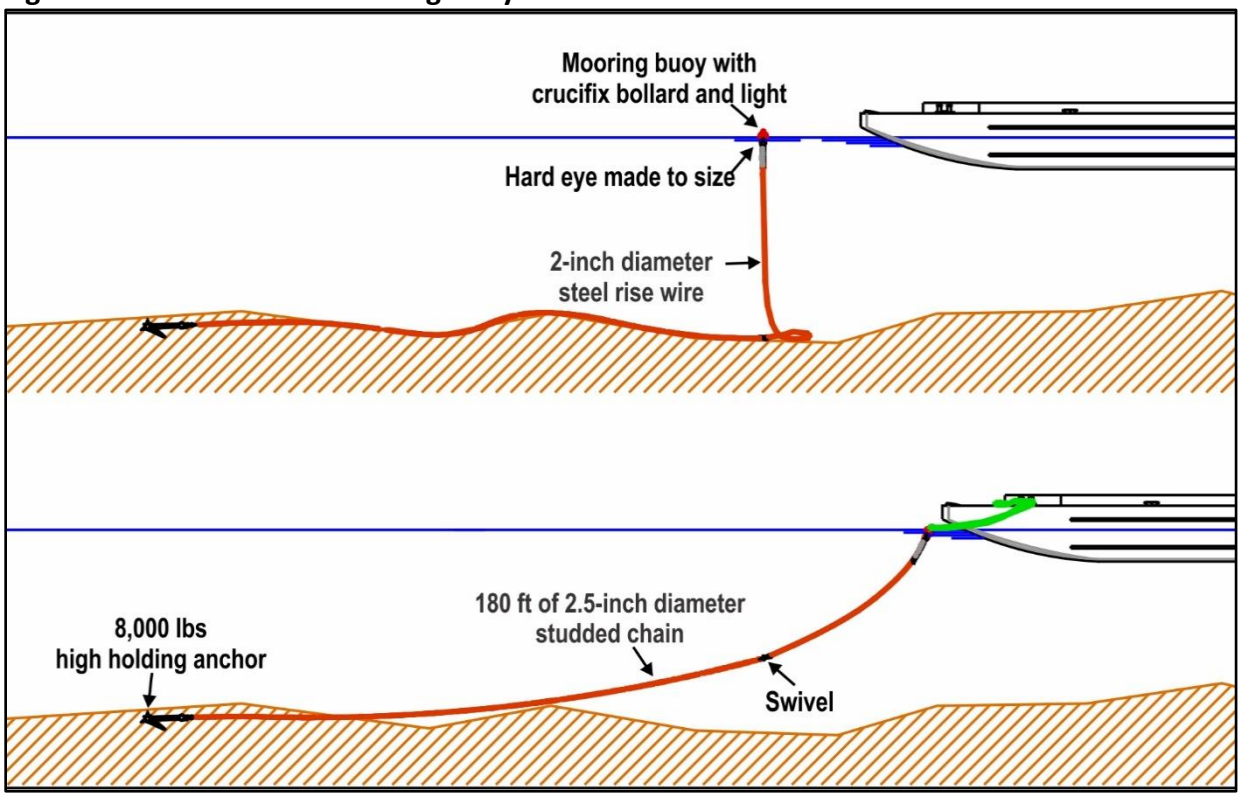
Source: PG&E, 2022c – Appendix 4, Figure 2 and Drawing 20/2005-006.

It is anticipated that each mooring leg would consist of the following main components:

- 8,000 lbs high holding power anchor (Moorfast® or Stato®)
- 180-270 feet of 2.5-inch studded ground chain (depending on water depth)
- 40-60 feet of 2-inch steel riser wire (length = water depth + 10 feet)
- Mooring buoy – large foam filled cylindrical can or drum (see Figure 2-26).

The mooring buoys would be reinstalled with a suitable anchor installation vessel or a barge and a tug.

Figure 2-26. Anchor and Mooring Buoy



Source: PG&E, 2022c – Appendix 4, Drawing 20/2005-007.

2.3.15 Discharge Structure Restoration

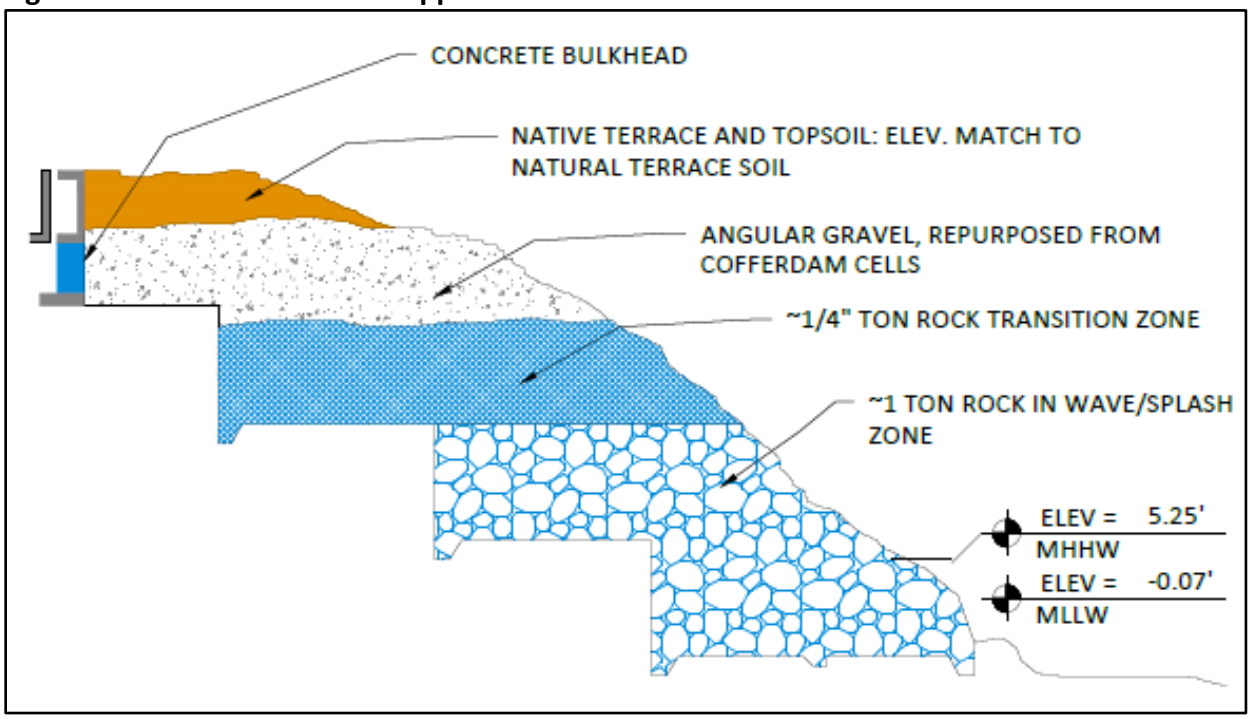
The primary restoration goal for the DCPP marine areas is the physical development and protection of marine habitats including rocky subtidal, rocky intertidal, and some soft bottom features to facilitate re-establishment of natural communities. Following demolition of the Discharge Structure, restoration activities would be based on the re-establishment of habitat areas followed by natural attenuation and growth of marine populations of fish and invertebrates. Natural succession would re-establish the productive and valuable marine resources in the Discharge Cove.

Following full removal of the Discharge Structure, which includes the tunnel extending 30 feet into the bluff, a void would be left in the bluff. This void would be restored through installation of layers of different materials that blend with the natural stratigraphy of the bluff. The bluff restoration is comprised of four different zones with each zone utilizing a different material that progressively decreases in size as elevation along the bluff increases (see Figures 2-27 and 2-28).

Each zone represents a gradual transition in material from 1-ton quarry rock at the base to soil at the crest. The volume of material for the bluff restoration was developed considering loss of material within the voids of the underlying zone such that a separation geotextile is not needed, and no grouting is proposed. The geometric configuration of the bluff restoration was selected by PG&E to match as closely as possible the configuration of the surrounding bluff. The larger 1-ton quarry rock, which is expected to be sourced from Santa Catalina Island, placed at the base would function to resist erosion from wave action. Based on the conceptual design, the bluff restoration area would exhibit a slope of approximately 43 degrees, which is equivalent to or less than the commonly accepted angle of repose of angular rock/gravel. Additional geotechnical evaluation of the bluff restoration configuration, including slope stability analysis under static and dynamic conditions, would be completed as part of the detailed design. (PG&E, 2023b)

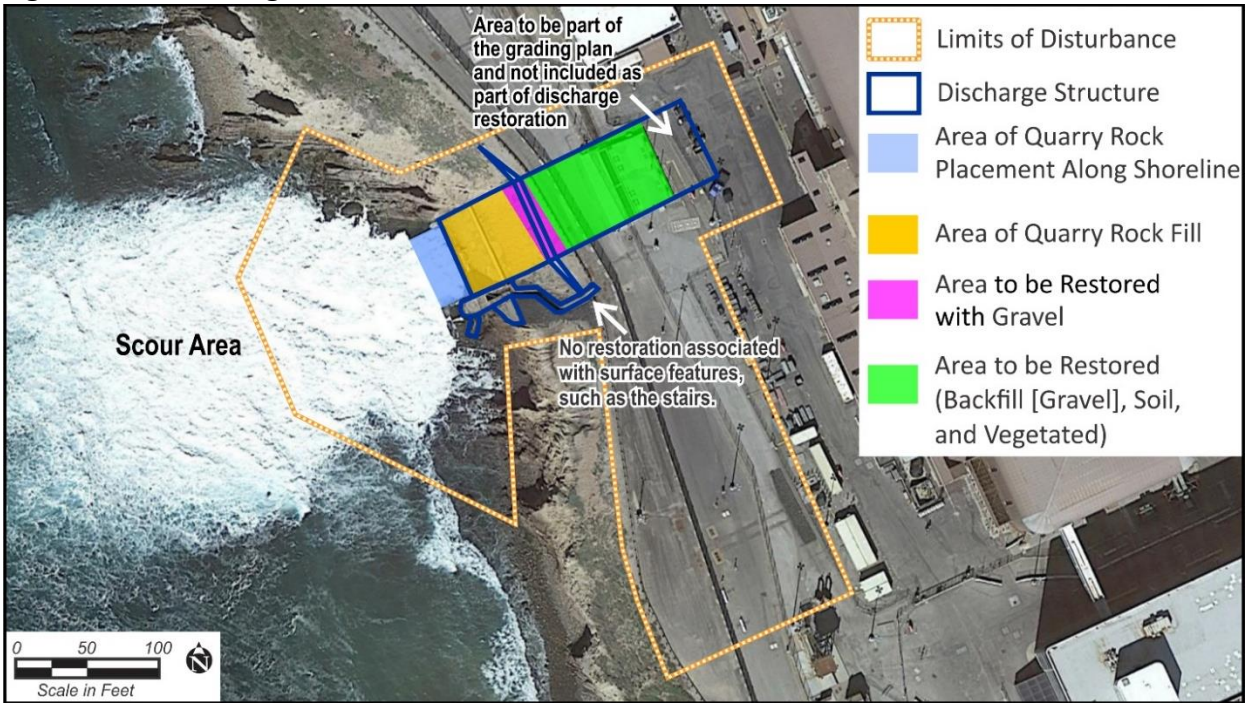
This approach is inherently stable and would maintain the natural profile of the bluff and allow for upland and intertidal restoration. The intent of the bluff restoration is not to create a rigid, monolithic structure that is subject to sudden or catastrophic collapse under extreme loading conditions, but to create a flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff (PG&E, 2023b).

Figure 2-27. Bluff Restoration Approach



Source: PG&E, 2022c – Appendix 3.

Figure 2-28. Discharge Structure Restoration Area



Source: PG&E, 2021a – Figure 2.3.17-1, modified per PG&E, 2022c – Appendix 1, Figure S2.01: Discharge Area - Site Plan and Appendix 7 (Limits of Disturbance).

The total volumes of material needed to restore the bluff following removal of the Discharge Structure is detailed in Table 2-5.

Table 2-5. Discharge Structure Void Restoration Details

Fill Volumes for Discharge Void Restoration	Neat Volume (ft^3)	Volume (CY)	Weight (tons)	Estimated Barge Round Trips
Native Terrace & Topsoil	60,000	2,222	3,000	No Barges or Off-site trucks. Sourced On Site.
Gravel Transition Zone	238,356	8,828	13,110	No Barges or Off-site trucks. Sourced On Site.
¼-Ton Rock – Transition Zone [3]	69,080	2,559	3,989	1 Barge Round Trip [1]
1-Ton Rock – Wind/Wave Splash Zone [3]	138,558	5,131	8,002	2 Barge Round Trips [1]
Total	**505,994**	**18,741**	**28,101**	**3 Barge Round Trips** [2]

[1] Assumes 4,000 tons per barge trip based on a 200-foot flat dock barge or hopper barge.

[2] Up to 15 barge round trips would be used to transport gravel from the Port of Long Beach to fill the Discharge Structure cofferdam; this is not part of restoration (see Section 2.3.14, *Discharge Structure Removal*).

[3] Rock is expected to be sourced from Santa Catalina Island. The size of 1/4-ton rock would be 0.5-1-foot diameter and 1-ton rock would be 2-3-foot diameter (PG&E, 2023b).

The native terrace and topsoil would be obtained from atop the Discharge Structure prior to removal of the Discharge Structure and temporarily stockpiled for subsequent use during bluff restoration. The gravel would be sourced from the cofferdam; of the approximately 38,167 CY in the cofferdam, 8,828 CY would be used for restoration of the bluff. As noted in Section 2.3.16.2, the remaining 29,339 CY would be placed in the Firing Range for backfilling purposes. The ¼-ton rock (0.5 to 1-foot diameter) and 1-ton rock (2 to 3-foot diameter) would be transported to the site via barge (PG&E, 2023b). The ¼-ton and 1-ton rocks would be installed via crane, with the former using a clamshell and the latter using rock tongs. The gravel would be installed via crane

with a clamshell. The native terrace and topsoil would be installed via loader/dozer and then compacted. The placed rock, gravel, and native terrace and topsoil would provide bluff erosion protection as well as new subtidal and intertidal habitat.

Subtidal areas in the wash and discharge zone are highly scoured due to the pressure and presence of the continuous discharge (see Figures 2-19 and 2-28). A pre-restoration hyper-accurate hydrographic survey would be completed to discern the subtidal conditions. The condition is currently unknown because of discharge operations. It is expected that natural attenuation and sediment movement following cessation of discharge would re-establish the natural conditions in Diablo Cove, and it is not expected that extensive subtidal restoration would be necessary in the scour zone. However, following a post-decommissioning hydrographic survey, monitoring would take place to document the re-establishment of a natural sea floor and associated community structure.

After bluff restoration, the bluff would be visually and topographically similar to pre-development conditions. Figure 2-29 provides a comparison of existing and post decommissioning conditions at the bluff.

Figure 2-29. Comparison of Existing and Post-Decommissioning Bluff Conditions

Source: PG&E, 2022d.

2.3.16 Grading and Fill

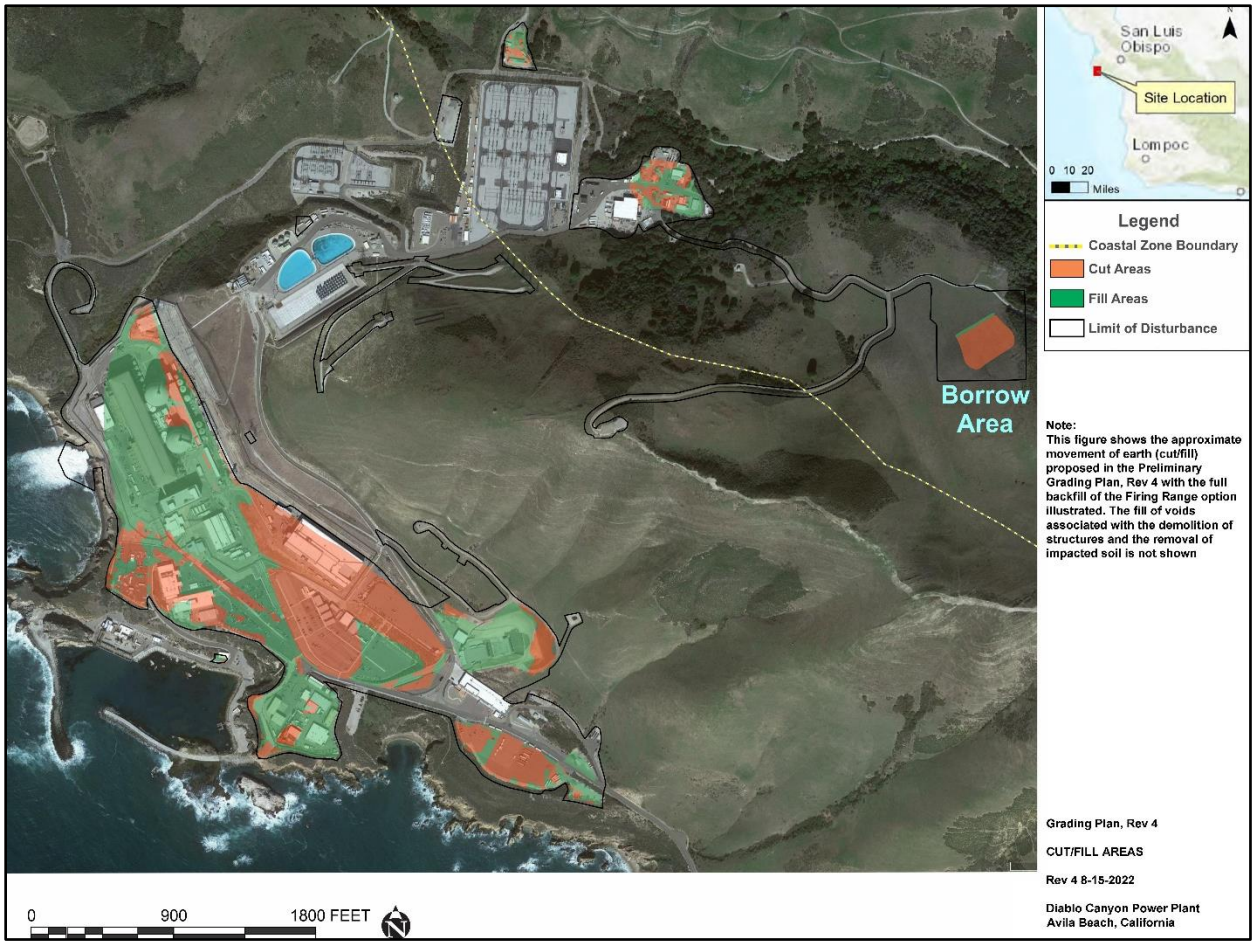
The demolition/removal of man-made elements (all aboveground structures and utilities, asphaltic concrete pavement, concrete slabs, and concrete foundations to at least 3 feet below grade, subsurface utilities, and any concrete lining of utility trenches, retaining walls, etc.) would be accomplished prior to grading/fill operations. Aggregate road base beneath paved surfaces would remain and would be incorporated into the grading/fill. Grading and fill operations would take place primarily during Phase 2 of decommissioning (see Section 2.4.4).

