



Berkeley Water Transportation Pier Ferry Project

Final SB 149 Infrastructure Project Application

prepared for

California Governor's Office of Land Use and Climate Innovation
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Attachment A	Draft EIR Project Description
Attachment B	City of Berkeley Community Workforce Agreement and First Source Agreement
Attachment C	Disadvantaged Communities Impacts Memorandum
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1 Project Description and Background

The City of Berkeley (the Applicant) submits this application in accordance with Senate Bill 149 (2023-2024), codified at California Public Resources Code (PRC) Sections 21189.80-21189.91. This application demonstrates that the Berkeley Water Transportation Pier Ferry Project (“project” or “proposed project”) meets the requirements for a Transportation Infrastructure Project under PRC Section 21189.82.

The project is a proposed partnership between the City of Berkeley (City or Berkeley) and the Water Emergency Transportation Authority (WETA) – also known as San Francisco Bay Ferry – to enhance public access and recreational opportunities at the Berkeley Waterfront, while also providing efficient environmentally friendly zero emission public ferry service between Berkeley and San Francisco.

The Berkeley Municipal Pier was closed in July 2015 due to visually observed structural problems on the underside of the concrete decking and pilings.¹ In 2017, the City retained a structural engineering firm to assess the problem and develop a range of potential solutions and costs. In 2018, staff from WETA initiated discussions with City staff regarding the possibility of new ferry service at the Berkeley Waterfront.² A new ferry service in Berkeley is consistent with WETA’s Implementation and Operations (IOP) plan developed in the early 2000s; the IOP plan presented a focused set of routes, terminals, and service improvements for expanded ferry service in the San Francisco Bay area and included Berkeley as a potential ferry landing site. The potential environmental impacts from this expansion of water transit service and routes was analyzed in the Expansion of Ferry Transit Service in the San Francisco Bay Area Program Environmental Impact Report (EIR) in 2003. This EIR will be incorporated by reference into the City’s EIR analyzing this project.

During those initial discussions, WETA and City staff realized that a single pier that would provide two uses – ferry service and public recreation—might be a cost-effective solution to achieve expanded public access and recreation opportunities as well a new ferry service. In 2019, WETA and the City Council authorized a Memorandum of Understanding Agreement (MOU) to jointly fund a planning study to evaluate the feasibility of a dual-purpose pier. The Berkeley City Council approved the MOU on March 12, 2019.³

Between January and October 2021, the City of Berkeley and WETA carried out a series of virtual outreach efforts to gather public input on the Berkeley Pier and Ferry Feasibility Study. The City held several community workshops and performed outreach to get public input, which culminated in the development of a Feasibility Study that identified the City’s preferred concept. These included:

- Three Focus Group Meetings with frequent Marina users to discuss recreational uses, pier design, and access needs.
- Three Community Workshops introducing the study, presenting design alternatives, and reviewing the preferred alternative.
- Two City Council Working Sessions to discuss study parameters, fiscal considerations, and review conceptual plans.
- One Questionnaire posted online, with 377 total responses, focusing on ferry use and pier preferences.

Among other things, one of the outcomes from the public input process was the selection of the design of the breakwater, which is known as the “Sword” design and shown in Chapter 2, *Project Description*, of the Draft EIR.

¹ Berkeley, City of. 2021. Berkeley Municipal Pier Structural Assessment Report. June. Prepared by GHD.

² SF Bay Ferry published a 2009 Draft EIR that studied establishing ferry service in the Berkeley/Albany waterfront corridor: *Berkeley/Albany Ferry Service Draft EIR*, SCH#2007022034, San Francisco Bay Area Water Transit Authority, October 28, 2008.

³ Berkeley, City of. 2019. Memorandum of Understanding: Planning Phase for the viability of a potential WETA Ferry Service and Public Recreation Pier at the Berkeley Marina. Available: <https://berkeleyca.gov/sites/default/files/documents/2019-03-12%20Item%2009%20Memorandum%20of%20Understanding.pdf>. (accessed July 2024)

In 2021 the preferred concept from the feasibility study was presented to Berkeley City Council and the WETA Board of Directors. In March 2022, WETA prepared Version 1 of the Business Plan for Berkeley Ferry Service.⁴ The Business Plan evaluates new weekday, weekend, and special event ferry service between Berkeley and San Francisco and weekend and special event ferry service between Berkeley and Larkspur. The Plan describes how the routes were selected, the ridership projections, illustrative service plans, equity considerations, the economic development opportunities, the operational and financial feasibility of the service, and the estimated capital costs. The Business Plan identifies the following opportunities from the project:

- Access to jobs in San Francisco for Berkeley residents.
- Access to jobs and classes in Berkeley for San Francisco residents/students.
- Improvements to existing recreational connections and infrastructure.
- Major events on the waterfront.
- Expansion of hotel/conference opportunities.
- Attracting new businesses/industry.
- Supporting new commercial and non-commercial recreation opportunities.