2.3.16.1 Remaining Grading and Fill Activities

The primary objectives of the remaining grading/fill activities would be backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The earthwork quantities in Table 2-6 also account for additional void space created by the planned removal of impacted soil. A Preliminary Grading Plan was developed by PG&E that represents the minimal amount of earthwork necessary to achieve these objectives. The Preliminary Grading Plan is designed to generate the required amount of fill material on site through areas of cut (i.e., areas where the finished grade is lower than the existing grade) and reuse of clean, crushed on-site concrete derived through the demolition of structures (see Figure 2-30). The reuse of clean concrete is discussed in more detail below in Section 2.3.16.3. The anticipated maximum depth of cut is 60 feet and maximum depth of fill is 20 feet across the DCPP site, not including the Firing Range or Borrow Site (referred to as SE Borrow Site) (PG&E, 2022b – Grading Plan 1). The maximum depth of cut for the SE Borrow Site would be about 85 feet and the Firing Range would be about 60 feet of fill for the full backfill of the Firing Range (PG&E, 2022e).

Estimated earthwork quantities in cubic yards (CY) based on the Preliminary Grading Plan are presented in Table 2-6. If cut/fill volumes cannot achieve a zero-balance due either to a decreased availability of fill material or an increased need for fill, a viable source of fill material has been identified on the DCPP property as shown on Figure 2-30 (Borrow Area). The combined area of disturbance within the Firing Range and SE Borrow Site is approximately 7.2 acres and the total quantity of earthwork is approximately 198,000 cubic yards (PG&E, 2022e). The SE Borrow Site would be accessed utilizing the existing paved roads that extend past the 500 kV Switchyard and Waste Storage Buildings to the east, then via an existing paved road (Skyview Road) and gravel road (Ranch Road) to the SE Borrow Site (PG&E, 2021b – PD-14). The existing road to the SE Borrow Site is 12 feet wide. Improvements to the road to the SE Borrow Site would include widening to a width of approximately 20 feet by adding 4 feet of graded aggregate base/crusher to each side, improving the road surface but not changing the extent of the road surface type (i.e., keeping pavement where it is pavement and gravel where it is gravel), adding dips, shallow swales, ditches, and a slight slope, where needed, to control stormwater (ERM, 2023a). The temporary width of disturbance would be 34 feet wide; however, no oak trees would be removed. In those areas where oak trees are located, the width of disturbance would be reduced as needed to avoid oak tree removal; traffic control would be implemented to allow for one-way traffic. Use of the SE Borrow Site would be consistent with San Luis Obispo County Code 22.58.060 governing the management of oak woodlands, as PG&E does not propose or anticipate any clear-cutting of oak woodlands or exceedance of the five percent removal threshold for the DCPP site's total oak woodland canopy (PG&E, 2021d – TBIO-1).

Figure 2-30. Grading Plan Cut/Fill Areas, Including SE Borrow Site



Source: ERM, 2022.

Note: Limit of Disturbance includes areas where grading, surface disturbance, and vegetation removal is likely to occur during decommissioning and restoration activities (PG&E, 2022b – Grading Plan 3). Cut/Fill would occur post decommissioning, prior to construction of proposed structures, such as the new indoor Firing Range and GTCC Waste Storage Facility (PG&E, 2022b – Grading Plan 6).

Table 2-6. Full Backfill Cut and Fill Estimate

Item	Coastal Zone	Inland Zone	Site Total
I. CUT/FILL BALANCE			
A) Volume of Fill for Void Areas (cubic yards)			
a) Structural Demolition – Volume Resulting from Structure Removal:			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels [1]	34,244	0	34,244
vii) Intake Structure [1]	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):	*195,644*	*3,927*	*199,572*
b) Earthwork – Volume Resulting from Export of Impacted Soil:			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
Earthwork – Volume resulting from export of impacted soil (i+ii+iii):	*35,930*	*0*	*35,930*
c) Earthwork – Soil Fill Volume Resulting from Grading Operations: [2]			
i) Firing Range Restoration	136,837	0	136,837
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	6	6
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):	*439,766*	*1,952*	*441,718*
Volume of Fill for Void Areas (a+b+c):	***671,340***	***5,879***	***677,220***
B) Volume of Cut Soils and Other Fill Materials (cubic yards)			
a) Earthwork – Soil Cut Volume Resulting from Grading Operations:			
i) Firing Range Restoration	3,634	0	3,634
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	57,124	57,124
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):	*341,331*	*57,757*	*399,088*
b) Volume of Recycled Crushed Concrete Derived from Site Demolition:			
Clean concrete aggregate available for reuse in CLSM 1	30,500	0	30,500
Clean concrete aggregate available for reuse with soil 3	165,695	0	165,695
Volume of recycled crushed concrete derived from site demolition (i+ii)	*196,195*	*0*	*196,195*

Table 2-6. Full Backfill Cut and Fill Estimate

Item	Coastal Zone	Inland Zone	Site Total
c) Volume of Non-Soil Imported Materials:			
Discharge Structure Restoration (quarry rock)	16,775	0	16,775
Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610
CLSM imported components (sand, cement, etc.)	15,584	0	15,584
Non-Earthwork – Volume of imported rock (i+ii+iii)	*62,969*	*0*	*62,969*
Volume of Cut Soils and Other Fill Materials (a+b+c)	***600,495***	***57,757***	***658,252***
Net Cut (+) / Fill (-) Balance (A-B) [5]	***-70,845***	***51,878***	***-18,968***
II. EARTHWORK QUANTITY (Per County Titles 22 and 23)			
A) Volume of Fill (cubic yards)			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			441,718
Volume of Fill (a+b)			*477,648*
B) Volume of Cut (cubic yards)			
a) Grading operations (I.B.a)			399,088
b) Imported topsoil 4			35,000
Volume of Cut (a+b)			*434,088*
Earthwork Quantity (A+B)			***911,736***
Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 102			

Source: PG&E, 2022e (Earthwork Qty_Rev4_publish.pdf– Scenario 3, Full Backfill, as edited by County; Sheet G-02 – Limits of Disturbance).

Acronyms: UST = Underground Storage Tank, CLSM = controlled low strength material

[1] Clean, crushed concrete generated from structure demolition would be used to create CLSM used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 cubic yards. The total void volume of the tunnels is 22,600 cubic yards. The total void volume of the Intake Structure is 7,900 cubic yards (to be completed in Phase 2).

[2] The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The "volume of soil fill", "volume of void space resulting from the removal of impacted soil", and "volume of void space resulting from structure demolition" together comprise the volume of total fill required to achieve the final grades within the grading plan. (PG&E, 2021e – PD-6)

[3] The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.

[4] Volume of imported topsoil (II.B.b) would be used to layer 3 inches of topsoil across restored areas that are not vegetated under existing conditions.

[5] The Section I(B) Net Cut-Fill (A-B) balance reflects a fill shortage of 18,968 cubic yards. The preliminary grading contours depicted for final site restoration are based on assumptions and intended to depict anticipated limits of disturbance and general finish contours. Final contours do not reflect the Low Impact Development drainage retention features (i.e., percolation ponds, swales, basins) that are required for permitting site restoration grading plans; when Low Impact Development features for drainage requirements are incorporated into the final grading design, the net cut and fill would be balanced.

2.3.16.2 Removal of Existing Firing Range

The existing Firing Range would be removed after 2029 when all SNF has been moved to the ISFSI (PG&E, 2022a). The Firing Range area would undergo soil remediation (see Section 2.3.21) during Phase 1, and in Phase 2 would be restored (see Section 2.4.2). Soil sampling at the Firing Range was performed in 2009. Analytical results for soil samples collected in the upper 3 feet contained elevated lead and, to a lesser extent, copper, and antimony (Antimony is a lustrous gray metalloid [Element dB, Atomic Number 51] used to increase the hardness of alloys such as those used for bullets.). Based on an area of 350 feet by 250 feet and a depth of 3 feet, the estimated volume of lead-impacted soil is approximately 10,000 CY. Also, according to the DCPP 2018 HSA, total metal exceedances included lead, copper, and antimony. Leachable lead concentrations exceeded both the Soluble Threshold Limit Concentration and Resource Conservation and Recovery Act hazardous waste criteria. Lead exceeded the Total Threshold Limit Concentration and California Ocean Plan screening levels in samples collected from the storm water conveyance channel.

Following remediation of the Firing Range in Phase 1, as part of Phase 2 the Firing Range would be backfilled and restored. Approximately 136,837 CY of fill would be placed in the Firing Range area (see Table 2-6), of which approximately 57,124 CY of cut would be removed from the SE Borrow Site (PG&E, 2022e). Development of the SE Borrow Site would be required to meet California Building Code and County Standards, which may include benching, terracing, and grading transitions as well as erosion and sedimentation control measures and would require sign-off from the Project Geologist.

Use of the SE Borrow Site enables the final surface elevation of the Firing Range to be consistent with the adjacent topography. Conversely, in-lieu of using fill from the SE Borrow Site, clean concrete (see Section 2.3.16.3) along with a top layer of fill could be used to fill the former Firing Range. However, if clean concrete is used to fill the Firing Range, fill from the SE Borrow site would be needed to make up for the clean concrete not used to backfill other areas following demolition activities. The details of landscaping and planting of the former Firing Range area would be determined during Phase 2 as part of Final Site Restoration.

A total of approximately 29,083 CY of gravel (PG&E, 2022e) imported to the DCPP site to construct the Discharge Structure cofferdam could be placed in the Firing Range to assist in backfilling the Firing Range. This reduces the cut from the SE Borrow site. The remainder of the fill for the Firing Range would be from the excess cut and fill balance across the DCPP site (PG&E, 2022e).

2.3.16.3 Recycled Concrete

Building and hardscape demolition activities including utilities, structures, roads, and parking areas are expected to generate on the order of 200,000 CY (404,500 tons) of clean concrete, not including asphaltic concrete (PG&E, 2022e). This concrete can be reused as an engineered fill material for site restoration either directly or through blending with soil as part of a grading approach to achieve a cut/fill balance with on-site materials. A Site Grading and Concrete Re-use Strategy Plan was developed by PG&E to assess the different methods and locations where on-site recycled concrete can be used to achieve these objectives. Utilizing the concrete on site eliminates hauling the material off site for disposal and reduces transportation-related impacts

to air quality and traffic/circulation. In addition, it reduces the amount of soil needed for backfilling.

Portions of the clean concrete can be incorporated into the final restoration efforts directly without soil blending. These options are acceptable in settings where the crushed concrete is well isolated from direct exposure to stormwater and groundwater, and in settings where higher strength backfill materials are required. In these instances, recycled concrete could be crushed and used as the aggregate portion of controlled low strength material (CLSM) (i.e., a cementitious blend of aggregate and cement) to backfill areas such as the water circulation tunnels associated with the Intake Structure and Discharge Structure. Crushed concrete can also be blended with soil into an engineered fill. The ratio of soil to concrete within the engineered fill would depend on its intended application, with greater concrete content used for filling building voids and for grading fill deeper than 2 feet below final grade. For grading fill within the top 2 feet from final grade, a ratio of 5:1 soil to concrete would be utilized to alleviate potential stormwater and groundwater quality impacts.

2.3.16.4 Filling of the Water Circulation Tunnels

The water circulation tunnels associated with the Intake Structure and Discharge Structure are to be filled with CLSM. As discussed in Section 2.3.9.5, bulkheads would be constructed to seal the tunnels off from the ocean. It is common engineering practice for the aggregate portion to comprise up to two-thirds of the CLSM mix. Because the existing concrete tunnel structures would be retained, the CLSM fill contained in the tunnels would be isolated from the environment and use of crushed concrete as the aggregate portion of the CLSM mix is an ideal use of the concrete in this setting. The aggregate sizing (extent of concrete crushing) is a final design consideration but would likely need to be sized at about ¾-inch or smaller for this use. The final design would also have to determine whether the additional cost of crushing concrete to the extent needed for CLSM use remains the most beneficial way to dispose of the concrete. The interior of all the tunnels comprises a total volume of 34,244 CY (PG&E, 2022e); therefore, approximately 22,600 CY of crushed concrete can be used as aggregate in the CLSM.

2.3.16.5 Water

Grading and fill operations are expected to require on the order of 110,000 gallons per day of water. This usage rate is based on the following assumptions:

- four 4,000-gallon water trucks, each refilling once every 90 minutes over a 10-hour workday.
- one water truck dedicated to the borrow source, one truck dedicated to each of the two fill placement locations, and one truck dedicated to haul roads.
- daily water demands would vary with daily variations in weather conditions such as temperature, wind, humidity, and precipitation.

2.3.16.6 Fill Production Rates

The site and borrow source logistics along with performance handbooks for heavy equipment, safety, and construction quality control requirements suggest that a production rate on the order of 4,000 CY per day is likely for the borrow source excavation and engineered fill placement. This translates to 160 truckloads per day using 40-ton articulated haul trucks, all on site. This

estimated production rate is based on two loading operations within the borrow source, each excavator loading 8 to 10 trucks per hour, and two areas receiving and placing this material as engineered fill. Certain focused operations are assumed to be completed at lower production rates (i.e., 2,000 CY per day).

2.3.17 Stormwater Management

Under Clean Water Act Section 402 (33 USC Section 1251 et seq.), the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the US. The State Water Resources Control Board (SWRCB) administers the NPDES permit program in California. Projects that disturb one or more acres of soil are required to obtain coverage under the State NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit [CGP] Order 2009-009-DWQ). This permit includes clearing, grading, and disturbances to ground such as stockpiling or excavation, but not regular maintenance activities performed to restore the original line, grade, or capacity of a facility. A SWPPP must be developed and implemented for each project covered by the CGP. The SWPPP must include best management practices (BMPs) that are designed to reduce potential impacts to surface water quality during project construction and operation.

DCPP currently maintains stormwater permit coverage under the State of California's Industrial General Permit (IGP) program (Waste Discharge Identification [WDID] No. 3 40I018248). PG&E anticipates that soon after power generation activities cease in August 2025, the DCPP site's Standard Industrial Classification code would be reclassified to a code related to environmental cleanup/remediation. Additionally, PG&E would apply for coverage under the State's NPDES CGP which would supersede the IGP coverage. As a result, the DCPP site would no longer be required to maintain IGP coverage.

During Phase 1 activities, PG&E anticipates that most stormwater management activities would include temporary erosion and sediment controls to control run-on and run-off from building demolition and grading activities. As noted in Section 2.3.9, *Building Demolition*, any runoff from building demolition dust suppression measures would be captured by a GWTS prior to release (PG&E, 2021d – PD-7). Treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. PG&E would also prepare a SWPPP and submit the required permit registration documents, which includes a Notice of Intent and certification by a Legally Responsible Person. The SWPPP would define the requirements for periodic monitoring, inspections, and stormwater sampling, retention of monitoring records, reporting of incidences of noncompliance, and submittal of annual compliance reports. Additionally, the SWPPP would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements.

After Project approval and prior to the start of decommissioning activities, PG&E would prepare and implement the SWPPP. As described above, the SWPPP would specify erosion and sediment controls to minimize construction impacts on surface water quality. The SWPPP would be designed specifically for the hydrologic setting of the DCPP site (e.g., surface topography, storm drain configuration, etc.). Implementation of the SWPPP would help stabilize graded areas and reduce erosion and sedimentation. BMPs would also be implemented to reduce exposure of construction materials (e.g., paint, oil, grease, etc.) and wastes (e.g., soil, contaminated building

demolition debris, etc.) to stormwater. BMPs would be installed following manufacturers' specifications and according to standard industry practice.

Identified erosion and sediment control measures would be installed prior to the start of construction activities and would be inspected and improved as needed as required by the CGP.

2.3.18 Spent Nuclear Fuel and Greater Than Class C/Low-Level Radioactive Waste Management/Storage

After permanent shutdown, a total of 1,261 SNF assemblies from Unit 1 and 1,281 SNF assemblies from Unit 2 would be stored in the SFPs (2,542 total). These assemblies would be transferred to the ISFSI from approximately 2025 through 2029. A total of 58 canisters of SNF are already stored at the ISFSI, with each canister packed in its own storage cask. This existing inventory at the ISFSI would remain unchanged until the SNF is transferred to the ISFSI as described above. Once all transfers of SNF have been made to the ISFSI, the SNF stored at the ISFSI would require long-term management.