Section 6, Equity Considerations, of the Business Plan provides an overview of the demographics of the area near the project site, and identified West Berkeley as having limited options for public transit compared to other areas of the City. This section also includes an overview of the jobs available in San Francisco and identifies that ferry service between Berkeley and San Francisco would increase access to higher-paying jobs, allowing workers to live in East Bay while working in San Francisco. It also identifies that the ferry service also has potential to facilitate travel to the East Bay and the jobs available there, particularly in areas of Berkeley with high job densities such as the Bayer campus and UC Berkeley.

In June 2023, GHD finalized the Feasibility Study for the Berkeley Water Transportation Pier Ferry planning effort.⁵ Also in 2023, the Alameda County Transportation Commission and the California State Coastal Conservancy awarded the City grant funding to complete the Design/Environmental phase of the project. WETA has also allocated funds for this phase. This work is underway and is expected to be completed in 2027. Beyond the Design/Environmental phase, the City of Berkeley and WETA are both working to identify funding sources to support project implementation. WETA has been awarded previous TIRCP grants for other projects, and as the TIRCP program evolves, WETA will evaluate the possibility of using TIRCP funds for future projects, including the Berkeley Water Transportation Pier Ferry project.

The City performed additional outreach in 2025, which was conducted in part to better reach and receive feedback from historically underrepresented community members. Between January 15, 2025 and May 14, 2025, the City conducted public outreach via the following 27 events / community organization meetings:

- Berkeley Chamber of Commerce
- Lunch & Learn, Healthy Black Families
- Bike Focus Group, Bike East Bay & Walk/Bike Berkeley
- Monthly Meeting, Berkeley Business District Network
- Monthly Meeting, Gilman Business Coordinating Committee
- Monthly Meeting, Berkeley Neighborhood Council
- Regular Meeting, Berkeley Design Advocates

⁴ WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. Prepared by Economic Planning Systems, Inc. March 17. Available: <https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf>. (accessed June 2025)

⁵ Berkeley, City of. 2023. Feasibility Study: Ferry Facility at Berkeley Municipal Pier. Prepared by GHD. Available: https://berkeleyca.gov/sites/default/files/documents/FINAL_Ferry%20Terminal%20Facility%20Feasibility%20Study%20-%20Berkeley%20Municipal%20Pier.pdf. (accessed February 2026).

- Monthly Meeting, Water Emergency Transportation Authority (WETA)
- Community Partner Resource Sharing Night
- Equity Family Night, MLK Jr. Middle School Equity Family Groups
- Weekly Meeting, Berkeley Democratic Club
- West Berkeley Shuttle Board
- Monthly Meeting, Berkeley Youth Commission
- Weekly Meeting, Telegraph for People
- Monthly Meeting, City of Berkeley Parks, Recreation, and Waterfront Commission (Parking and Transportation Focus Project Update)
- Pier-Ferry Presentation, Berkeley Black Ecumenical Ministers Alliance (BBEMA)
- East Bay Conservation Committee
- Save the Bay
- UC Berkeley Urban Studies Student Association
- Egg Hunt Extravaganza
- Bay Festival
- Nototomne Cultural Preservation
- Confederated Villages of Lisjan Nation
- Muwekma Ohlone Tribal Consultation
- Berkeley Breakfast Club
- Berkeley Rotary Club
- Berkeley Parks, Recreation & Waterfront Commission Meeting

During these events, the City collected suggestions made by the community and, to the extent feasible, incorporated the suggestions into the project.⁶

1.1 Project Location

1.1.1 Regional Location

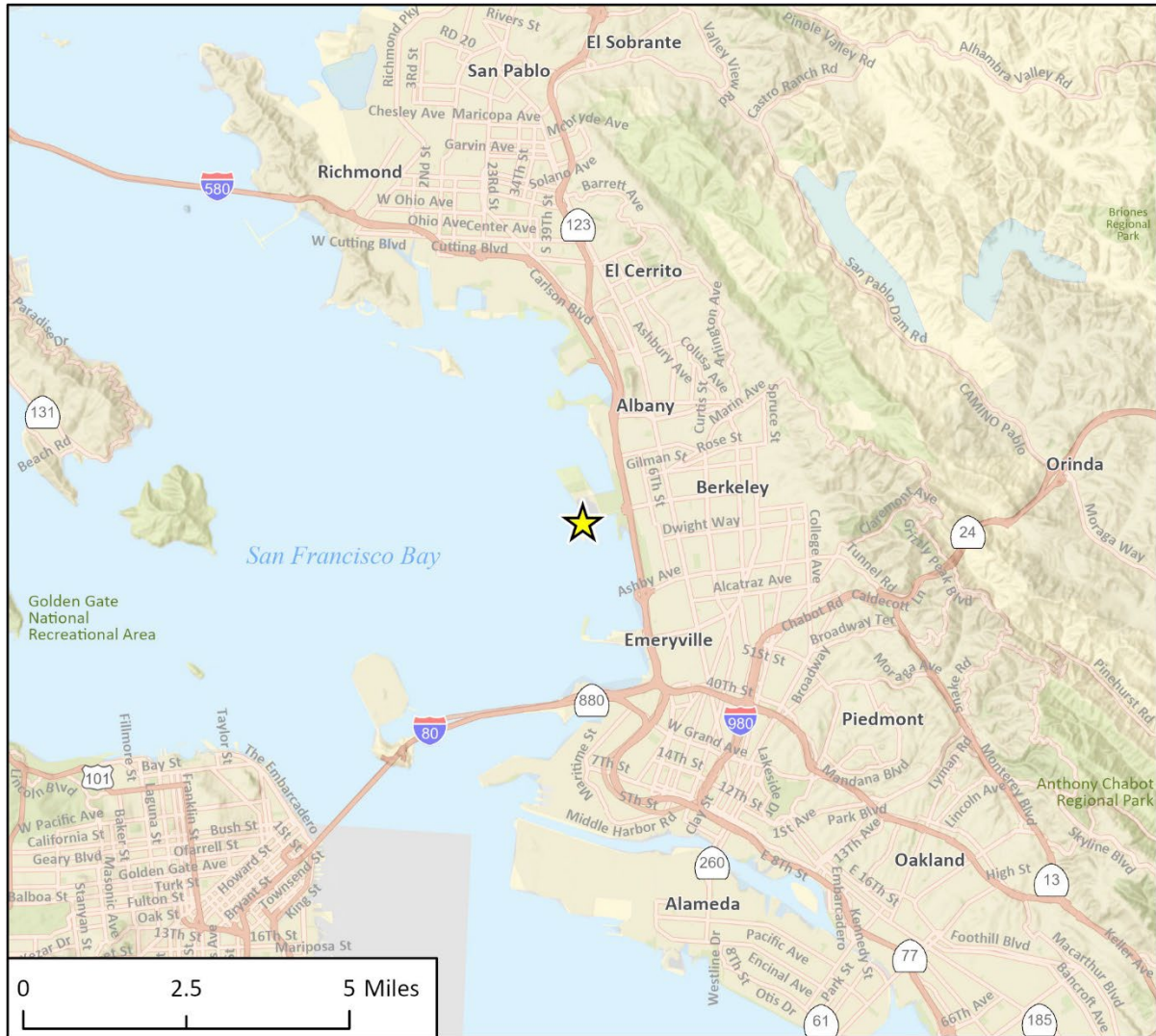
The City of Berkeley is located in northern Alameda County within the San Francisco Bay Area. Berkeley is bounded by the City of Albany and the unincorporated community of Kensington to the north, by Contra Costa County and the City of Oakland to the east, the Cities of Oakland and Emeryville to the south, and the San Francisco Bay to the west. Berkeley encompasses approximately 17.7 square miles, of which approximately 7.2 square miles is comprised of submerged/reclaimed waters of the San Francisco Bay to the west of the city. Regional access to the City of Berkeley is provided via Interstate 80 (I-80); Interstate 580 (I-580); State Route 123 (SR 123), also known as Ashby Avenue in Berkeley; and State Route 13 (SR 13), also known as San Pablo Avenue in Berkeley. The project's regional location is shown in Figure 1.

1.1.2 Project Site Setting

The project site is located within the San Francisco Bay waters and the Berkeley Waterfront, and is bounded by McLaughlin Eastshore State Park, the Berkeley Marina Basin, and the San Francisco Bay to the north; Frontage Road to the east; San Francisco Bay waters south of University Ave and parking lots to the south; and San Francisco Bay waters to the west and south (shown in Figure 2).

⁶ Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2025.

23-15427 EPS
Fig 1 Regional Location

★ Project Location

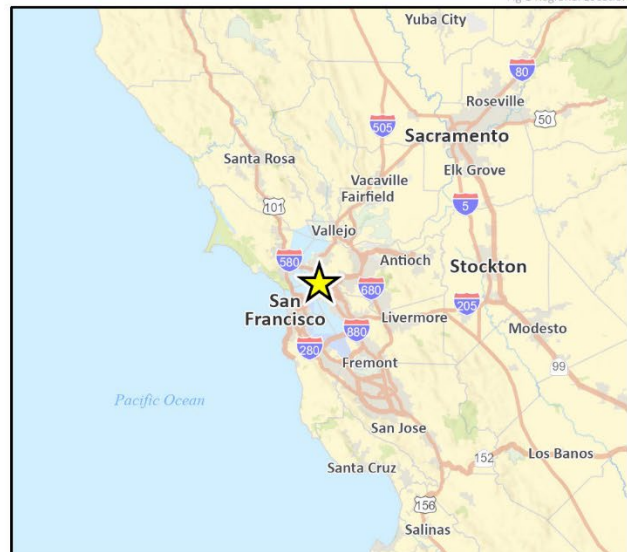


Figure 2 Project Location



Imagery provided by Esri and its licensors © 2026.