LLRW with radionuclide concentrations that exceed the NRC limits for Class C waste is called GTCC waste (e.g., reactor internals, process waste). For the Proposed Project, GTCC waste inventory includes legacy GTCC waste that has been generated throughout normal operation of the DCPP units, and GTCC waste that would be generated during RPV internals segmentation. Currently, there is no off-site facility licensed for disposal of GTCC waste, nor are there any federal disposal facilities licensed to receive GTCC waste. Therefore, all GTCC waste must be packaged and stored at the site at which the waste was generated (i.e., the DCPP site). Storage of GTCC waste requires both canisters and a storage location to comply with specific NRC regulatory requirements for this type of material. Typically, GTCC waste is placed into casks like those used for SNF dry cask storage and, in some cases, stored with the spent fuel casks at the ISFSI. However, the ISFSI site-specific license SNM-2511 does not include GTCC waste material as part of the allowed contents of the ISFSI.

The plan is for the GTCC waste generated during DCPP decommissioning to be removed, sized, placed in casks similar to the new casks and module design to be used at the ISFSI (or an NRC approved alternative), and stored on site until it is transferred to the DOE. It would be stored at a facility (referred to as the GTCC Waste Storage Facility) to be constructed on the east end of Parcel P in the East Canyon Area. The site is located directly east of the 500 kV switchyard and approximately 1,500 feet east of the existing ISFSI (see Figures 2-2 and 2-9). This area was selected for storage of the GTCC waste because it is a previously disturbed site, relatively close to the existing ISFSI, and has adequate space to accommodate the footprint of the waste storage facility away from most workers.

The existing GTCC legacy waste currently stored in the SFPs would continue to be stored in the SFPs until it is loaded in storage canisters and transferred to the new on-site GTCC Waste Storage Facility. The RPV internals GTCC waste would be immediately transferred to the GTCC Waste Storage Facility after it is generated and loaded into storage containers as part of RPV internals segmentation (see Section 2.3.10). Once all transfers of GTCC waste have been made to the GTCC Waste Storage Facility, the casks would require management at the GTCC Waste Storage Facility.

2.3.19 Decommissioning Waste Transportation and Disposal

2.3.19.1 Disposal Sites

The issuance of Executive Order D-62-02, issued on September 13, 2002, by then Governor Gray Davis, effectively prohibits depositing "decommissioned materials" into California Class III landfills until an assessment of the public health and environmental safety risks associated with the disposal of decommissioned materials had been completed. As a result of this Executive Order, potential out of state disposal locations are identified below:

- LLRW 20.2002 Waste: Three facilities exist capable of accepting this classification of waste, including Energy Solutions in Clive, Utah; WCS in Andrews, Texas; and US Ecology in Idaho.
- Class A LLRW: Currently only two facilities exist that would most likely accept DCPP Class A waste. Most of the Class A waste is anticipated to be shipped to Clive, Utah, which is approximately 825 miles from the DCPP site. Some of the Class A waste generated during RPV and internals dismantlement activities would be shipped to Andrews, Texas, which is approximately 1,300 miles away.
- Class B/C: The facility in Andrews, Texas is the only site available to accept this waste.
- Non-radiological waste: Currently, La Paz County Landfill in La Paz, Arizona or the Columbia Gorge Landfill (there are five landfills in this area) in Boardman, Oregon are the most likely candidates to receive the non-detect (i.e., below detectible limits) general debris because (1) of its proximity to the DCPP site (510 miles) and (2) its ability to accept the general debris via rail.
- Recyclable metals: Separable recyclable metals would be trucked to the Port of Long Beach or shipped directly to a major recycling facility in Salt Lake City, Utah. This is the closest end-point recycling facility to DCPP at approximately 840 miles away.
- Recycled concrete: Clean concrete would be reused on site as discussed in Section 2.3.16.3.

2.3.19.2 Waste Transportation

A "blended" approach using ocean barging, trucking, and rail transport would be utilized to transport waste material from the DCPP site to the appropriate facilities during decommissioning, as described below (PG&E, 2021b – Trans-5). This approach was informed by a Transportation Plan completed in 2018 by PG&E along with a Barge Transport Study completed in 2021 by US Ecology. These efforts evaluated various transportation options, including barging and trucking methods, end destination facilities, waste packaging options, and truck to rail locations. The overall transportation approach includes the following features:

- Maximize the use of ocean transport by barge to reduce truck trips through the local community
- Storage of waste generated during the initial periods of decommissioning for shipment during high-volume generation periods, thereby further reducing land transport and maximizing the use of barges
- Transport of large volumes of demolition waste by barge in a short period of time to support Power Block Demolition

- Truck to rail transport of Class A, B, and C LLRW
- Optimized barge transport routes and packaging.

Packaging and logistics associated with the transport of high-level radioactive waste and SNF is jointly overseen by the NRC and US Department of Transportation (DOT). Class A, B, and C LLRW packaging and logistics is regulated by DOT. For additional information, see Sections 2.3.10 and 2.3.11, as well as Appendix G2 and Appendix G5. Additionally, for barge transport the requirements of 33 CFR Part 160 (Ports and Waterways Safety) and 33 CFR Part 83.10 (Traffic Separation Schemes) would be followed (see Appendix C).

Rail Transportation. In selecting suitable rail transloading facilities, the viability of the Coast Line was evaluated. The line is utilized by Amtrak and by Union Pacific to serve coastal communities and industries. In addition, alternate railyards were investigated both locally and on the main Union Pacific north/south "Interstate 5 Corridor" line transiting Bakersfield.

PG&E evaluated suitable rail properties based on the following general criteria:

- A secure, privately-owned railyard in an area with appropriate zoning, preferably heavy industrial
- Access for trucks arriving from DCPP
- Access to the main UPRR north/south line with frequent UPRR switches
- Sufficient available space to accommodate loading structures (i.e., gantry crane) and office trailers on site
- Ability to accommodate LLRW shipments.

The SMVR-SB site was identified as the preferred locations because of the following:

- Has a UPRR mainline switch
- Generally compatible surrounding uses
- Ability to switch railcars 7 days-week
- Repair and maintenance facilities for railcar repairs as needed.

Three Central Valley rail loading locations were previously evaluated: (1) Huron, (2) Buttonwillow, and (3) South Kern Industrial Center. Key disadvantages with these locations/facilities include longer trucking distances (over 100 miles for each one) with potential lane closures.

Standard Direct Truck. Waste would be loaded in sealed 20-foot intermodal containers and placed onto chassis-type trailers to be towed by standard semi-truck. All loads would comply with applicable weights and emissions regulations for this type of equipment.

Truck to Rail. Waste would be loaded similar to Standard Direct Truck method described above and transported to the identified rail site(s). Containers would be loaded directly onto rail cars and transported to disposal facilities. Waste shipments loaded onto rail cars would be completed in a regulatory-compliant manner to ensure emission regulations and weight restrictions (bridges or otherwise) are not exceeded along the route to the disposal facility (PG&E, 2021b – Trans-6).

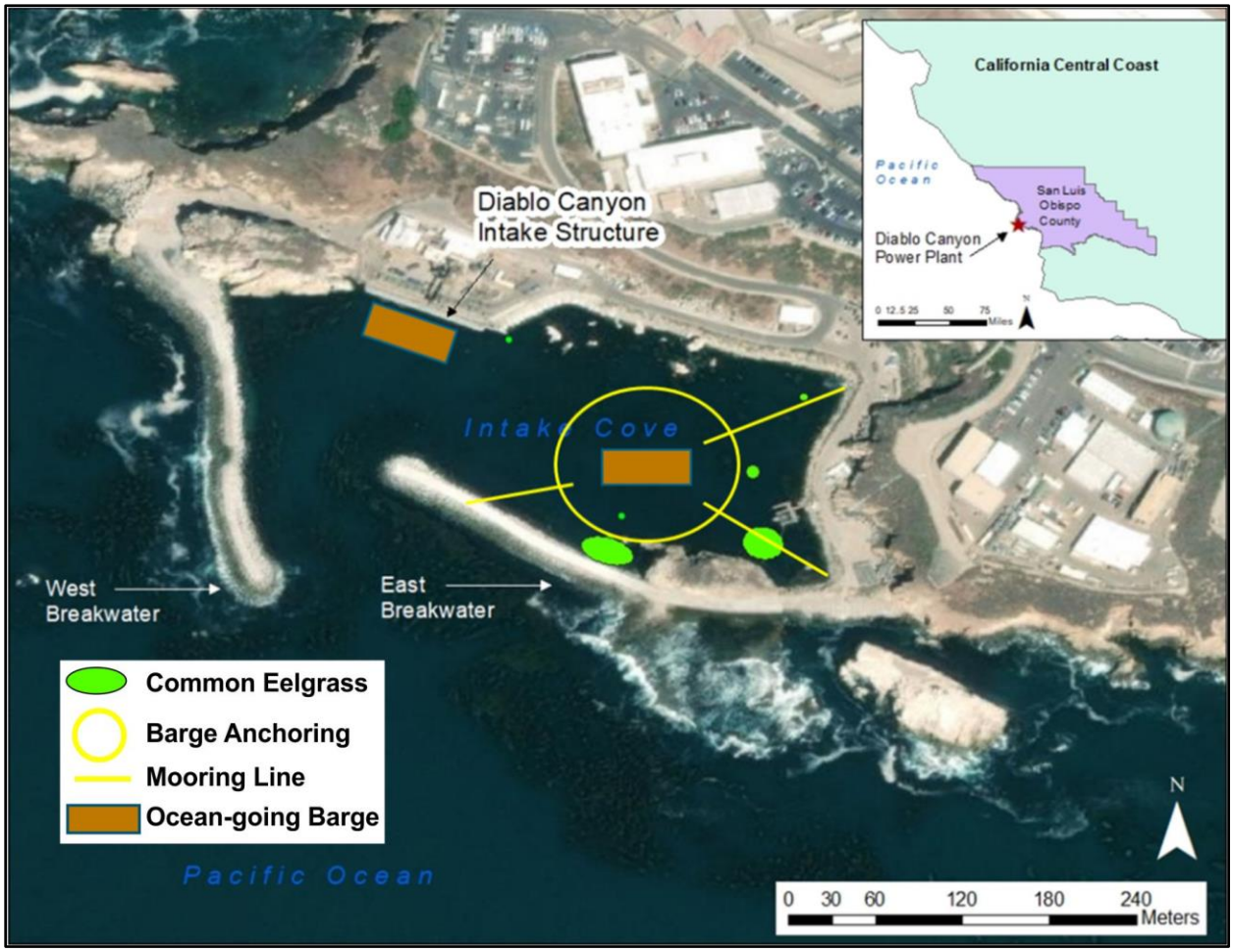
Specialty Heavy-Haul Transport Vehicle. Specific configurations and equipment would vary depending on the exact load being transported. For these oversized loads the California Legal Dual Lane Transporter is a 12 line (axle), 20-foot-width trailer with a Prime Mover (engine) at the front and rear of the trailer. The overall length of the transport would be approximately 200 feet.

The 12 lines (axles) on the trailer spread the load to meet US Department of Transportation requirements. These loads would be permitted and classified as oversize and over-height loads. The transporter would travel piloted by a Forward Pilot Car and a Rear Pilot car in addition to a support crew with extra tires, sanitary facility, and miscellaneous support needs. In addition, California Highway Patrol would escort the transporter during all movements in California. Due to the width of the specialty heavy-haul transport vehicle, lane closures may be required on certain roads. As noted in Table 2-7, a maximum of 79 specialty heavy-haul transport vehicle trips would be required to transport Large Component Class A Waste or RPV/RVI Class A/B/C Irradiated metal to the SMVR-SB site or to Utah or Texas for disposal.

- **Barges** would be moored directly to the Intake Structure and materials loaded via a crane off the Intake Structure. Waste transported by barge would be loaded into sealed 20-foot inter-modal containers and placed onto a pair of 72-foot-wide by 260-foot-long barges. This pair of barges would be transported to either Portland or Boardman, Oregon for offloading (see Tables 2-6 and 2-7). The tugs used would vary by use but are assumed to fall into the following three categories (PG&E, 2021b – GC-2):
- **Ocean going tugs** with the horsepower to move two loaded barges through normal ocean conditions at the most efficient and economical pace. Typically, this would be a 6,000 or greater horsepower unit.
- **River tugs** with the maneuverability to transport two loaded barges up the Columbia River. These tugs require greater maneuverability for river conditions, are “push-style” tugs rather than ocean-going tugs, with lower horsepower and specifically sized to accommodate the Columbia River locks. Typically, these would be 3,000-4,000 horsepower units.
- **Spotting tugs** would be used to bring empty and full barges in and out of the Intake Cove. These tugs are smaller, highly maneuverable, and better suited for handling the confined space of the Intake Cove.

Loading waste containers from the Intake Structure to an ocean transport barge would take approximately four (4) days. For each loading cycle (approximately 27 loading cycles total), two empty barges would be stored at an offshore mooring in Avila Bay/Port San Luis for approximately one to two weeks and transported to the Intake Cove when sufficient waste containers are filled and ready for loading. One barge would be moved to the face of the Intake Cove by a tug and secured to the Intake Structure bumpering system for loading. Once the barge is full it would be moved over to the anchoring location in the southwest corner of the Intake Cove (Figure 2-31) and secured through three mooring lines. At this point, the second barge would be brought to the loading area on the Intake Structure and loaded with the remaining waste containers. Once filled, the two barges would be tied together and transported by tug to the waste disposal facility in Oregon.

Figure 2-31. Intake Cove Anchoring Locations



Source: Ramboll, 2022 – Figure 1.

It is not expected that a barge would be located in the anchorage location for more than two (2) days during this process. Overall, it is expected that a total of 55 barges would be needed to transport all the waste assigned for Oregon. As all waste would not be packaged and loadable at the same time, it is expected that loading would occur over several years such that there would not be extended periods of time where a barge would be in the anchoring location. No other vessels are expected to be stored in the anchorage location.

Rail and truck transport would be utilized during the transport of highly regulated material, such as Class B and Class C LLRW, and during project timeframes when not enough waste is generated to support large-volume barge shipments. Trucks would travel from the DCPP site via Diablo Canyon Road to Avila Beach Drive, then east on Avila Beach Drive to US-101. Haul trucks travelling to out-of-state disposal sites would use southbound US-101 to State Route 134 to Interstate 210 to Interstate 10 toward the Utah, Arizona, and Texas disposal sites depending on the waste type (PG&E, 2020b). For rail transport, material would be trucked to either the PBR (non-radiological and non-hazardous waste only) or to the SMVR-SB site (see Figure 2-3 and Figures 2-4). For the PBR site, trucks would continue south on US-101 to Pismo Beach, exit Hinds Avenue/Price Canyon Road, northeast on Price Canyon Road, and then east on Bello Street to the PBR site. Trucks delivering shipments to the SMVR-SB site would continue south on US-101 to Santa Maria, exit Betteravia Road, then travel west on Betteravia Road to the SMVR-SB site (PG&E, 2021f).

Similar to the routes used by the out-of-state haul trucks, the trains carrying construction waste away from the rail sites are anticipated to use a similar routing traversing southerly through Santa Barbara, Ventura County, and easterly through Los Angeles, San Bernardino, and Riverside Counties and on to disposal sites out of state (PG&E, 2020b). Rail cars leaving the SMVR-SB site would travel northwest to the UPRR interchange connection at the south end of the City of Guadalupe at which point the ultimate route would be determined by UPRR (PG&E, 2021f; PG&E, 2021g). The PBR site contains a rail spur off the UPRR Coast mainline with an existing switch. Rail cars leaving the PBR site would utilize the rail spur at the site to connect directly with the UPRR Coast mainline. Again, the ultimate route would be determined by UPRR.

It is anticipated that as trucks containing waste arrive at the railyard, waste would be transferred to railcars until the railcars are full, at which point the railcars would be transported from the railyard to the UPRR main line connection. Once the railcars arrive at UPRR, it is assumed they would be added to scheduled trains with similar destinations (i.e., Utah or Texas). The amount of time the railcars spend at the railyard depends on how frequently trucks arrive at the railyard to fill a railcar and a full railcar is loaded for transport to UPRR. The amount of time spent at UPRR depends on how frequently trains with similar destinations are scheduled to pass through or depart from UPRR.

Some material would be shipped by truck or heavy haul transporter directly to the disposal facilities due to either the size, waste type, packaging needs, or if the disposal facility does not have a rail spur. Examples of material to be shipped directly by truck or heavy haul transporter include large components, some RPV and internals waste, and other regulated material. All trucks would be compliant with California's "clean idle" regulations.

Trucking of waste from the DCPP site would occur during non-peak periods to minimize traffic-related impacts to the neighboring communities.

2.3.19.3 Decommissioning Waste Volumes

Waste generated by the Project would be disposed of in compliance with all applicable regulations. This process would require establishment and operation of on-site waste material handling areas, transportation options and routes, and the management and disposal of various decommissioning waste streams. The categories of wastes generated by the Project include the following:

- LLRW
- Low-Activity Radioactive Waste
- Mixed radioactive waste
- Liquid radioactive waste (LRW)
- Dry activated waste
- Radiologically contaminated soil and soil-like materials
- Universal waste
- Any waste containing polychlorinated biphenyl
- Treated wood wastes
- Non-detect concrete
- Non-detect ferrous and non-ferrous metal
- Non-detect general debris
- Other regulated waste
- Lead waste, contaminated and non-detect

Estimates of the various waste types and weights, mode of transportation, destination, and time period for transport are shown in Tables 2-7 and 2-8. Period 1B overlaps with Phase 1 (2024-2031) and Phase 2 (2032-2039). A portion of the trips during the period 2030-2033 (Period 1B)

would likely extend into Phase 2; however, as a worst-case for Phase 1, PG&E assumed all (100%) the waste transportation trips in Period 1B would occur in Phase 1.