23-15427 Exhibits
Exhibit 6 Project Overview

Developed areas adjacent to the project site include commercial and government buildings, the Cal Sailing Club and UC Aquatic Center, as well as parking lots. The closest residential buildings are located approximately 0.4 mile east of the project site (just east of I-80); however, there are live-aboard boats and floating homes in the Berkeley Marina Basin. Recreational areas near the project site include César E. Chávez Park, Horseshoe Park, and Marina Mall to the north, Shorebird Park to the southeast and South Sailing Basin to the south-southeast. Vehicle access to the project site is available via University Avenue and Seawall Drive. Bicycle and pedestrian access is also available at multiple locations at the project site, including the Bay Trail. AC Transit bus route 51B provides public bus access to the project site.

1.2 Project Objectives

The objectives of the project are as follows:

- Enhance public access and recreational opportunities at the Berkeley Waterfront that:
 - Develop or enhance public pier facilities at the City of Berkeley Waterfront.
 - Provide sufficient public access and recreational opportunities at the Berkeley Waterfront that meet regional needs, consistent with BCDC Bay Plan Policies maximizing access to the Bay.
 - Minimize environmental impacts by considering existing infrastructure and sea level rise projections.
 - Encourage the use of public transit, bicycle, and other forms of active transportation and sustainable travel to access the site.
- Provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco that:
 - Improves regional connectivity and resiliency with enhanced public transportation choices for East Bay residents, including for accessing jobs in San Francisco and other locations along the Bay for commerce and recreational purposes, and to address existing deficiencies in the Transbay transportation network.
 - Reduces the use of single-occupancy vehicles for Transbay trips, thereby reducing greenhouse gas and air quality emissions and decreasing congestion on the regional roadway system, consistent with regional and Statewide goals.
 - Provides travel times and costs that are competitive with other Transbay modes of travel.
 - Provides public transit facilities that are compatible with operations and recreational activities at the Berkeley Waterfront.
 - Provides navigable conditions for safe and efficient operation of ferry vessels.
 - Provides options for emergency response and transportation services in case of an emergency, such as a natural or human-caused event that disables roads, other transit, bridges, and/or tunnels.

1.3 Project Description

Please refer to Attachment A for the Project Description in the Draft EIR. The following provides a summary of the project.

The Berkeley Pier was closed in July 2015 due to visually observed structural problems on the underside of the concrete decking and pilings. The proposed project aims to revitalize the Berkeley Waterfront by developing a new dual-purpose pier and ancillary uses that support both public recreation and zero-emission public ferry service. Specifically, the project would include the following components:

- Demolish portions of the closed pier;
- Construct a new 1,080-foot-long public pier at the same location as the closed pier with pedestrian access and recreational amenities;
- Construct a new 400-foot-long breakwater perpendicular to and connected to the new pier, providing pedestrian access and recreational amenities;
- Provide recreational amenities on the pier and breakwater that could include interpretive and educational signs, benches, shade canopy, seats, and a fish cleaning station;
- Provide ferry infrastructure including but not limited to universal charging and boarding float(s), landing(s), gangway(s), and security entrance;
- Dredging along the existing 100-foot wide United States Army Corps of Engineers federal navigation channel that parallels the closed pier.
- Construct a new public plaza with amenities such as a public restroom, benches, and bicycle parking;
- Implement improvements to University Avenue, including repaving and restriping between the round-about intersection with Marina Boulevard and the intersection with Seawall Drive and a new raised bicycle track, passenger drop off zone, and public bus infrastructure;
- Implement improvements to Seawall Drive, including re-alignment, repaving, and restriping;
- Develop a portion of the planned Bay Trail Extension, south of the pier and along Seawall Drive;
- Renovate the parking lot off Seawall Drive with new pavement, surfacing, striping, lighting, stormwater treatment, and electric vehicle charging stalls;
- Repair 300 feet of a stretch of shoreline located on the eastern side Seawall Peninsula, just north of the 199 Seawall Drive structure in the form of rock rip rap slope protection;
- Provide new landscaping as well as tree removal and replacement;
- Provide new way-finding signage and replacement lighting;
- Install new electric infrastructure to charge ferry vessels;
- Install new water connections for a restroom and hose bibs;
- Install new wastewater connections for a restroom; and
- Operate new zero-emission electric passenger ferry service, connecting the Berkeley ferry terminal to San Francisco and Larkspur ferry terminals.

In addition to the project components listed above, the City is considering adding solar panels to the renovated parking lot as an optional improvement. The City is in the process of deciding whether this feature will be incorporated into the project. The environmental impact from installing solar panels is analyzed in the EIR; however, for purposes of this application, it is assumed that energy use for all electric loads is provided by Ava Community Energy, as described in more detail below.

1.3.1 Construction

Landside

Construction of the landside components would involve the following process: demolition; site preparation; geotechnical solutions, such as deep soil mixing and/or retaining walls at the proposed plaza; grading; construction of proposed project components; shoreline revetment, paving; landscaping, lighting, and amenities. The proposed project's construction footprint is shown in Figure 3, below.

Figure 3 Proposed Project Construction Footprint



Imagery provided by Microsoft Bing and its licensors © 2025.

23-15427 EPS
 Fig X Berkeley WTPF Project Footprint

Waterside

Construction of the waterside components would involve the following process: demolition; dredging; pile installation; installation of deck, float, and gangway, and amenities. Demolition of the closed pier is anticipated to be conducted using a crane positioned on a floating crane barge and supporting tugboats, material barges, and various smaller support vessels. Demolition of the closed pier would involve the removal of the existing concrete decking followed by the removal of existing 20-inch octagonal piles. Table 1 provides a summary of the kinds of piles and the number of piles that are proposed.

Table 1 Summary of Proposed Piles⁷

Location	Pile Type	Number of Piles
Landside/Shoreline Retaining Wall	24-inch Steel Pipe Pile	46
UCF Guide and Donut Piles	36-inch Steel Pipe Pile	18
Pier, Landing Platform, and Breakwater	24-inch Octagonal Prestressed Concrete Pile	227
Breakwater	48-inch x 14-inch Concrete Sheet Pile	125

Construction Schedule

Completion of construction of the proposed project and initiation of ferry service is proposed for the end of 2028. The schedule and overall phasing of construction has not yet been determined and would be dependent on obtaining funds to construct the project, as well as completing permitting, final design, and bidding for construction. Construction is expected to begin as early as April 2027, pending construction funding.

1.3.2 Operation

Operational Scenario and Ridership⁸

A conceptual plan for ferry service has been provided in the 2022 WETA Berkeley Ferry Service Business Plan, Version 1.0.⁹ This is a living document and updates to the Business Plan and contemplated ferry service will be captured in future updates. The following ferry operation is proposed in the current Berkeley Ferry Service Business Plan, Version 1.0:

- WETA would operate two 250-passenger electric zero-emission vessels on the weekday route between Berkeley and San Francisco.
- Weekend service would operate a single 250-passenger vessel to Larkspur and a single 250-passenger vessel to San Francisco.
- At least three round-trip services would be completed during peak hours for the Berkeley/San Francisco weekday service, pursuant to WETA Board-adopted standards.
- The Berkeley-San Francisco service would travel 6.7 miles between the Berkeley Ferry Terminal and the San Francisco Ferry Terminal. The total one-way travel time would be 25 minutes, door-to-door. Weekday peak-direction headways would be approximately 35 minutes. Weekend headways would be 70 to 110 minutes, depending on the time of day.

⁷ The number of piles presented in Table 1 is based on the current design of the Project and may be reduced in the future. The number of piles in Table 1 is a conservative estimate. For example, the retaining wall may be MSE and would not require the number of piles identified.

⁸ See Chapter 1, *Introduction*, of the EIR, which explains that operation of ferry vessels is not included as part of the proposed project. This information is included to account for the number of visitors that may access the project site, in order to assess the potential environmental impacts from these additional visitors.

⁹ WETA. 2022. WWETA Berkeley Ferry Service Business Plan, Version 1.0. March 17, 2022. Available: <https://sanfranciscobayferry.com/project/berkeley-ferry-project/> (accessed January 2026).

- The Berkeley-Larkspur service would travel 11.8 miles between the terminal at the Berkeley Marina and the Larkspur Ferry Terminal. The one-way travel time would be 35 minutes, door-to-door. Weekend headways would be 90 to 150 minutes, depending on the time of day.
- Special event service may operate between Berkeley and San Francisco or Mission Bay (e.g., for events at the Chase Center or Oracle Park or future events at the Berkeley Marina), as well as between Larkspur and Berkeley.

The projected ridership for the ferry service in the first year and fifteenth year of service is provided in Table 2, below. The information presented in Table 2 shows total trips. For example, in the weekday scenario to San Francisco in the first year of service, a total of 1,910 trips is estimated. Assuming that an individual rider is taking a round trip, then the 1,910 total trips would represent 955¹⁰ unique riders taking a round trip between Berkeley and San Francisco. Per WETA standard operating procedure, ferry vessels would reduce speed to 0 to 8 knots when approaching the Berkeley pier boarding float.¹¹

Table 2 Daily Ridership (Trips)

Destination	Weekday	Weekend Day	Special Events
Projected First Year of Service			
San Francisco	1,910	1,367	209
Mission Bay ¹	2,106	1,503	209
Larkspur ²	–	515	104
Estimated Fifteenth Year of Service¹			
San Francisco	2,110	1,510	230
Mission Bay ¹	2,320	1,660	230
Larkspur ²	–	580	115