Table 2-7. Waste Transportation Trips Per Period

		Number of Round Trips per Period		
		Phase 1		Phase 2 [2]
Mode of Transport by Waste Classification	**Destination**	**Period 1A 2024-2029**	**Period 1B 2030-2033**	**Period 2 2034-2035**
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada	257	—	20
Class B/C Waste via Direct Truck	Waste Control Specialists in Andrews, Texas	10	—	—
RPV/RVI Class A/B/C Irradiated Metal via Direct Truck	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	57	1	—
Recyclable Metals via Direct Truck	Port of Long Beach or Salt Lake City, Utah	—	—	42
Class A Waste via Direct Truck	Energy Solutions, Clive, Utah	—	4	0
Clean Debris and Soil via Direct Truck	La Paz, Arizona			60
SUBTOTAL VIA DIRECT TRUCK		*324*	*5*	*122*
Large Component Class A Waste via Direct Truck or Truck to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists, Andrews, Texas	20 [1]	—	—
Large Component Class A Waste via Direct Specialty Transport Vehicle or to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	42 [1]	—	—
RPV/RVI Class A/B/C Irradiated Metal via Heavy Haul to SMVR	DCPP to SMVR to Waste Control Specialists in Andrews, Texas	37 [1]	—	—
SUBTOTAL VIA TRUCK OR RAIL		*99* [1]	*0*	*0*
Various Waste Types via Barge to Northwest	Portland and Boardman, Oregon, for offload	—	55 [3, 4]	—

Source: PG&E, 2021a – Table 2.3.20-1.

Acronyms: SMVR = Santa Maria Valley Railyard, RPV = reactor pressure vessel, RVI = reactor vessel internals

[1] A maximum of 99 truck trips totaling approximately 8,300 tons would occur to the SMVR-SB site, which translates to approximately 83 railcars to be sent out of state by linking up with existing UPRR trains between 2024-2029 (Period 1A).

[2] Additional approximately 1,760 truck trips are required in Phase 2 to import 34,995 cubic yards of topsoil for the Firing Range (PG&E, 2022b – Enclosure 1, Enclosure 2 – Table 3). Assumes 20 CY of amendment per truck trip (assumes use of a tracker trailer end dump [a.k.a. dump trailer] or Super Dump Truck, which can hold up to 36 CY with high side walls).

[3] The total estimated barge round trips is presented; however, each tugboat for waste transport is assumed to pull two barges (one behind the other); therefore, the actual roundtrips would be 28 or 56 one-way trips.

[4] Up to 15 barge round trips (1 tug per barge) would be used to transport gravel from the Port of Long Beach to fill the Discharge Structure cofferdam and another 3 barge round trips (1 tug per barge) to bring quarry rock from Santa Catalina Island; these are not part of waste transport (see Section 2.3.14, *Discharge Structure Removal*, and Table 2-5).

Table 2-8. Waste Transportation Tons Per Period

Mode of Transport by Waste Classification	Destination	Tons of Waste per Period		
		Phase 1		Phase 2
		Period 1A 2024-2029	Period 1B 2030-2033	Period 2 2034-2035
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada	5,124	—	—
Class B/C Waste via Direct Truck [1]	Waste Control Specialists in Andrews, Texas	1,140 ft^3	—	—
RPV/RVI Class A/B/C Irradiated Metal via Direct Truck	Energy Solutions in Clive, Utah, or Waste Control Specialists in Andrews, Texas	507	10	—
Recyclable Metal via Direct Truck	Port of Long Beach or Salt Lake City, Utah	—	—	823
Class A waste via Direct Truck	Energy Solutions, Clive, Utah	—	74	0
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada			395
Large Component Class A Waste via Direct Truck or Specialty Transport Vehicle or to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	7,760	—	—
RPV/RVI class A/B/C Irradiated Metal via Direct Heavy Haul or Heavy Haul to SMVR	DCPP to SMVR to Waste Control Specialists in Andrews, Texas	513	—	—
Hazardous/Regulated Waste via Barge to Boardman	Offloaded in Boardman, OR disposal at US Ecology Idaho	—	19,594	—
Class A Waste via Barge to Boardman	Offloaded in Boardman, OR disposal at Energy Solutions Clive, Utah	—	103,118	—
LARW 20.2002 via Barge to Boardman	Offloaded in Boardman disposal at US Ecology Idaho	—	256,920	—
Recyclable Material via Barge	Offloaded in Portland, OR	—	105,144	—
Clean Material via Barge to Boardman	Columbia Gorge Landfill [2]	—	12,223	—

Source: PG&E, 2021a – Table 2.3.20-2.

Acronyms: LARW = Low Activity Radioactive Waste, SMVR = Santa Maria Valley Railyard, RPV = reactor pressure vessel, RVI = reactor vessel internals

[1] Class B/C bulk waste is categorized in ft^3 instead of tons because this material is shipped in small reusable casks where volume is the appropriate unit of measure and not weight.

[2] There are five landfills in the Columbia Gorge area; waste could be transported to one or multiple landfills in the area.

Of the wastes listed above, the non-radiological and non-hazardous wastes that could be transported out of state via the PBR are shown in Table 2-9. As noted earlier, PBR is a backup or contingency site.

Table 2-9. Wastes That Could Be Transported Via Pismo Beach Railyard

Mode of Transport by Waste Classification	Destination	Tons of Waste	Truck Trips (Phase)
Recyclable Material via Barge	Offload in Portland	108,020	5,401 (Phase 1)
Clean Material via Barge to Boardman	Columbia Gorge Landfill	13,407	671 (Phase 1)
Recyclable Metal via Direct Truck	Port of Long Beach or Salt Lake City, Utah	642	42 (Phase 2)

Source: PG&E, 2021a – Table 2.3.20-3.

While most of this material would be disposed of as waste, an effort would be undertaken to recycle as much material as practical.

2.3.20 Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste

DCPP uses a Cooling Water System (CWS) and Auxiliary Salt Water System (ASWS), whereby, pursuant to PG&E's existing CSLC lease, seawater is withdrawn from the Pacific Ocean through a shoreline Intake Structure and discharged back to the Pacific Ocean at a second, separate, shoreline location. DCPP utilizes a once-through cooling (OTC) water system for DCPP operations to cool plant components. Total OTC flow during routine full power operations is 1,772,000 gallons per minute (gpm), equivalent to 2.55 billion gallons of seawater circulated per day. Ambient temperature seawater is pumped through heat exchanging steam condensers located in DCPP's turbine building. Each DCPP unit utilizes an independent cooling system; however, the systems share common intake and discharge facilities located on the lands leased from the CSLC.

Following transfer of waste heat, the warmed seawater is discharged back into the Pacific Ocean through the discharge channel located at Diablo Cove. Condensed water on the secondary side is recirculated to DCPP's steam generators and flashed back to turbine steam. The CWS removes the heat rejected from the main condensers. The ASWS removes waste heat under normal and emergency conditions from the nuclear steam supply system. The ASWS is also used to remove heat from the SFPs and to dilute LRW.

The Intake Structure also supplies feed water for DCPP's seawater reverse osmosis (SWRO) treatment unit, which provides the majority of freshwater for plant primary and secondary systems makeup, fire protection system source water, and plant domestic water system supply. The reverse osmosis treatment unit has the capacity to produce 450 gpm of freshwater.

Following shutdown of DCPP, only the ASWS and SWRO supply will be in operation, which will represent a 90 percent reduction in ocean flow. PG&E plans to use similar areas for ocean intake and wastewater discharges as used for existing DCPP operations (see Figure 2-32). The water management approach for decommissioning is based on the approved National Pollutant Discharge Elimination System (NPDES) permit issued for DCPP power operations (Order No. 90-09, NPDES No. CA0003751).

SWRO System Discharge. For freshwater production, the following discharge points would be used (see Figure 2-32):

- Discharge Point 001 – Discharge Point 001 is the approved discharge point at the Discharge Structure. This is the primary discharge point for the DCPP. Discharge Points 001B and 001D,

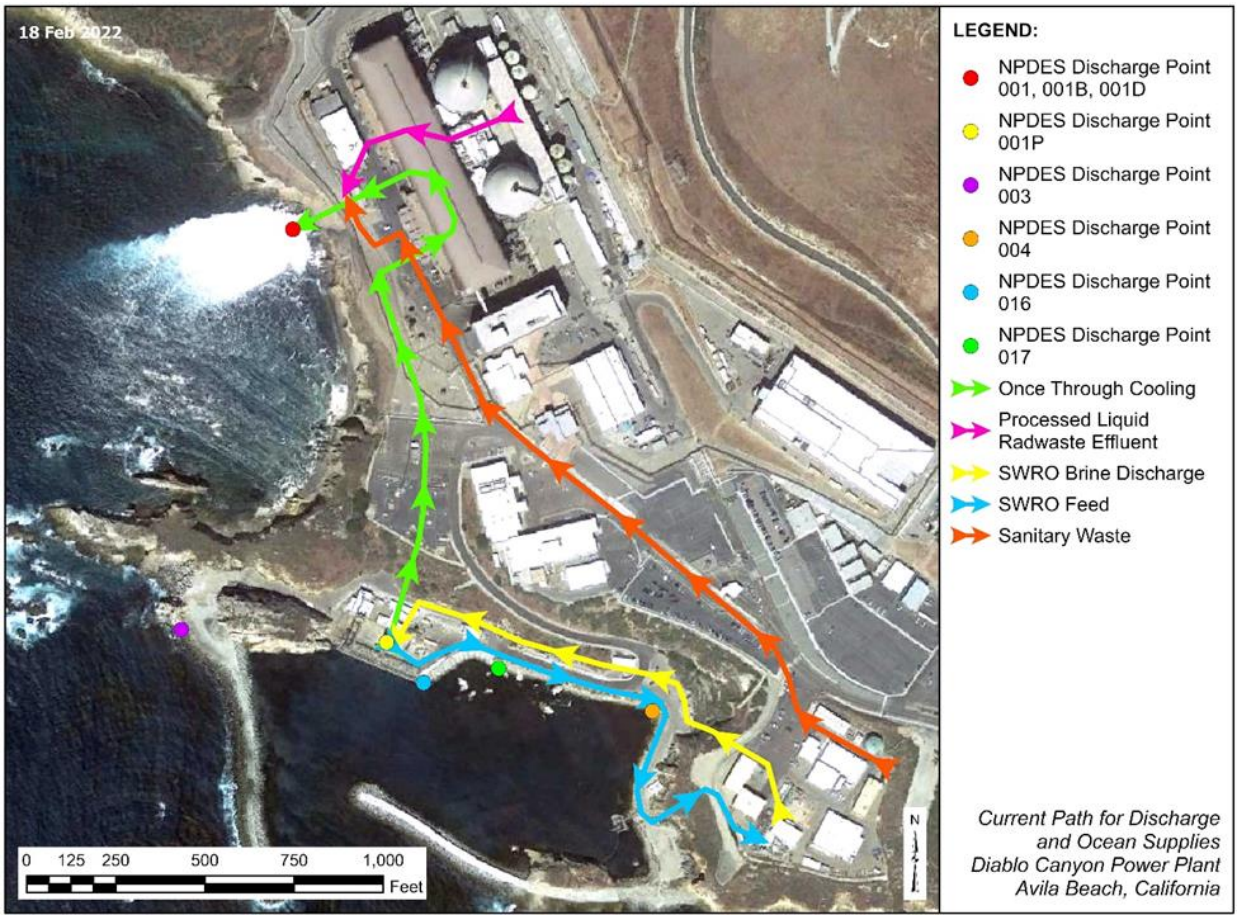
which are identified in NPDES CAA0003571, are located internally to the DCPP. The waste streams are comingled as discharged at Discharge Point 001.

- Discharge Point 001P (within Intake Structure) – This point currently discharges to the suction of the auxiliary saltwater system, which allows for the brine to mix in with the sea water as it gets drawn into the auxiliary saltwater pumps prior to the effluent discharge through Discharge Point 001. During the period of redirected flow, Discharge Point 001P would no longer be used as the brine discharge point. Once a cofferdam is placed in front of the Discharge Structure and following subsequent removal of the structure, discharges to Discharge Point 001 would continue by installing a series of pipes to divert flow beyond the cofferdam within Diablo Cove. Under this configuration, brine would be discharged from the SWRO via the above-ground pipe.
- Discharge Point 003 – Solid material from the ocean is washed from traveling screens at the Intake Structure, collected in a collection pit, and removed for land disposal. The screen wash water and material passing through the collection pit screen are pumped back to the ocean at this intake screen wash discharge point. Discharge Point 003 will continue to be used in its current function.
- Discharge Point 004 – The SWRO facility receives water from the biolab pumps located in the Intake Structure. Excess seawater that cannot be used by the SWRO facility overflows through a pipe and is discharged back to the intake cove through Discharge Point 004. This point would continue as an excess ocean water drainage point.
- Discharge Point 016 – This discharge point allows for removal of accumulated rainwater and seawater from the seawater supply valve box. Discharge Point 016 would continue to be used in its current function.
- Discharge Point 017 – This is currently identified as a discharge point to support draining and maintaining the brine line. Discharge Point 017 would continue to be used in its current function.

Immediately following shutdown, cooling for the SNF stored in the SFPs would continue to be provided. In addition, freshwater production and wastewater disposal would need to continue to support decommissioning activities through Phase 1 (2031). Existing plant equipment would be used as much as practical while the site transitions into decommissioning. During this time, PG&E plans to discharge the remaining wastewater inventories from plant operations that are not needed in decommissioning.

While the auxiliary saltwater cooling system is in operation during decommissioning, it would also provide the necessary volume to dilute effluents received from the SWRO and liquid radiological waste treatment system. Furthermore, this flow stream would receive effluents from other waste streams, which include processed sanitary waste, makeup water pretreatment system, non-radiological water from plant systems, processed water from the oily water separator, and water from the firewater system.

Figure 2-32. Current Path/Period of Reduced Once-through Cooling for Discharge and Ocean Intake

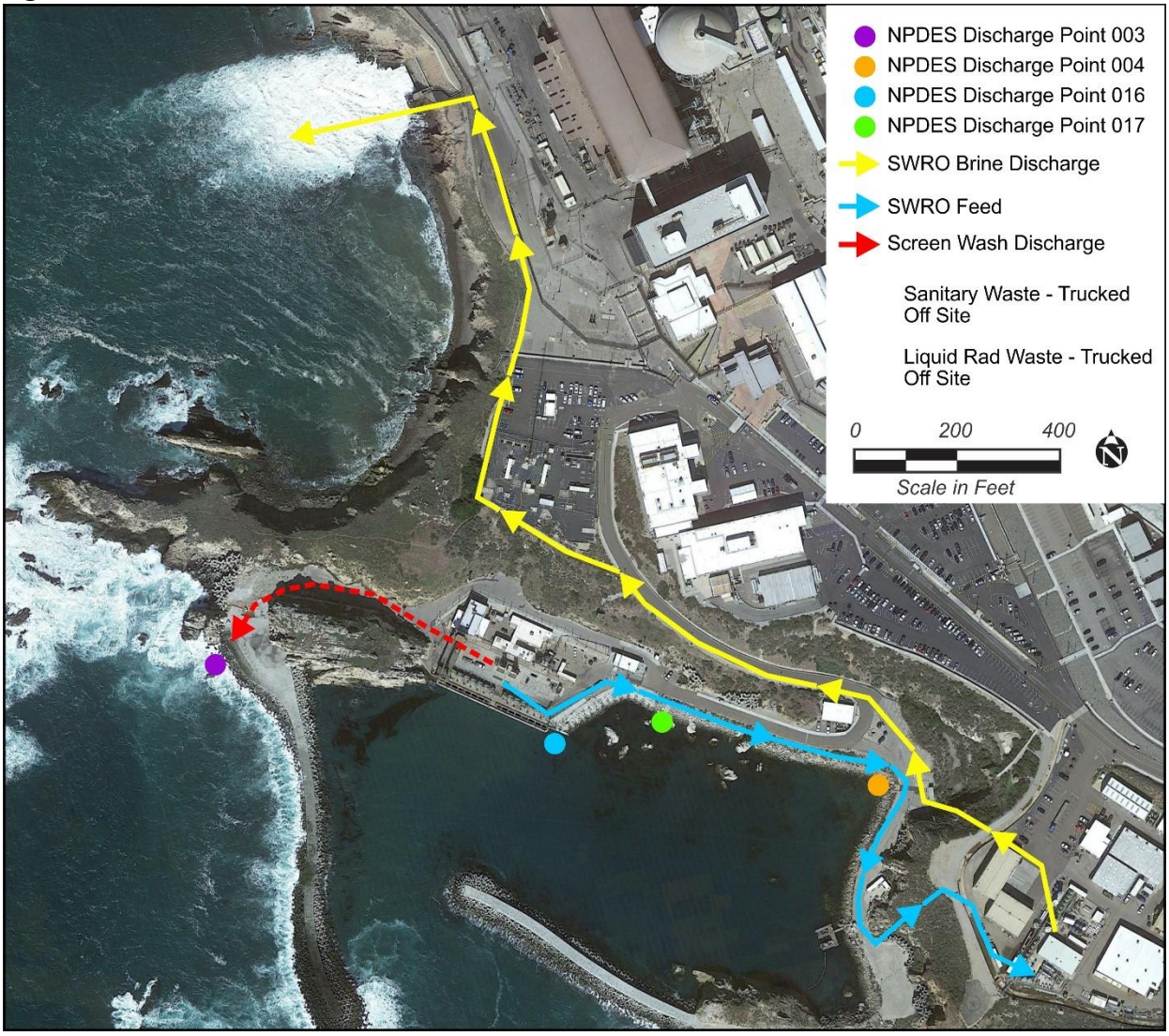


Source: PG&E, 2021e – PD-8/Appendix E, revised Figure 2.3.21-1.

As noted in Section 2.3.14, a cofferdam would be installed prior to demolition of the Discharge Structure. To facilitate brine discharges from the SWRO while the cofferdam is in place, a temporary PVC pipe approximately 8-10 inches in diameter would be installed aboveground from the SWRO to Diablo Cove; the pipe would be placed underground at road crossings, as necessary. The pipe would be anchored to the bluff after it exits the SWRO and extend to the Discharge Structure, over or adjacent to the cofferdam (when cofferdam is installed), and then continue for a distance within Diablo Cove. A diffuser is anticipated to be installed at the end of the pipe. Figure 2-33 shows the general alignment of the aboveground pipe and the flow path during the period of redirected flow, which starts prior to removal of the Discharge Structure and through 2034.