¹ Total trips (including stop at San Francisco Ferry Terminal) (i.e., ridership estimate is additive of Berkeley to San Francisco passengers)

² Weekend service only

Source: WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17

Energy Source and Consumption

The project site receives electricity from a community-governed power supplier, Ava Community Energy (Ava), formerly East Bay Community Energy, delivered by PG&E. Ava’s service area covers approximately 849 square miles, serving all of Alameda County and the cities of Tracy, Stockton, and Lathrop.¹² As of 2023, Ava’s power mix is comprised of 54.8 percent eligible renewable energy and is on track to be 100 percent carbon free by 2030.¹³

Programming and Plaza Operation

Future programming at the public plaza has not yet been determined and would depend on input from the public, as well as any regulatory agencies that have jurisdiction over the project site, such as the San Francisco Bay Conservation and Development Commission.

¹⁰ 955 riders is calculated as 1,910 total trips divided by 2 trips by one person (to San Francisco and back to Berkeley).

¹¹ 8 knots is equal to approximately 9.2 miles per hour.

¹² Ava Community Energy. 2025. What We Do. Available: <https://avaenergy.org/what-we-do/> (accessed July 2025).

¹³ Ava Community Energy. 2025. How it Works. Available: <https://avaenergy.org/your-energy-options/how-it-works/> (accessed August 2025).

1.3.3 Responsible Agency Approvals

The following responsible agency approvals would be required for proposed project implementation:

- United States Army Corps of Engineers Individual Permit pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (with U.S. Coast Guard coordination);
- California Department of Fish and Wildlife Endangered Species Act Incidental Take Permit;
- National Marine Fisheries Service Incidental Harassment Authorization Permit (if necessary);
- National Marine Fisheries Endangered Species Act Section 7 Consultation;
- Water Quality Certification (Section 401) from the San Francisco Regional Water Quality Control Board;
- State Water Resource Control Board General construction activity storm water permit under Section 402 National Pollutant Discharge Elimination System; and
- San Francisco Bay Conservation and Development Commission McAteer-Petris Act Major Permit or Major Permit Amendment.
- City of Berkeley building, engineering and associated construction related permits

In addition to ongoing coordination with responsible agencies for necessary approvals, the City has conducted extensive public outreach, as summarized in Section 1, *Project Description and Background*, of this application. This outreach involved coordination with San Francisco Bay Trail/Association of Bay Area Governments, local tribes, environmental non-governmental organizations, community organization and public presentations, workshops and surveys. For further discussion of the organizations involved in the community outreach process, please refer to the Environmental Justice Existing Conditions and Constraints Final Technical Study, available: https://berkeleypierferryproject.com/wp-content/uploads/2026/02/Berkeley_2025_BWTPF-Environmental-Justice-Technical-Study.pdf.

1.4 Summary of Alternatives

As required by the California Environmental Quality Act (CEQA), the EIR examines alternatives to the proposed project. Studied alternatives include the following four alternatives. Based on the alternatives analysis, Alternative 4 was determined to be the environmentally superior alternative.

- **Alternative 1: No Project Alternative.** Under Alternative 1, none of the improvements associated with the proposed project would occur and the current uses would remain. The deteriorated pier would remain closed, no new ferry service from Berkeley would be established, vehicle trips across the Bay would continue at their current rate, no new public plaza would be installed, none of the improvements along University Avenue or Seawall Drive would be installed, and the Seawall Drive East Parking lot would remain in its current condition. Alternative 1 would result in avoided construction impacts but would generate greater long-term impacts to aesthetics due to the lack of improvements, as well as to air quality, greenhouse gas emissions, transportation, and land use and planning due to the lack of circulation improvements and fewer reductions in criteria pollutants as a result of continued reliance on single-occupancy vehicle travel. In addition, Alternative 1 would not fulfill any of the project objectives.
- **Alternative 2: Shortened Breakwater Alternative.** Alternative 2 would retain all components of the proposed project, with a reduced-length breakwater. Construction of a shortened breakwater would result in a decrease to construction-related impacts and would maintain similar operational impacts to that of the proposed project while fulfilling most project objectives, though with somewhat reduced public access.
- **Alternative 3: Shortened Pier Alternative.** Alternative 3 would implement the proposed project as planned but would reduce the length of the pier such that it would not extend beyond the breakwater. A shortened pier would result in reductions to construction impacts while maintaining ferry service, and operational impacts would remain similar to the proposed project. However, public access and

recreational opportunities would be limited, and therefore, Alternative 3 would meet the project objectives to a lesser extent than the proposed project.

- **Alternative 4: Reduced Landside Facilities Alternative.** Alternative 4 would involve the construction of the full pier and breakwater but would eliminate landside improvements such as the public plaza, cycle track, Bay Trail Extension, parking lot upgrades, and bus facilities. Minimal landside construction would still be required under Alternative 4 to complete and ensure emergency access to the proposed Pier including the Pier Abutment itself (including deep soil mixing to create a seismically stable landing for the abutment), and retaining wall and fill in the area to create vehicle and accessible connections between the existing sidewalk/Seawall Drive and the new pier. Several construction-related impacts would be reduced as a result, however, impacts to air quality, greenhouse gas emissions, and transportation would increase long-term due to fewer multimodal access opportunities and continued reliance on single-occupancy vehicle travel. In addition, Alternative 4 would provide substantially fewer public access opportunities and recreational benefits and therefore would not fulfill all project objectives.

A comparison of the proposed projects and four alternatives is provided in Table 3, below. Environmental resource categories for which a proposed alternative would result in greater impacts are indicated with a plus sign (+), while environmental resource categories for which a proposed alternative would result in a reduced impact are denoted with a minus sign (-). For environmental resource categories for which a proposed alternative would have a similar impact compared to the proposed project, the plus and minus signs are omitted.

Table 3 Comparison of Proposed Project and Alternative Impacts

Environmental Resource Category	Proposed Project	Alternative 1 (No Project)	Alternative 2 (Shortened Breakwater)	Alternative 3 (Shortened Pier)	Alternative 4 (Reduced Landside Facilities)
Aesthetics	LTSM	LTS (+)	LTSM (=)	LTSM (=)	LTSM (-)
Air Quality	LTSM	LTS (+)	LTSM (-)	LTSM (-)	LTSM (+)
Biological Resources	LTSM	NI (-)	LTSM (-)	LTSM (-)	LTSM (-)
Cultural Resources	LTSM	NI (-)	LTSM (=)	LTSM (=)	LTSM (-)
Geology and Soils	LTSM	NI (-)	LTSM (=)	LTSM (=)	LTSM (-)
Greenhouse Gas Emissions	LTS	LTS (+)	LTS (=)	LTS (=)	LTS (+)
Hazards and Hazardous Materials	LTS	LTS (=)	LTS (=)	LTS (=)	LTS (-)
Hydrology and Water Quality	LTSM	LTS (-)	LTSM (-)	LTSM (-)	LTSM (-)
Land Use and Planning	SU	LTS (+)	SU (=)	SU (=)	SU (+)
Noise	SU	LTS (-)	SU (-)	SU (-)	SU (-)
Recreation	SU	NI (-)	SU (=)	SU (=)	SU (-)
Transportation	LTS	LTS (+)	LTS (=)	LTS (=)	LTS (+)
Tribal Cultural Resources	LTSM	NI (-)	LTSM (=)	LTSM (=)	LTSM (-)
Utilities and Service Systems	LTSM	NI (-)	LTSM (=)	LTSM (=)	LTSM (-)

LTSM: Less than Significant with Mitigation
 SU: Significant and Unavoidable Impacts
 LTS: Less than Significant Impacts
 NI: No Impact
 -: Reduced impact level(s) relative to the proposed project
 =: Similar impact level(s) relative to the proposed project
 +: Increased impact level(s) relative to the proposed project

1.5 Project Status and Schedule

Environmental planning efforts are underway, with the Applicant working as the California Environmental Quality Act (CEQA) lead agency. A Notice of Preparation of an EIR was released on April 18, 2025, and the Draft EIR is anticipated to be released in March 2026. The Berkeley City Council is expected to consider certification of the Final EIR and whether to adopt the project by Fall 2026. The overall schedule and phasing of construction has not yet been determined and would be dependent on obtaining funds to construct the project, as well as completing permitting, final design, and bidding for construction. The project may be completed in a single or multiple phases depending on these factors. Completion of construction of the proposed project and initiation of ferry service is proposed for the end of 2028.

2 Consistency with Statutory Requirements for Streamlining Under SB 149

This chapter summarizes each applicable section of the California Public Resources Code (PRC) (PRC §§21189.80 – 21189.91) as amended by Senate Bill (SB) 149 and describes how the project complies with the requirements in the section. Additional supporting information is provided in attachments, as warranted.

2.1 Transportation-Related Project

PRC Section 21189.81(e)(3) defines the term “infrastructure project” to include a “transportation-related project.” PRC section 21189.81(g)(1) defines a “transportation-related project” to include “a transportation infrastructure project that advances one or more of, and does not conflict with, the following goals related to the Climate Action Plan for Transportation Infrastructure adopted by the Transportation Agency.”

The project qualifies as an “infrastructure project” under PRC Section 21189.81(e)(3) because it is a “transportation related project” under PRC Section 21189.81(g)(1). Please see below for a discussion of the project’s consistency with PRC Section 21189(g)(1).