To support the Period of Redirected Flow, PG&E would need to obtain either an amendment to NPDES No. CA0003571 or a new NPDES permit. This period starts prior to removal of the Discharge Structure (~2028) and concludes when the SWRO is no longer in operation (end of 2034).

Figure 2-33. Period of Redirected Flow



Liquid Radiological Waste Effluent System Discharge. After all the SNF has been transferred from the SFPs to the ISFSI (2029), the primary systems, including the SFPs, can be dismantled. The primary system dismantling process would generate LRW, which requires dilution via the ASWS prior to disposal. LRW would continue to be produced for a while after all the SNF has been transferred from the SFPs.

In the early stages of decommissioning, much of this inventory would be collected, processed, and monitored by the existing plant equipment. While the auxiliary saltwater pumps are in operation, systems containing LRW would be drained to the LRW processing system to be filtered and diluted, discharged through currently identified Discharge Point 001D, and then flow into the ocean through Discharge Point 001B. The levels of radioactive material that can be filtered out would be below the levels currently established. Because tritium cannot be removed through conventional treatment methods, the availability of a dilution source (i.e., the auxiliary saltwater system) is required to dilute the tritium concentration in the effluent prior to discharge.

Sanitary Wastewater Discharge. The last major source of wastewater discharge would be through the sanitary wastewater treatment plant. This plant would continue to be used to maximize the use of existing infrastructure and would support the decommissioning office building (see Figures 2-8 and 2-9). As the number of personnel decreases and site infrastructure is removed, this sanitary wastewater treatment plant would be removed and replaced at the end of Phase 1 (2031) with portable toilets (temporary during construction) with waste trucked off site. To support the revised OCA. the existing septic system located in the East Canyon Area would be upgraded, or a new septic system established to ensure consistency with County ordinances and Regional Water Quality Control Board requirements, as appropriate (see Section 2.3.3).

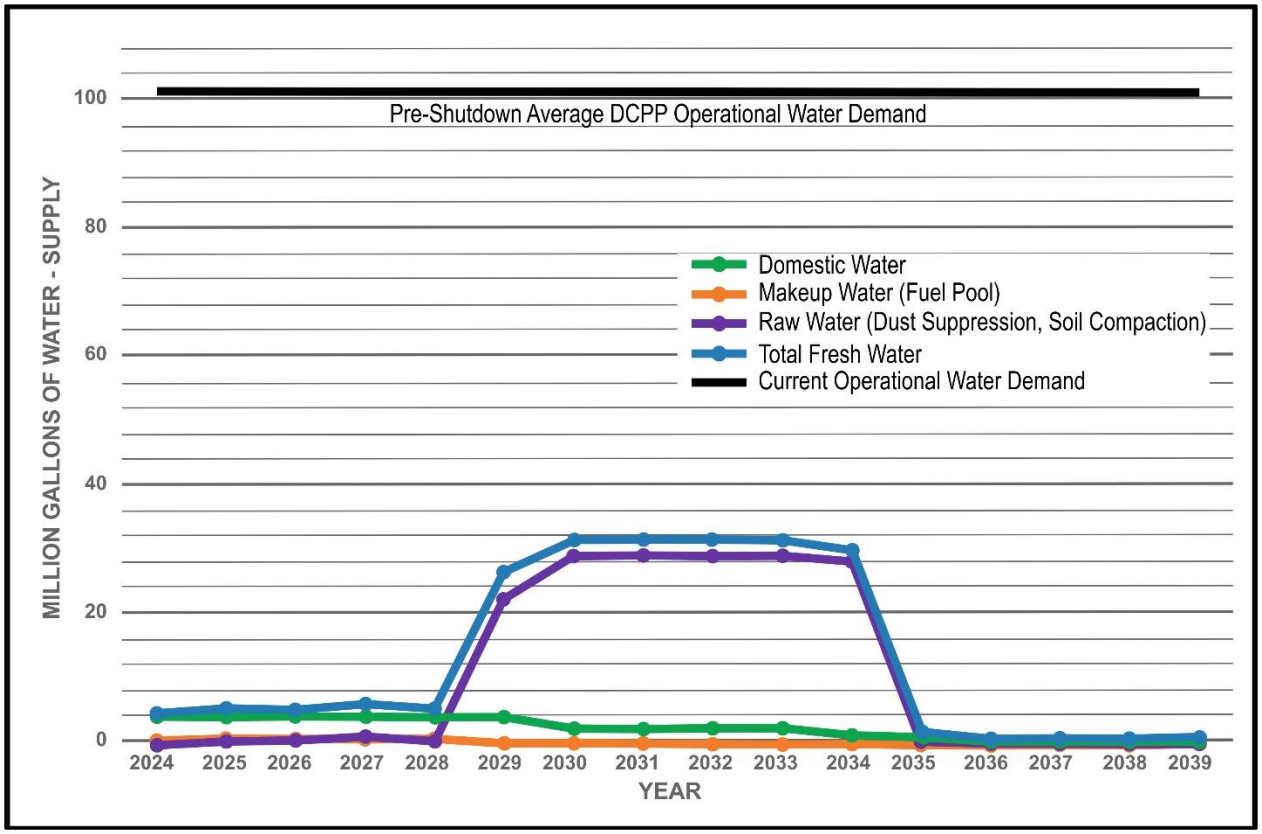
Freshwater Production. SWRO is the primary source of onsite water and Well #2 (deep groundwater well) is the secondary source of water during DCPP operations, and they would continue to be the primary source and secondary source of onsite water during the majority of DCPP decommissioning. At the end of 2034, the SWRO would shut down, and onsite water needs for decommissioning would be met via groundwater extraction (PG&E, 2022h). As noted above, for current DCPP operations, water demand is met from both SWRO and groundwater (Well #2). Over the past 5 years, the average annual water demand at DCPP has been approximately 101 million gallons, of which 90 million has been for power production and the remaining 11 million has been for domestic water supply. The demand has been met primarily through SWRO with some blending via groundwater from Well #2.

Water demand estimates during decommissioning and restoration includes a 16-year period from 2024 to 2039 (covering Phase 1 and Phase 2) that depict using existing plant equipment (i.e., SWRO through 2034 and Well #2 throughout decommissioning), then on-site groundwater post-2034, when mostly all demolition activities are complete. As noted in Figure 2-34, water demand increases from about 5.5 million gallons in 2028 to approximately 32 million gallons by 2030.[9] This increase in water demand is due to the need for dust control, dilution of waste streams, and watering for site restoration.

Through 2034, water demand would be met primarily via SWRO and augmented via on-site groundwater. Starting in 2035 when the SWRO is no longer in operation, and through post-restoration performance monitoring (2039), water use is projected to decrease and level out at 764,000 gallons per year (maximum 50% would be potable water demand) for completion of the remaining decommissioning activities and vegetation watering (PG&E, 2021e – PD-10). Well #2 has been shown to have adequate capacity to meet this water need; however, additional on-site wells such as Well #5 may be used (PG&E, 2022f; PG&E, 2022h). Post-decommissioning (after 2039), annual water demand for ISFSI and GTCC Waste Storage Facility operations would decrease after completion of decommissioning activities and vegetation water and would level out at approximately 215,000 gallons per year and met through groundwater extraction. Bottled water (i.e., Culligan Water) would continue to be trucked in for drinking purposes as is currently done at the DCPP site (PG&E, 2022h).

[9] During the period 2016 through 2020, the total average annual water demand at the DCPP was 101 million gallons. This consisted of an average annual demand of 90 million gallons for power production and 11 million gallons for domestic water during the 5-year period.

Figure 2-34. Yearly Fresh Water Supply Needs During Decommissioning/ Restoration



Source: PG&E, 2021a – Figure 2.3.21-3.

2.3.21 Soil Remediation

As discussed in Section 2.3.7, an HSA was performed to collect and document existing information regarding the potential for radiological contamination of structures and areas across the DCPP site. The results of this assessment were prepared consistent with industry standards and identified areas of the DCPP site as either "impacted" or "non-impacted." Under the HSA, the entire DCPP site was divided into nine areas, with two of these nine areas identified as "non-impacted" from a radiological standpoint. These non-impacted areas include the North Site Area of approximately 154 acres (625,000 square meters [m^2]) and the South Site Area of approximately 402 acres (1,628,000 m^2). As both areas are non-impacted from a radiological standpoint, no soil remediation is required or planned in these two areas.

The remaining seven areas defined as "impacted" under the HSA include structures or areas with radiological impacts. The radiological areas were further classified according to the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methods.

Using the MARSSIM definitions, areas identified as Class 1 would be subject to remediation, as the current level of radionuclides on structures and/or soil within these areas are above the anticipated Derived Concentration Guideline Level (DCGL) that equate to the NRC-approved site release criteria. While Class 3 areas were identified, the concentration of radionuclides in Class 3 areas are already below the anticipated DCGL values that equate to the NRC-approved site release criteria. As such, remediation of Class 3 areas is not considered.

The preliminary Class 1 areas identified within the HSA constitute approximately 30 acres (121,625 m^2) with a total estimated volume of approximately 15,930 CY. For these Class 1 areas, remediation is assumed to include the removal of hardened surfaces (i.e., asphalt, concrete, etc.) and soil that are characterized with radionuclide concentrations above the DCGLs. Additional site characterization activities would include the collection of soil (surface and subsurface), asphalt, concrete, and sediment samples for additional radiological analysis. The results of these characterization samples would further refine the locations, volumes, and depths of radiological impacts that would be remediated.

Soil remediation activities anticipated to occur in Phase 1, as shown in Figure 2-35, include the following (PG&E, 2021c):

- Existing Firing Range – Chemical remediation
- Power Block (within PA fence line) – Turbine Building, Containment Domes, Transformers, etc.
- Discharge Structure Area – If chemical remediation or radiological remediation is required
- East Canyon Area (Zone 12 in Figure 2-12) – Chemical remediation

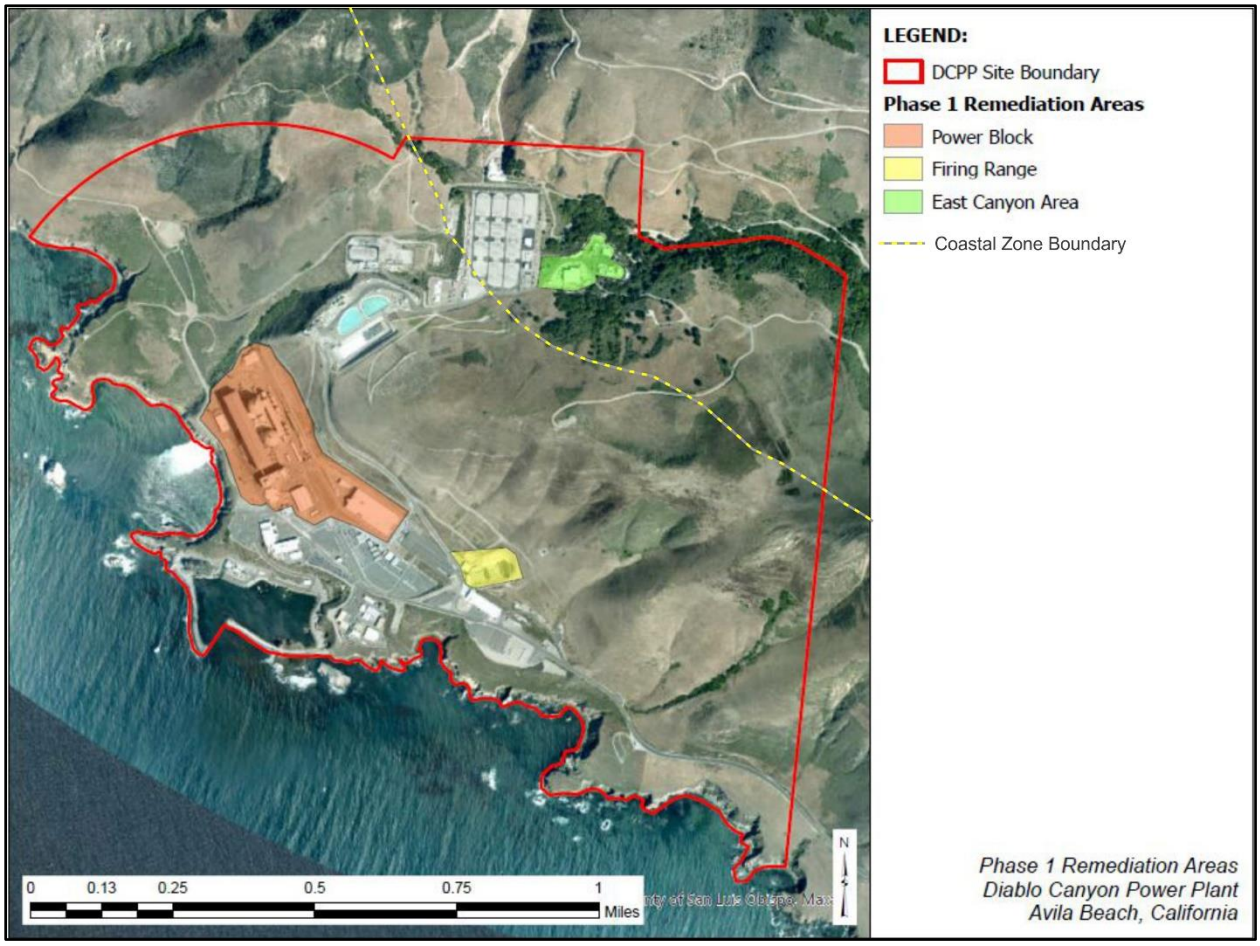
All other areas with the DCPP site requiring soil remediation would be remediated in Phase 2. These areas are to be identified through the SCS, which is expected to be completed in 2024, at which point the areas and level of effort would be determined (PG&E, 2021e – PD-11).

Radiologically contaminated material from remedial activities would be transported and disposed of offsite as radioactive waste as discussed in Section 2.3.19.

The radiological remediation activities may be performed throughout the decommissioning process. For areas within the PA, remediation could commence after adjacent buildings are removed. At a minimum, remediation is anticipated to include physical removal methods with equipment including excavators and backhoes, and articulated equipment with variable tool heads, shovels, and vacuum excavators. During remediation activities, BMPs (such as equipment decontamination) would be implemented to prevent the spread of contamination. Dust control measures would be implemented in the excavation areas, and contaminated material would be segregated and stockpiled under a soil management plan.

After contaminated areas have been remediated, post-remediation sampling would be performed within each area to determine whether radionuclide concentrations on residual surfaces and/or soil are below DCGLs. Remediation performance sampling would be performed through a combination of collecting samples for laboratory analysis, as well as using field surveys and calibrated detectors. If concentrations above the DCGL are identified, the area would be subject to additional remediation activities. Once an area has been successfully remediated below the DCGL values, the area would be turned over to the FSS team to complete sampling. FSS would be completed to confirm that all residual levels of radionuclides at the DCPP site have been decreased to levels below the site-specific DCGLs that equate to the NRC-approved site release criteria. The objective of the surveys is to support the termination of the NRC Part 50 facility operating licenses for Units 1 and 2 (see Section 2.3.22).

Figure 2-35. Phase 1 DCPP Site Remediation Areas



Source: PG&E, 2021e – PD-11/Appendix F.

[1] See Figure 2-28 for the restoration area associated with the Discharge Structure area.

2.3.21.1 Groundwater Remediation

Well #2 is an on-site source of drinking water in addition to the SWRO Facility. Well #2 is located east of the 500 kV switchyard. In accordance with the Nuclear Energy Institute (NEI) 07-07 Groundwater Protection Initiative, tritium monitoring in groundwater at DCPP began in 2006 as part of the Radiological Environmental Monitoring Program (REMP) (PG&E, 2020a). Groundwater is sampled at several on-site wells, including Well #2, to monitor tritium. Results of the REMP are submitted to local, state, and federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.

Based on the groundwater monitoring at the site, tritium has not been identified in Well #2. Tritium has only been identified as a plant-related nuclide in groundwater around the Power Block. The source of tritium has been attributed to recapture of gaseous effluents, which would cease as a source after the plant internals have been drained. Historically, concentrations of tritium in groundwater at DCPP have exceeded the USEPA drinking water standard of 20,000 picocuries per liter (pCi/L). Assuming tritium concentrations in groundwater are above 20,000 pCi/L prior to termination of the NRC Part 50 facility operating license, a long-term groundwater monitoring plan is anticipated to meet requirements under the Memorandum of Understanding,

"Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites" signed between the USEPA and the NRC in 2002. The purpose of the long-term monitoring program would be to demonstrate the attenuation of tritium to levels below 20,000 pCi/L in the DCPP site monitoring wells.

Based on the planned cessation (ending) of the tritium recapture pathway early in the Project, and a historical maximum detection of 64,800 pCi/L of tritium in groundwater, a 5-year groundwater monitoring program is assumed following NRC Part 50 facility operating license termination. A 5-year period is assumed based on the conservative transport properties of tritium, and historical maximum levels that are three times the drinking water standard.

DCPP currently monitors six groundwater wells for analysis in accordance with plant procedures for both chemical and radiological constituents. During completion of the SCS, up to approximately 28 additional temporary monitoring wells may be installed (total number to be determined as part of the SCS) (PG&E, 2021e – PD-9). During the monitoring program, the groundwater monitoring wells, including newly installed wells, would be sampled on a quarterly basis to demonstrate the attenuation of tritium concentrations to levels below 20,000 pCi/L. Groundwater samples would be collected using low flow techniques, with samples analyzed at an offsite laboratory. Semi-annual groundwater monitoring reports would be prepared during the 5-year monitoring program.

The DCPP HSA indicates that known and documented releases have occurred at the three following areas of concern (AOCs) and would likely require remediation.

AOC 5-1: Diesel Underground Storage Tanks (USTs). Although impacted soil was previously remediated when two 50,000-gallon USTs were installed to replace three carbon steel USTs that had leaked, residual soil and potentially groundwater contamination may exist. The location is outside the Unit 1 turbine building buttress.

AOC 5-3: Unit 1 Transformer Yard. A Unit 1 transformer yard and oil water separator is located off the northeast corner of the turbine building and has had documented releases of transformer oils and radionuclide-impacted water to this area. The U-1 oil water separator drains directly north into Diablo Creek. Additionally, fire suppression foam was reportedly applied to extinguish a transformer fire.

Potential chemicals of concern for this AOC include volatile organic compounds, semi-volatile organic compound (polycyclic aromatic hydrocarbons), perfluorooctanoic acids, polychlorinated biphenyls, total petroleum hydrocarbons, and Title 22 metals.

AOC 5-4: Unit 2 Transformer Yard. The Unit 2 transformer yard and oil water separator is located off the southeast corner of the turbine building where it drains to an outlet directly east of the simulator building, and ultimately to the ocean. There have been reports of equipment failures and fires resulting in the release of transformer oils to the ground in this area. Additionally, fire suppression foam was reportedly applied to extinguish a transformer fire in this AOC in 2008.

Potential chemicals of concern for this AOC include volatile organic compounds, semi-volatile organic compound (polycyclic aromatic hydrocarbons), perfluorooctanoic acids, polychlorinated biphenyls, total petroleum hydrocarbons, and Title 22 metals.

2.3.22 Final Status Surveys

Pursuant to NRC requirements, Final Status Surveys (FSS) would be completed at the DCPP site following completion of radiological soil remediation activities in a particular area. The purpose of the survey is to confirm that all residual levels of radionuclides at the DCPP site have been decreased to levels below the site-specific DCGLs that equate to the NRC-approved site release criteria. The objective of the surveys is to support the termination of the NRC Part 50 facility operating licenses for Units 1 and 2. The methodology and approach for completing the FSS is unknown at this time and would not be determined until the SCS (see Section 2.3.7) is completed (PG&E, 2021b – GC-3).

2.3.23 Site Conditions at End of Phase 1

Following completion of Phase 1 activities, which is expected to occur by 2031, the DCPP Unit 1 and Unit 2 areas would be decommissioned and most of the other above-grade structures and some below-grade structures that would not be retained would have been removed from the site, as required, to meet radioactivity release criteria in accordance with NRC regulations for unrestricted site use (see Section 2.3.12 and Figure 2-16). In addition, all SNF and GTCC waste would have been transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage within a revised OCA (see Figure 2-17). Some site restoration activities, such as removal of utilities and ancillary structures, soil remediation, and grading and landscaping may also have been completed.

Section 2.4 describes the remaining utilities and structures demolition, soil remediation, and site restoration activities that would occur as part of Phase 2 of the Project.

Fire Protection. Fire protection services at the DCPP would transition from the Diablo Canyon Fire Department (DCFD) to the San Luis Obispo County Fire when all SNF has been moved to the ISFSI. SNF would be moved to the ISFSI within 4 years after Unit 2 shutdown (i.e., by August 2029 based on the Unit 2 license expiration in August 2025). Conversely, a fire brigade could be established for meeting the fire protection requirements during the remainder of DCPP decommissioning once all SNF has been transferred to the ISFSI. (PG&E, 2021b – UPS-2)

The transition process would involve having some DCFD personnel remain on site for a period after all the SNF is transferred to the ISFSI to provide on-site emergency point-of-contact, to share institutional knowledge, and provide necessary training. PG&E would also evaluate utilizing a fire brigade (consistent with 10 CFR 50.48). (PG&E, 2021b – UPS-2)

PG&E's staffing plan budgets for 13 full-time equivalent personnel (fire brigade + 1 fire captain) for the first approximately 18 months after the reactors shutdown and operations cease, and 6 full-time equivalent personnel (fire brigade + 1 fire captain) until all SNF is transferred to the ISFSI. After all fuel is in the ISFSI, no fire brigade is budgeted and the DCPP site would be dependent on San Luis Obispo County Fire. (PG&E, 2022b – DR#5-5)

San Luis Obispo County Fire and PG&E cooperated in preparing the existing Operational Plan for the unified response in the event of an incident at the DCPP. This Operational Plan is jointly

reviewed and updated, as necessary, on an annual basis. The Operational Plan addresses the following items (PG&E, 2021b – UPS-2):

- Authorities
- Training and Drills
- Fire Fighting Pre-Plans
- Incident Command System
- Dispatch and Notification
- Communications
- Security
- Radiation Protection
- Safety
- Support Capabilities

The Operational Plan was last updated on May 12, 2021 and would be amended to specify the terms of the transition process for fire protection services from DCFD to solely San Luis Obispo County Fire.

2.4 Proposed Project Activities Phase 2 – Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032-2039)

By the end of 2031, Units 1 and 2 would be decommissioned and buildings demolished. Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continued Discharge Structure removal and restoration activities. Finally, the DCPP site would be evaluated in the FSS for radiological content prior to NRC Part 50 facility operating license termination.

Phase 2 also includes transitioning to ISFSI/GTCC waste storage-only operations.

2.4.1 Soil Remediation

Soil remediation, as described in Section 2.3.21, would be completed for the Part 50 licensed area, except for the Firing Range, Power Block, Discharge Structure Area, and East Canyon Area as these would be remediated during Phase 1.

2.4.2 Final Status Surveys

FSS described in Section 2.3.22 would continue and be completed in Phase 2 for the Part 50 licensed area.

2.4.3 NRC Part 50 Facility Operating Licenses Termination

In accordance with 10 CFR 50.82(a)(9), power reactor licensees are required to submit a License Termination Plan (LTP) at least 2 years before termination of the NRC Part 50 facility operating licenses. The LTP must include the following elements:

- site characterization
- identification of remaining dismantlement activities
- plans for site remediation
- detailed plans for the final radiation survey (e.g., FSS)
- description of end use for the site, if restricted
- updated site-specific estimate of remaining decommissioning costs

- supplement to the environmental report
- identification of any parts of the facility or site released for use before approval of the LTP

Following NRC review of the LTP, the NRC provides approval through issuance of a license amendment. In accordance with 10 CFR 50.82(a)(11), the NRC would terminate the NRC Part 50 facility operating license if:

- NRC determines that the remaining dismantlement has been performed in accordance with the approved LTP, and
- final radiation survey and associated documentation, including an assessment of dose contributions associated with parts released for use before approval of the LTP, demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR 20, subpart E.

At the point of terminating the licenses, the site would meet radioactivity release criteria for unrestricted use, in accordance with NRC regulations.

2.4.4 Grading and Landscaping (Final Site Restoration)

By the end of Phase 1, most structures (except for those that remain as shown in Figure 2-16) at the DCPP site would be decommissioned. In Phase 2, filling former building foundations and the former Firing Range would be completed along with grading and landscaping per the FSR Plan. Those areas not retained would be reclaimed after demolitions by scarifying, regrading, and revegetating. Roads to be closed would be scarified to remove compaction and regraded to blend in with the local topography, limit erosion, and promote natural drainage. Culverts would be removed where necessary and the disturbed area regraded to allow for unobstructed drainage. Material that was excavated and placed on the downslope of roads constructed on hillsides would be excavated using earthmoving equipment for placement and final grading of the road surface. Only minor scarification, regrading, and revegetation would be required to return trails to their natural topography and to provide proper drainage.

For Phase 2, PG&E would prepare a Revegetation Plan. Previous mitigation commitments for projects at DCPP have required that revegetation plans provide for development of long-term native plant cover compatible with surrounding areas of undisturbed native vegetation and wildlife habitat using local genetic sources of seed or cuttings for all native plant material. This same restoration goal would be adopted for DCPP FSR. Following grading to return areas to natural contours, areas would be revegetated to establish native vegetation that is consistent with native plant communities and wildlife habitat. Although there may be some differences in specific species composition in revegetated areas, seed mixes would be developed that have species mixes similar to adjacent reference areas. Furthermore, local genetic sources of native plant materials would be used to avoid genetic contamination of local plant populations.

During grading, disturbance would be limited to the maximum extent practicable. Existing vegetation would be protected as much as possible. Temporary barriers such as fences would be used to restrict access to sensitive vegetation or revegetated areas. Signs would also be installed to delineate revegetated areas. The temporary fencing and signage would be left in place until vegetation becomes established. Standard Best Management Practices (BMP) for sediment and erosion control would be implemented during site construction and site grading. Applicable

BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers, which would reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled as part of surface clearing activities. Several general guidelines would be followed when stockpiling soils:

- The height of soil stockpiles would be limited to the extent possible to minimize compaction and to maintain the integrity of soils.
- Soil material would not be handled when it is too wet or too dry. Generally, the best time to handle soils is when they are barely moist, but not damp or wet.

Currently, the need to amend topsoil through the application of fertilizer is not anticipated; however, topsoil quality would be tested to confirm that it does not require any amendments. Native seed mixes would also be used, which would limit the need for soil amendments. For planning purposes, it was assumed that topsoil would either be imported from an off-site source within the County of San Luis Obispo to meet the volume and quality requirement, with local reuse where possible; or be mixed with soil cut from the SE Borrow Site or in situ (i.e., native, local, or original) soil to meet topsoil requirements. With full backfill of the Firing Range, borrow for topsoil would come from the SE Borrow site. The topsoil from the SE Borrow site would be removed, temporarily stored nearby, and reused at the SE Borrow site with an addition of amendment, if needed, for revegetation of the SE Borrow site. The soil amendments would be mixed with the soil from the SE Borrow site to be used as backfill for the Firing Range. The amendment would only be mixed with the top three inches of soil from the SE Borrow site used for backfill at the Firing Range to create a topsoil for revegetation at the Firing Range.

Based on full backfill of the Firing Range, a total volume of topsoil required would be approximately 38,774 CY, with 3,779 CY available for salvage and 34,995 CY needing to be imported (PG&E, 2022b – Enclosure 2, Attachment C, Table 3). An estimated 1,760 truck trips would be needed to transport the required quantity of topsoil (PG&E, 2022b – Enclosure 1), based on an assumed 20 CY of amendment per truck trip (assumes use of a tracker trailer end dump [a.k.a. dump trailer] or Super Dump Truck, which can hold up to 36 CY with high side walls). If a soil amendment were to be utilized instead, the total volume of import required would be approximately 1,939 CY (PG&E, 2022b – Enclosure 2, Attachment C, Table 3).

Stockpiled soils would be redistributed as part of reclamation activities where available. However, on-site sources of stockpiled topsoil are believed to be somewhat limited, and consequently, additional topsoil would need to be brought on site from other sources. For areas that lack suitable plant growth materials, additional topsoil would be used to create an adequate plant growth medium. Prior to bringing any topsoil on site, it would be tested to confirm its agronomic properties. Topsoil would only be imported from local sources within the County of San Luis Obispo (assumed to be available within 77.1 miles one-way from the DCPP site [PG&E, 2022b – Enclosure 1]) so that it has similar properties to DCPP site soils in undisturbed areas.

Imported topsoil would have the following attributes:

- consist of fertile, friable soil of loamy character that contains organic matter in quantities natural to the region and that is capable of sustaining healthy plant life
- free of substances such as litter, refuse, toxic waste, sand, heavy or stiff clay, brush, sticks, grasses, roots, noxious weed seed, weeds, and other substances that could be detrimental to plant, animal, and human health
- consist of a soluble salt content of topsoil that does not exceed 500 parts per million.

Hydromulch would be used to reduce erosion potential and foster vegetation establishment on newly seeded areas. Mulch is primarily used for moisture conservation and soil stabilization. Care would be taken when using mulch because it may contain weed seeds. Only weed-free and seed-free mulch would be used for this Project. Mycorrhizae would be added to the hydroseed mixture to facilitate establishment of vegetation.

A planting schedule would be developed as part of the Revegetation Plan. In general, reseeding and planting would occur during the first fall following the completion of grading and prior to the rainy season. Similarly, container plants would be installed between October 1 and November 15. Seed and mycorrhizae would be applied via the hydroseeding immediately following container plant installation, but not later than November 22. It is anticipated that re-seeding and planting activities would be completed following construction for transition zone areas.

Reseeded areas would be monitored to evaluate vegetation establishment, erosion and sediment control, and noxious weed establishment. Reseeded areas would be observed several times during the first two growing seasons. Seeded and planted areas would be monitored to determine seedling survival and overall revegetation success. Areas of excessive erosion or sedimentation would also be documented. The establishment of noxious weeds would be monitored. Areas with poor vegetation establishment or areas exhibiting excessive erosion or sedimentation would be repaired and stabilized. In the case that noxious weeds are observed, they would be treated using the appropriate physical, chemical, or biological methods.

2.4.5 Long-Term Stormwater Management

As part of the overall site restoration design, a post-Final Site Restoration (FSR) construction Stormwater Management Plan (SWMP) would be prepared in accordance with the Low Impact Development (LID) requirements of the Central Coast Regional Water Quality Control Board, and any additional conditions as part of a 401 Water Quality Certification. The purpose of the SWMP is to implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish, and to minimize any sediment impacts from the site to Diablo Creek and the Pacific Ocean. The SWMP would include an analysis of the site hydrology and a design of post-grading stormwater conveyance systems and a post-construction monitoring program to support successful restoration. In addition to construction storm water management design, excavation and grading plans that are part of the FSR design would include designs to configure post-construction site drainage consistent with LID principles to convey and discharge runoff in a non-erosive manner and minimize potential off-site stormwater impacts. The LID design techniques are designed to protect and enhance surrounding habitat resources by minimizing impervious surfaces and promoting on-site infiltration and management of

stormwater runoff through developing a network of vegetated swales (or similar) strategically located within the site and designed to retain and treat stormwater flows.

Where appropriate, existing stormwater management features, such as basins, would be recontoured and connected to the newly graded site. This Project would result in a net reduction in impervious area to return the site to predevelopment conditions.

LID and, where necessary, conventional stormwater management techniques would be designed to control rates of runoff using accepted methods of hydrologic and hydraulic analysis. The goal would be to design SWMP features that support restoration of the site to pre-project hydrology and water quality. SWMP features to be considered include, but are not limited to, revegetation, vegetated swales, and basins. As necessary, natural rock riprap or turf reinforced mats may be placed along channels and slopes as reinforcement and biodegradable fiber rolls may be placed on slopes to spread runoff as sheet flow while the post-grading revegetation is taking root. Use of these features would be minimized as much as feasible to maintain natural conditions but may be necessary for erosion and sediment control.

It is expected that the site revegetation would fully establish as effective erosion control within 5 years of planting. The goal is for vegetation to be reestablished within 3 years of seeding to meet stormwater and revegetation criteria. However, depending on seasonal precipitation and given the site's relatively arid environment, a 5-year period was assumed for vegetation to be reestablished to meet stormwater and revegetation criteria.

The SWMP would include an Operation, Monitoring, and Maintenance (OM&M) Plan to monitor and maintain the effectiveness of the SWMP features. The OM&M Plan would consist of monitoring by a Qualified Storm Water Practitioner, or trained delegate, until the Notice of Termination for coverage under the CGP is accepted (final stabilization is reached). The OM&M Plan within the SWMP would describe the expected types and frequency of maintenance activities that would be implemented to support the stormwater features effectively conveying stormwater runoff through the site. Maintenance activities may include, but are not limited to, the following: removal of sediment from conveyance swales, repair of riprap, and maintenance of fiber rolls. Natural stormwater management features would be selected for final implementation to the extent practicable. Maintenance of the features should not be required after the site vegetation is fully established.

2.4.6 Intake Structure Closure

Once the ASWS and SWRO system are shutdown at the end of 2034, the openings of the Intake Structure would be sealed with concrete bulkheads. The bulkheads would not have exposed steel and would be located below low tide and therefore not be visible above water. The bulkheads would be comprised of ECOncrete (textured on the outside face) to enhance the biological productivity of the concrete surface. The bulkheads would be installed prior to filling of the Intake Structure. Intake Structure closure would occur during Phase 2 of the Proposed Project.

A temporary steel form would be used to construct the bulkheads. The temporary forms are designed based on the largest opening of 24.5-feet-tall and 12.5-feet-wide. For ease of forming, the bulkheads would be 2-feet-thick, matching the existing thickness of the Intake Structure

walls. There are a total of 16 openings of varying sizes requiring a total concrete volume of approximately 334 cubic yards.

The exterior temporary steel form would toe into the sand/mudline at the foundation of the Intake Structure. The top and sides of the temporary steel form may be anchored into the face of the Intake Structure. If possible, the interior forms would utilize the screen guide channels. If the screen guides are not accessible, steel angles would be anchored to the interior walls of the structure and allow the interior forms to bear against the angle. The temporary steel forms would utilize fiberglass form ties to avoid any exposed steel on the surface.

A proper seal on the exterior form would be required prior to installing the interior forms and pouring the concrete bulkheads. The most difficult seal would be at the radiused walls at the Intake Structure opening. To close this area, a steel angle would be used with a tremie pour grout seal. The steel angle would be removed once the grout has cured, and prior to installing the interior forms.

Once sealed, the Intake Structure would be filled. The interior of all the Intake Structure comprises a total volume of 11,840 CY, which would be filled with CLSM. Therefore, approximately 7,900 CY of crushed concrete can be used as aggregate in the CLSM (PG&E, 2022e, 2023a).

2.4.7 Blufftop Road Segment

Following DCPP decommissioning final site restoration, Diablo Canyon Road (primary access road) would function as the main ingress/egress to the DCPP site. Diablo Canyon Road is approximately 7 miles long between Avila Beach Drive and the DCPP site and consists of two 12-foot paved travel lanes with approximately 4-foot paved shoulders. To the north of the DCPP site is the existing North Ranch Road/Pecho Valley Road, which is a 4.5-mile secondary access road improved in 2020 and 2021 to facilitate better County Fire Department emergency access to the site. A blufftop road segment would be established at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/ Pecho Valley Road. The road would be established in front of the Power Block area and traverse over Diablo Creek via an existing culverted road. The existing barriers on top of the culverted road over Diablo Creek, which were erected for DCPP security purposes, would be removed as part of DCPP decommissioning. Figure 2-36 shows the existing conditions and the blufftop road segment following decommissioning, along with Marina improvements (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*).

North Ranch Road/Pecho Valley Road currently supports access to 230 kV and 500 kV Transmission towers and would continue to do so after DCPP decommissioning. North Ranch Road/ Pecho Valley Road also supports ranching/land management activities for the North Ranch.

North Ranch Road/Pecho Valley Road and Shore Cliff Road from the north and Diablo Canyon Road/Diablo Ocean Drive from the south would provide emergency access, allowing County Fire Department emergency vehicles to access the site from Avila Beach Drive and from Montaña de Oro State Park. Shore Cliff Road connecting North Ranch Road/Pecho Valley Road and Diablo Canyon Road/Diablo Ocean Drive would also restore historic access through the Diablo Canyon lands. North Ranch Road/Pecho Valley Road would continue to operate as a private road and would not be available for public use.

Figure 2-36. Existing Conditions and Post-Decommissioning with Road and Marina Improvements

2.5 Project Schedule and Workforce

2.5.1 Project Schedule

Table 2-10 provides a preliminary schedule for Phase 1 and 2 decommissioning activities.

Table 2-10. Preliminary Milestone Schedule

Phase	Description	Start	Finish
1	Shutdown of Unit 1	—	11/2/2024
1	Cold and Dark Modifications	11/4/2024	7/22/2027
1	Shutdown of Unit 2	—	8/26/2025
1	Site Infrastructure Modifications	12/2/2024	6/10/2030
1	System and Area Closure	12/4/2024	1/15/2031
1	Site Characterization Study	12/2/2024	4/25/2026
1	Large Component Removal	12/2/2024	10/15/2029
1	Decontamination	12/2/2024	12/1/2031
1&2	Building Demolition	12/2/2024	3/30/2034
1	Construction of Waste Storage Facilities	2/3/2025	7/29/2026
1	Reactor Pressure Vessel and Internals Removal and Disposal	7/28/2026	5/9/2030
1	Spent Fuel and GTCC Waste Transfer	6/8/2027	8/23/2029
1	Discharge Structure Removal and Restoration	2/12/2030	4/30/2033
1&2	Soil Remediation	12/2/2024	12/14/2034
1&2	Final Status Surveys	12/2/2024	1/3/2034
1	Railyard Facility Modifications (PBR, SMVR-SB)	12/2/2024	12/31/2025
2	Part 50 License Termination	—	12/14/2034
2	Final Site Restoration (including Firing Range)/Monitoring	9/1/2032	12/14/2039

Source: PG&E, 2021a – Table2.1-2; PG&E, 2021c – PD-3; PG&E, 2022g. Acronym: GTCC = Greater Than Class C

Note: Dates subject to change pending execution of contracts to complete the scopes of work. If PG&E were to be approved for extended operations of DCPP (see Section ES.1, *Background, Project Location, and Project Scope*), the VCT Warehouse, Security Warehouse, and Office (to support decommissioning) may be constructed prior to DCPP being shut down, and the remaining decommissioning activities would follow after shutdown. See Section 5.4.7, *Delayed Decommissioning Alternative*.

2.5.2 Staffing Requirements

DCPP site staffing would fluctuate as DCPP decommissioning progresses. PG&E is expecting to have a linear reduction in the overall staffing at the site as DCPP operations progress to shutdown of Units 1 and 2. Currently, there are between approximately 1,157 and 1,400 workers on site during typical operating conditions to support existing operations.

During decommissioning, DCPP staffing levels would change, depending on the work being performed and the location of the SNF (affects the level of security workforce required). A total of approximately 870 workers are anticipated in Phase 1 and approximately 270 workers in Phase 2 (PG&E, 2021b – GC-4). A portion of that would be PG&E staffing, which is expected to have a peak of 490 workers and an average of 420 workers in Phase 1, and a peak of 165 workers and

an average of 160 workers in Phase 2 (PG&E, 2021b – GC-4). These numbers include the security force members that are on site in shifts around the clock. The first large decrease in staffing is expected to occur when the transfer of SNF to ISFSI is complete in 2029. From that point on, the staffing would decrease until the main plant site remediation is complete. After remediation, the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50.

Basic utilities such as, but not limited to, electricity and information technology resources would be required to support the staff present on site during the decommissioning period. Because there would be lower numbers of staff travelling to and from the site as compared to operations, adverse effects due to travel to and from the site would be less than current levels.

Work hours for DCPP decommissioning personnel would mainly be a dayshift from 6:30 a.m. to 5:00 p.m., four days per week. There would be a small number of positions (approximately 100) required to be staffed 24 hours per day, 7 days per week. Security, Operations, and Radiation Protection personnel are all expected to staff these backshifts to support plant security, emergency preparedness requirements, and other NRC requirements.

The main DCPP Access Gate would continue to be operated as under current operations. The truck screening process during DCPP decommissioning is anticipated to take approximately 30 seconds or less to complete per truck. Trucks would stop at the main security gate and receive a pass to enter – there would be no lengthy screening process at the main security gate. (PG&E, 2022b – DR#8, Transportation 2)

To support rail transport operations at the SMVR-SB site, approximately 10 temporary employees are expected to be on site. This may consist of approximately two PG&E employees, six temporary workers, and two security personnel (PG&E, 2022a). These would be additional employees and likely would not be trips shifting from the DCPP site (PG&E, 2021c – TRANS-1). No additional employees are anticipated to be required at the PBR facility, if utilized for decommissioning.

2.5.3 Equipment Requirements

Required construction equipment would vary, depending on the specific activities being performed. Because of the sequencing of the Project, there would be some overlap in equipment requirements. Table 2-11 identifies anticipated equipment to be used to support D&D activities during Phase 1. Details of equipment use by activity are provided in EIR Appendix D.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Aerial Lifts – Articulating Boom-Self Propelled Electric (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Aerial Lifts – Articulating Boom-Self Propelled Gas/Diesel (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Aerial Lifts – Scissor Lift-Self Propelled Electric (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Aerial Lifts – Telescopic Boom-Self Propelled Gas/Diesel (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Air Compressor-Gas/Diesel driven – various capacities	Supply compressed air to various air tools and equipment.
Concrete Pumper Portable	Trailer mounted concrete pump to transfer concrete or grout from the mixer or concrete truck when a pump truck or concrete truck is unable to fit into the location.
Concrete Truck	Large vehicle used to transport concrete or grout from the batching plant to various locations on site.
Concrete Pumper Truck	Transfers concrete or grout from the mixer or concrete truck when the concrete truck does not fit into the location.
Concrete Crusher	Mobile or semi-mobile device used reduce the size of large concrete materials for recycle or disposal.
Crawler Mounted Hydraulic Excavators with Various Attachments	Large vehicle that is designed for excavation and demolition purposes. The excavators can be fit with attachments such as grapples, shears, buckets, and breakers.
25-Ton Crane (Carry Deck)	Extremely versatile crane for lifting and moving material that is in a tight space or with overhead obstacles.
25-Ton, 50-Ton, and 200-Ton Crane (Hydraulic- Rough Terrain)	Multi-purpose use crane used for lifting and moving heavy components. Designed to operate off-road and on rough applications and surfaces.
200-Ton Crane (All-terrain Hydraulic)	Hybrid between a mobile truck crane and rough terrain crane; used for lifting and moving heavy components.
200-Ton and 100-Ton Crane (Lattice Boom-Crawler Mounted)	Crane with a boom raised and lowered by a series of guy wires; structure allows high capacities and long boom lengths. Used in applications where large and excessively heavy items are raised and moved.
Forklift Electric (various capacities)	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
Forklift Gas/Diesel (Various Capacities)	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
Forklift Rough Terrain-Telescoping Boom	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
End Dump Trailer	The construction equipment used to transport massive amounts of construction materials and other payloads over the road and quickly and easily dump them somewhere else. Typically moved with a terminal tractor while on site or semi-truck tractor for over the road.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Road Graders-Rigid and Road Graders- Articulated	Construction machine with a long blade used to create a flat surface during the grading process. It would be used for cutting, spreading, and leveling material during backfill or temporary roadway construction.
Articulated 4WD Loaders	Large construction machine with a bucket to move materials aside or load materials in a dump trailer or truck.
SUV Trucks	Sport utility vehicle to transport personnel around the construction site.
Pick-up Trucks	Vehicle to transport personnel and smaller material.
Semi (Tractor) Truck	Large vehicle used to pull large trailers, typically known as the tractor. Would be used to transport material off site for disposal.
Terminal Tractor	Large, maneuverable vehicle used to pull large trailers, typically known as the "Yard Goat" would be used to move and stage trailers on site.
Diesel Generator Sets (Various Capacities)	Provides temporary electrical power for construction tools, lighting, pumps, etc.
Pavement Breakers	Hand operated impact tool using solid steel bits that would break up concrete in localized areas.
Water Tanker Trucks-Off Highway	Used to carry water to specific locations for dust suppression.
Welding Machines-Gas/Diesel (Various Amperage)	Used to attach construction aids or rigging lift lugs. Also, would be used for equipment repairs.
Track Mobile	Road-rail vehicle used at the rail head to move rail cars in the yard.
Articulated Dump Truck, Off Highway 40-Ton Rock Truck	Large engine truck with a deep open bed that would be filled with loose materials such as dirt, gravel, or demolition waste and transported to a desired location.
Skid Steers with Various Attachments	Smaller and versatile construction vehicle fitted with different types of attachments that can perform a range of tasks, from excavation and grading to demolition and debris removal to overhead work and lifting.
2-Ton Flatbed Truck with Liftgate	Medium-sized vehicle with an easily accessible bed for transporting materials to various locations.
Dump Trucks (10 yard)	Large engine truck with a deep open bed that would be filled with loose materials such as dirt, gravel, or demolition waste and transported to a desired location.
Bulldozer	Powerful machine for pushing earth or rocks, used in road building, construction, and wrecking.
Utility Carts	Small vehicle for transporting personnel around the construction sites
80,000-pound Gross-Weight End Dump Highway Transport Truck/Trailer	Hauling waste debris off site to a waste disposal facility or to the rail head.
Cone Crushers 48-59 inches	Reduces the size of (rock/concrete) waste material so it can be more easily recycled or disposed of.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Heavy Equipment Service Truck	Medium size truck vehicle equipped with tools, lubricants, and parts for the maintenance and repairs of the construction equipment.
Roller Compactor	Construction equipment used to compact road base or asphalt.
Tractor Loader Backhoe	Tractor equipped with load and backhoe attachments used for lighter excavation task for new electrical/water lines to temporary buildings.
Asphalt Pavers-Wheel Mounted	An asphalt paver is a machine used to distribute, shape, and partially compact a layer of asphalt on the surface of a roadway, parking lot, or other area for repairs or new laydown areas.
Trencher	Construction equipment used to dig trenches for laying pipes or electrical cables, for installing drainage, or in preparation for temporary buildings.
Hydrovac Truck	Used to safely expose underground infrastructures during major excavation with a high-volume vacuum system.
Survey Boat	Small water vessel to transport a survey team.
Electric and Gas/Diesel remote controlled demolition equipment	Used for remote demolition/decontamination in areas where personnel access is limited.
Specialty Lifting and Rigging Equipment	Large component removals.
ISFSI/GTCC Transporter	For movement of cask
Work Barge	Used to construct cofferdam
Tugboats	Used to construct cofferdam
Other Ocean based equipment	Used to construct cofferdam

Source: PG&E, 2021a – Table2.3.23-5.

Acronyms: GTCC = Greater Than Class C, ISFSI = Independent Spent Fuel Storage Installation, SUV = Sport Utility Vehicle, WD = Wheel Drive

Final site restoration activities in Phase 2 would involve essentially the same construction equipment as would be used for site restoration activities during Phase 1 but would be used to a lesser extent. Details of equipment use by activity are provided in EIR Appendix D.

Construction equipment use would occur primarily during daytime hours (i.e., between 6:30 a.m. to 5:00 p.m.) Monday through Friday. However, weekend and nighttime work would be needed periodically to avoid interruption to critical work activities or to meet key milestones. In the instance of nighttime work or during some D&D activities, temporary lighting may be used around excavations, scaffolding, and other construction equipment. These activities may include construction equipment maintenance; repair, and transport to and from the mechanic's work area, the construction staging area, or other designated work area; as well as the delivery or removal of construction equipment to and from the Project site.

2.6 Applicant Commitments

PG&E submitted background environmental studies and plans to support its application to the County. The technical reports include recommended measures that could be applied to the Project. These technical reports and recommendations were reviewed and considered in the preparation of this EIR. In addition, the application included several plans, some of which were

updated as part of the 30 percent design process, which were reviewed and incorporated as applicable in the issue-area evaluations in the EIR. These plans include the following:

- Preliminary Grading, Erosion & Sediment Control Plan
- Preliminary Engineering Geology Report
- Preliminary Discharge Structure Demolition and Restoration Plan
- Discharge Demolition Anchoring Plan
- Oil Spill Response Plan
- Turbidity Monitoring Plan
- Site Grading and Concrete Re-Use Strategy Plan
- Intake Structure Closure and Barge Loading Plan
- Preliminary Oak Tree Inventory and Mitigation Plan

In addition to these studies and plans, PG&E identified various Applicant Commitments (ACs). ACs are a commitment by the Applicant to take a certain action or conduct a survey and are considered part of the Proposed Project. The ACs that are included as part of the Proposed Project are identified in Table 2-12. The text of these commitments is as stated by PG&E in the CDP Application. Due to federal preemption, these ACs may not be applicable to the SMVR-SB railyard (see Section 1.3.3.2, *Surface Transportation Board*).

While many of the ACs proposed by PG&E help address potential Project effects, they may not fully address the impacts. In Section 4, mitigation measures have been developed as part of the Proposed Project impact analysis, which may override or supplement the intent of these ACs or other Proposed Project components. To ensure the Project is implemented as described in this Project Description, ACs and other project components would be tracked as part of the Mitigation Monitoring and Reporting Program.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Air Quality	
AC AQ-1	**Minimize Fugitive Dust.** PG&E will minimize fugitive dust during Project activities by implementing the following measures: ▪ Reduce the amount of disturbed area, where possible. ▪ Use water trucks or sprinkler systems in dry weather in sufficient quantity to prevent airborne dust from leaving the site. ▪ Implement more long-term dust control measures as soon as possible following completion of any soil-disturbing activities. ▪ Establish a policy that vehicle speed for all on site vehicles is not to exceed 15 miles per hour (mph) on any unpaved surface. ▪ Water active demolition and disturbed soil areas (including storage piles) as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure. ▪ Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. ▪ Sweep adjacent public roads if visible soil material is carried out from a work site.
AC AQ-2	**Use of Tier 4 Equipment.** Off-road diesel-powered heavy equipment used in decommissioning will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. Retrofits that achieve or exceed emission reductions equivalent to that of a Tier 4 engine may be used in lieu of Tier 4 engines.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
AC AQ-3	**San Luis Obispo County Air Pollution Control District (SLOCAPCD) Standard Measures.** PG&E will minimize ROG + NOx (reactive organic gases + nitrogen oxides) and diesel particulate matter (DPM) emissions during Project activities by implementing the following Standard Mitigation Measures: ▪ Keep construction equipment in proper maintenance condition according to manufacturer's specifications. ▪ Fuel all off-road and portable diesel-powered equipment with California Air Resources Board (CARB) certified motor vehicle diesel fuel (non-taxed version suitable for use off-road). ▪ Use on-road heavy-duty trucks that meet CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation. ▪ Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance. ▪ All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit. ▪ Diesel idling within 1,000 feet of sensitive receptors is not permitted. ▪ Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors. ▪ Electrify equipment when feasible. ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible. ▪ Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.
AC AQ-4	**SLOCAPCD Best Available Control Technology.** PG&E will minimize ROG + NOx and DPM emissions during Project activities by implementing the following Best Available Control Technology (BACT) measures: ▪ Further reduce emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines. ▪ Repower equipment with the cleanest engines available. ▪ Install California Verified Diesel Emission Control Strategies found on the CARB website (https://ww2.arb.ca.gov/verification-procedure-currently-verified).
AC AQ-5	**SLOCAPCD Fugitive Dust Reduction Measures.** PG&E will minimize ROG + NOx and DPM emissions during Project activities by implementing the following fugitive dust reduction measures: ▪ Reduce the amount of the disturbed area where possible. ▪ Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the Air Pollution Control District's (APCD) limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency should be required whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (non-potable) water should be used whenever possible. When drought conditions exist and water use is a concern, the contractor or builder should consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control. ▪ All dirt stockpile areas should be sprayed daily and covered with tarps or other dust barriers as needed.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	▪ Permanent dust control measures identified in the approved Project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities. ▪ Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established. ▪ All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. ▪ All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid down as soon as possible after grading unless seeding or soil binders are used. ▪ Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. ▪ All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with California Vehicle Code Section 23114. ▪ "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved road and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified. ▪ Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible. ▪ All Particulate Matter of 10 Microns in diameter or smaller (PM10) reduction measures required should be shown on grading and building plans. ▪ The contractor or builder shall designate a person or persons whose responsibility is to prevent fugitive dust emissions from resulting in a nuisance and to enhance the implementation of the reduction measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork, or demolition.
AC AQ-6	**Minimize GHG Emissions.** During construction, PG&E shall implement the following. ▪ Minimize unnecessary construction vehicle idling time. The Project intends to apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law. If a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will address these vehicles use practices as part of pre-

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. ▪ Maintain construction equipment in proper working condition in accordance with manufacturer's specifications. ▪ Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines rated 50 horsepower (hp) or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program (PERP). ▪ Minimize welding and cutting by using mechanical compression assembly applications where practical and within standards. ▪ Encourage the recycling of construction waste where feasible.
Biological Resources	
AC BIO-1	**Worker's Environmental Awareness Training – Biological Resources.** An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to start of any Project activities. The training shall include color photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training shall also include a description of protection measures required by discretionary permits, an overview of the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), and implications of noncompliance with these regulations. This will include an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance areas. A sign-in sheet with the name and signature of the qualified biologist who presented the training, and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all Project personnel and anyone else who may enter the Project site. When new construction personnel join the Project after the initial training period, they will receive the environmental awareness training from the qualified biologist before beginning work. Visitors to the Project site, such as company executives, administrative staff, or other guests, are not required to receive the environmental awareness training as their time in the Project area will be of short duration. Visitors may be independent on the Project site if they elect to receive the training, but otherwise must be escorted by someone who is trained.
AC BIO-2	**General Marine Operations and Wildlife Protection.** The following general measures are recommended to minimize impacts to all wildlife species during active construction. Use of these measures does not give "take" authority under FESA, CESA, or the Marine Mammal Protection Act (MMPA). ▪ Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present. ▪ Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	will be provided to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above.
AC BIO-3	**Site-Specific Stormwater Pollution Prevention Plan.** A DCPP site-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared in support of a Construction General Permit (CGP) that will be required because the area of disturbance will be greater than one acre. If the area of impact is greater than one acre at the SMVR-SB site a SWPPP will be prepared. The SWPPP will identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove. Pathways that lead to the intertidal zone and ocean, which could contain pollutants, will be identified and a series of standard Best Management Practices (BMPs) will be developed to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas. Implementation of the site specific SWPPP will reduce potential water quality impacts due to stormwater runoff during decommissioning activities.
AC BIO-4	**Site Maintenance and General Operations.** The following general measures are recommended to minimize impacts during active construction: ▪ A 15-mph speed limit will be established for all unpaved roads. ▪ The use of heavy equipment and vehicles shall be limited to the Project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits. ▪ In the vicinity of sensitive resources and habitats (e.g., wetlands and drainages), signs shall be posted at the boundary of the work area indicating the presence of sensitive resources. ▪ Project plans, drawings, and specifications shall show the boundaries of all sensitive resource areas and the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources. ▪ Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. ▪ Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls. No staging areas shall be located within 100 feet of sensitive habitat or jurisdictional aquatic resources. ▪ Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants. ▪ Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. These activities will occur at a minimum of 100 feet from sensitive habitat or jurisdictional aquatic resources, including drainages and wetlands. Sandbags and/or absorbent pads and spill control kits shall always be available for use in the case of a spill or leak. ▪ Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present. ▪ Plastic monofilament netting (erosion control matting) or similar material will not be used on site due to the potential for entangling special-status small mammals or reptiles. Acceptable substitutes are coconut coir matting or tackified hydroseeding compounds.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
AC BIO-5	**General Wildlife Protection.** The following general measures are recommended to limit impacts to all wildlife species. Use of these measures does not give "take" authority under FESA or CESA. ▪ The extent of disturbances will be reduced to the smallest possible area, considering the existing travel network; topography; placement of facilities; location of burrows, nesting sites, and dens; Project safety; and other limiting factors. ▪ To the extent possible, previously disturbed areas will be used for stockpiling excavated materials, equipment storage and staging, vehicle parking, and other surface-disturbing actions. ▪ Existing roads and routes will be used to the maximum extent possible. ▪ All excavations will have wildlife exit ramps maintained at a slope no greater than 1:1 (45 degrees). Excavations will be checked in the morning before beginning work and at the end of each working day. Before trenches are filled, they will be thoroughly inspected for wildlife. All wildlife will be allowed to exit unharmed. If a special-status species does not exit the trench within a reasonable period of time, the appropriate agency will be contacted for guidance. All instances of a federal- or state-listed species discovered within a trench will be reported to the appropriate agency. ▪ Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification will be provided to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above. ▪ Any contractor, employee, or third party responsible for inadvertently violating the terms or conditions of the Project will immediately report the incident to the Project biologist who will notify the appropriate agencies within 24 hours by phone and by email. Such violations may include unauthorized habitat disturbance, destruction of a protected plant population, or impacts to wildlife that do not fall into the actions covered by the Project permits. All non-emergency actions will cease immediately until guidance is received from the appropriate agencies. Notification must include the date, time, location, and other pertinent information of the incident.
AC BIO-6	**Biological Resources Monitoring Plan.** A Biological Resources Monitoring Plan shall be developed by a qualified biologist prior to start of any Project activities. The plan shall be submitted to the County and other applicable resources agencies for review and will outline all protocols and procedures for protection of sensitive biological resources on site including responsible parties and contact information. The plan shall require that all initial ground disturbance and vegetation clearing within or immediately adjacent to undeveloped areas will be monitored by a qualified biologist. Specifically, monitoring will be conducted within suitable habitat for known or presumed special-status plant and wildlife species. At a minimum, full time biological monitoring will be conducted by a qualified biologist on a daily basis during the start of construction during initial ground disturbances and for all vegetation removal activities within undeveloped areas or immediately adjacent to undeveloped areas. During the full-time monitoring period, all known occurrences of special-status plants and wildlife, and sensitive resources will be inspected. Once initial site disturbance has been completed, full-time monitoring will be reduced to part-time monitoring during normal

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	Project operations. Exceptions to this would be if an active bird nest or other sensitive species is present that requires full-time or otherwise more frequent monitoring. Part-time monitoring will consist of weekly site visits. During these weekly visits, all occurrences of special-status plants and wildlife, and sensitive resources within or immediately adjacent to work areas will be checked. Although weekly biological monitoring is expected for normal operations, the biological monitor will be available during all construction activities via cell phone. The "on-call" biologist will be prepared to address any biological resource concerns and/or mobilize to the Project site to aid in species protection measures as needed. Frequent communication will be held between the biologist and PG&E to ensure monitoring is effectively implemented during the appropriate Project activities.
AC BIO-7	**Preconstruction Survey for Nesting Birds and Raptors.** If work is planned to occur between February 1 and September 15, a qualified biologist shall survey each work area for nesting birds and raptors within 1 week prior to initiation of Project activities. If nesting birds and/or raptors are located on or near the proposed work area, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active. A non-disturbance buffer of 100 feet shall be placed around non-listed, passerine species, and a 300-foot buffer will be implemented for raptor species. All activity will remain outside of that buffer until a qualified biologist has determined that the young have fledged or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified, including golden eagles, peregrine falcons and white-tailed kites, no work will begin until an appropriate buffer is determined in consultation with the local California Department of Fish and Wildlife (CDFW) biologist, and/or the US Fish and Wildlife Service (USFWS). If Project work is halted for more than 5 days or if Project work is initiated in new areas, then additional nesting bird and raptor surveys will be conducted within 1 week of planned Project work.
AC BIO-8	**Noxious Weed Prevention.** The extent of noxious weed populations within and 100 feet adjacent to the Project area shall be mapped by a qualified biologist prior to Project implementation and mapped at least once per year during Project activities and for 3 years following completion of Project activities. Should monitoring indicate that weeds have spread within the Project site, they should be treated using methods approved by the appropriate agencies for a period of up to 5 years following completion of Project activities in that area of the site. In addition, the following measures shall be implemented during construction: ▪ All off-road equipment that is not local to the Project area should be cleaned of all dirt, mud, and plant debris prior to being brought on site. ▪ All vehicles and equipment should be cleaned of all dirt, mud, and plant debris prior to entering non-developed portions of the site or when moving from an area on site with known noxious weed populations to an area without noxious weed populations. ▪ Minimize soil disturbance to the extent possible. ▪ Maintain gravel and soil spoils piles free of invasive weeds; use areas known to be weed-free for staging and laydown areas. ▪ Materials used for erosion control will be certified weed free (i.e., straw wattles, gravel, fill material, etc.). When restoring a site after disturbance, use a native seed mix.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Cultural Resources	
AC CR-1	**Discovery of Human Remains.** If human remains are exposed during construction, PG&E shall notify the County Environmental Coordinator immediately and comply with State Health and Safety Code Section 7050.5, which states that no further disturbance shall occur until the County Coroner has been notified and can make the necessary findings as to origin and disposition of the remains pursuant to Public Resources Code 5097.98. Construction shall halt in the area of the discovery of human remains, the area shall be protected, and consultation and treatment shall occur as prescribed by law.
AC CR-2	**Worker's Environmental Awareness Training – Cultural and Paleontological Resources.** Prior to the start of construction, all field personnel will receive a worker's environmental awareness training module on cultural and paleontological resources. The training will provide a description of the fossil resources that may be encountered in the Study Project Area, outline steps to follow in the event that a fossil inadvertent discovery is made and provide contact information for the Project Cultural Resource Specialist, Paleontologist and on-site monitor(s). The training will be developed by the Project Cultural Resource Specialist and Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.). The training may also be videotaped or presented in an informational brochure for future use by field personnel not present at the start of the Project.
Geology and Soils	
AC GEO-1	**Unknown Paleontological Resources.** If paleontological resources are encountered during Project excavation, all ground-disturbing activities within 50 feet of the find shall be redirected to other areas until a qualified paleontologist can be retained to evaluate the find and make recommendations for additional paleontological mitigation, which may include paleontological monitoring; collection of observed resources; preservation, stabilization, and identification of collected resources; curation of resources into a museum repository; and preparation of a final report documenting the monitoring methods and results to be submitted to the County.
Hydrology and Water Quality	
AC WQ-1	**Construction General Permit (CGP).** Prior to the start of construction, PG&E shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 20100014-DWQ and 2012-0006-DWQ) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), Notice of Intent (NOI) for coverage under the permit to the SWRCB. Ground-disturbing activities shall not be initiated until the Waste Discharge Identification Number (WDID) is received from the SWRCB. A SWPPP shall be prepared and implemented for the Project in compliance with the requirements of the CGP. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities. PG&E shall submit a Notice of Termination (NOT) to the Central Coast Regional Water Quality Control Board upon completion of construction and stabilization of the Project site.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Noise	
AC NOI-1	**Reduce Truck Traffic Noise.** PG&E will reduce truck traffic noise along the Project's off site truck haul routes by implementing the following measures: ▪ Prohibit jake (engine compression) braking of trucks. ▪ Equip all trucks with Occupational Safety and Health Administration (OSHA) compliant self-adjusting backup beepers that account for ambient conditions and automatically adjust the volume to be as low as possible, while still being audible to workers.
AC NOI-2	**Reduce Construction Noise.** PG&E will reduce construction noise during Project construction activities by implementing the following measures: ▪ Prohibit jake (engine compression) braking of trucks. ▪ All mobile construction equipment can be equipped with OSHA compliant self-adjusting backup beepers that account for ambient conditions and automatically adjust the volume to be as low as possible, while still being audible to workers. ▪ All stationary sources (generators, light towers) can be of low noise design, or require use portable noise barriers that shield nearby noise sensitive locations. ▪ Functional mufflers should be maintained on all diesel-powered equipment.

Acronyms: CARB = California Air Resources Board, hp = horsepower, PERP = Portable Equipment Registration Program

2.7 Future Actions – Retain Marina for Permitting and Reuse by Third Party

By the end of 2034 (i.e., within Phase 2 [2032-2039]), the DCPP site and facilities would have undergone FSS to confirm that any residual levels of radionuclides have been removed and/or decreased to levels below site-specific levels that equate to the NRC-approved site release criteria. Retained facilities (see Figure 2-16) including the Marina would then be released from the 10 CFR Part 50 facility operating licenses for Units 1 and 2; however, this does not include the revised OCA area, which would remain an operating industrial area subject to a Part 72 NRC License. In addition, in areas where facilities have not been retained, they would be restored. Additionally, as the risk profile for DCPP goes down (once all SNF is transferred to the ISFSI), PG&E can authorize activities within the security exclusion zone (see Figure 2-6) and work with a third party to allow use of the Marina (PG&E, 2022a). However, any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action by the US Coast Guard and the US Department of Transportation (PG&E, 2022a).

Following release from the 10 CFR Part 50 facility operating licenses and restoration, PG&E would apply for a new or amended CSLC lease and sublet or use another arrangement to transfer the use of the Marina to a third party for permitting and reuse for recreational, education, and/or commercial purposes. Marina improvements are being addressed in this EIR at a project-level consistent with the description of improvements assumed by PG&E in its application. Additional CEQA analysis may be needed once a third party is actively seeking permits and a lease, and more is known about the specific modifications and Marina reuse activities. Any application for reuse would be evaluated for consistency with these assumptions as part of the land use permit and associated CEQA determination.

Anticipated Marina improvements assumed to be completed by the third party are depicted in Figure 2-37; the third party would be required to obtain the necessary land use and building permits from the County and a new or amended lease from CSLC prior to beginning the improvements. No improvements are envisioned for the Breakwaters – these would remain in place and continue to protect the Marina from wave actions.

Figure 2-37. Marina Post-DCPP Decommissioning

The Marina would be a facility whereby small vessels could be launched into the Intake Cove via a boat hoist. The size of the vessels would be limited to boats that could be towed by a trailer and be within the weight limit/lifting capacity of the proposed boat hoist. Boaters would access vessels through a set of stairs extending from the boat hoist area to the water surface. The small, existing boat dock in the southeast corner of the Intake Cove would be maintained for boater use. See Figure 2-38, which shows a rendering of the Intake Structure and Marina post-decommissioning in the assumed reuse configuration.

Figure 2-38. Intake Structure and Marina Post-Decommissioning

2.7.1 Parking to Support Marina Use

An upland parking lot could be permitted and constructed by a third party, with access from Diablo Canyon Road into the site (see Figure 2-37). The upper parking lot would include 87 auto parking spaces. In the lower southern area of the Marina, 34 auto and 6 truck and trailer spaces would be provided. This parking would include American with Disabilities Act parking, staff and administrative parking, and parking for temporary and delivery purposes. On top of the closed (with bulkheads) Intake Structure, 60 auto and 12 truck and trailer parking spaces would be provided. Stairs and accessible pedestrian access would be provided between the upper and lower parking areas.

Vessels would need to be transported by vehicle to the boat hoist located on the top of the closed Intake Structure.

2.7.2 Intake Structure Modifications to Support Marina Use

The top of the closed (with bulkheads) Intake Structure would be paved during the Project, covering all areas from the inland bluff to the seawall. It would include parking as noted above. Traffic lanes would be painted on the surface to facilitate an orderly traffic flow for boaters and pedestrian visitors. Improvements, including safety railings, would be installed along the waterfront. Railings would meet the safety code for near water railings. The top of the closed Intake Structure would include the repurposing of an existing maintenance structure as a boat repair building and a new 2,000-square foot building for office/commercial purposes.

A hydraulic/electric boat hoist capable of lifting small vessels from a trailer and into the water could be placed on the outer area of the closed Intake Structure by a third party. Figure 2-39 shows a typical arrangement of a boat hoist in operation. The hoist would be of sufficient size and strength to accommodate most vessels. It would be serviced by the Marina owner/operator and be designed to be operated by the vessel operators (i.e., public). Once a boat is placed in the water, the vessel crew must be able to board safely. To accommodate this, a set of steel stairs would be placed along the waterfront with access to the water. The stairs would extend to the water and provide a small platform at the water level. The stairs and platform would be constructed to withstand weather and seawater. Figure 2-39 shows a typical arrangement of a boat hoist and stairs.

Figure 2-39. Typical Pier-mounted Boat Hoist and Articulated Stairs

The following ancillary structures associated with the closed Intake Structure could also potentially be retained to support Marina operations:

- Intake Access Facility
- Divers Shower/Lab Facility
- Intake Control Building
- Intake Maintenance Shop
- Underground Sewage Holding Tank/Lift Station
- Chemical Storage Tanks and Pad

2.7.3 Boat Dock Use

The existing boat dock would remain in the southeast corner of the Intake Cove and could be used for vessel tie-up. The capacity of the existing boat dock is two boats; the two boats are skiffs and are 28 and 23 feet in length (PG&E, 2023a). For two months a year, a 30-foot-long kelp harvester is also stationed at the dock in addition to the two skiffs (PG&E, 2023a).

Loading of vessels would be maintained by the third party (see Figure 2-40). Once vessels are placed in the water, they can be moved to the dock for loading passengers and equipment. Boats would need to be anchored in the Marina and smaller skiffs would transport persons from their boats to the dock. It is assumed that a maximum of five boats at any given time would seek to anchor overnight in the Marina.

Figure 2-40. Existing Boat Dock in the Intake Cove

2.7.4 Public Restrooms

If the Marina is operated by a third party, public restrooms would be provided and supported by a septic and dispersal system that is appropriately sized for the Marina uses. PG&E's expectation is these wastewater systems would be located within existing developed areas of the DCPP site, such as the area where Lot 4B currently is located (see Figure 2-8) (ERM, 2023b). The septic system would be permitted, installed, and operated consistent with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22), which include setbacks from water sources, and Regional Water Quality Control Board requirements, as appropriate. Water would not be available for boat washdown or engine clearance; this would need to be carried out at another facility, such as Port San Luis.

2.7.5 Marina Operations

It is assumed that up to 200 people per day would visit the Marina. Of these visitors, 18 people would tow boats to the Marina for deployment into the ocean via the boat hoist installed on the top of the closed Intake Structure. It is assumed that an additional five boats per day would enter the Marina from the ocean. Also, it is assumed that 10 personal watercraft, such as stand-up paddle boards or kayaks, would be launched in the Marina per day. The watercraft would be launched from the existing boat dock. It is also assumed that there would be 5 employees working in support of the Marina operations. Any application for reuse would be evaluated for consistency with these assumptions as part of the land use permit CEQA determination.