2.2 Consistency with Climate Action Plan for Transportation Infrastructure

PRC Section 21189.81(g)(1) defines a “transportation-related project” as a transportation infrastructure project that advances one or more of, and does not conflict with, the following goals related to the Climate Action Plan for Transportation Infrastructure adopted by the Transportation Agency:

- (A) Build toward an integrated, statewide rail and transit network.
- (B) Invest in networks of safe and accessible bicycle and pedestrian infrastructure.
- (C) Include investments in light-, medium-, and heavy-duty zero-emission vehicle infrastructure.
- (D) Develop a zero-emission freight transportation system.
- (E) Reduce public health and economic harms and maximize community benefits.
- (F) Make safety improvements to reduce fatalities and severe injuries of all users towards zero.
- (G) Assess and integrate assessments of physical climate risk.
- (H) Promote projects that do not significantly increase passenger vehicle travel.
- (I) Promote compact infill development while protecting residents and businesses from displacement.
- (J) Protect natural and working lands.

The project qualifies as an Infrastructure project as a “transportation-related project” under PRC Section 21189.81(g)(1) because it would advance or fulfill Goals (A), (B), (C), (E), (F), (G), and (H) and it would not conflict with Goals (D), (I), or (J) of the Climate Action Plan for Transportation Infrastructure, as described below.

Goal (A) Build Toward an Integrated, Statewide Rail and Transit Network

The project would directly support the development of an integrated, multimodal transit system by constructing and operating a new transbay ferry terminal that would connect Berkeley to San Francisco and Larkspur via zero-emission WETA ferry service. The service would integrate into WETA’s San Francisco Bay network of ferry boats providing multimodal service as well as emergency response, and

would provide a reliable and accessible alternative to bridge travel, creating seamless connections to regional rail and local transit systems. As part of WETA's region-wide emergency response responsibilities, operation of the Berkeley terminal would support post-disaster water-transportation routes used to move first responders and evacuees between ferry terminals and designated care and shelter sites or base camps, thereby strengthening statewide resilience and multimodal emergency connectivity.¹⁴ On a regular non-emergency basis, the weekday Berkeley-San Francisco route would be served by two 250-passenger electric vessels that would offer competitive travel times of approximately 25 minutes one-way, with peak headways of approximately 35 minutes. WETA estimates that in the first year of project operations, daily ridership would consist of approximately 1,910 trips, equivalent to approximately 955 unique round-trip ferry users daily. This would represent a high-impact, low-carbon, accessible public transit service, as the weekday Berkeley-San Francisco service would link the Berkeley Waterfront to the San Francisco Ferry Building, which has direct pedestrian connections to BART Embarcadero and Muni Metro, as well as short transfers to regional buses, the Transbay Transit Center, and Caltrain serving the Peninsula. Similarly, the weekend Berkeley-Larkspur service would create a two-way connection with SMART via Golden Gate Transit links at Larkspur, expanding non-auto access regionally between the East Bay, Marin, and Sonoma. In addition, WETA identifies existing gaps in transit access to jobs in West Berkeley, with the area having fewer jobs reachable with a 30-minute peak-hour transit trip, along with lower median incomes, higher unemployment rates, and a greater share of non-white residents compared with the broader city and regional averages.¹⁵ By providing an additional high-quality transbay option and strengthening first/last-mile bus and bicycle connections, the project would improve transit access for a community that is currently under-served by regional rail, demonstrating that the ferry service would fill a transit gap rather than divert riders from existing transit services. On the landside, the project would enhance bus access by relocating the AC Transit Line 51B westbound stop to the far side of the Marina Boulevard crosswalk and constructing new bus passenger loading islands, thereby improving the safety of existing transit facilities and reducing pedestrian conflict points. These improvements would ensure that ferry users can conveniently transfer between ferry, bus, bicycle, and pedestrian modes of travel, reinforcing and advancing seamless regional connectivity. These infrastructure improvements would also allow for potential future expansion of AC Transit (although such future expansion is not considered part of the project). Therefore, the project would advance Goal (A), *build toward an integrated, statewide rail and transit network*.

Goal (B) Invest in Networks of Safe and Accessible Bicycle and Pedestrian Infrastructure

The project would provide substantial new active transportation improvements that would increase the safety and continuity of bicycle and pedestrian routes to the Berkeley Waterfront. Along University Avenue, the project would introduce a grade-separated, two-way, 12-foot-wide raised cycle track extending approximately 1,800 feet, providing a physically protected facility that enhances user safety and encourages ridership, which would connect directly to the Bay Trail at its eastern limit, and connect directly to a new section of the Bay Trail Extension (12-foot paved multi-use path with 2-foot shoulders along Seawall Drive) at its western end. These elements would create a continuous, low-stress active transportation corridor linking the regional network to the Berkeley Pier and Ferry terminal.

In addition, the project would include various amenities to support and encourage active transportation, including an ADA-accessible public plaza designed to facilitate pedestrian and bicycle circulation and to provide a safe location for active transportation users to gather and rest, twelve bicycle lockers (24-bike capacity), bicycle racks for additional short-term parking at both the public plaza and Seawall Drive, enhanced pedestrian crossings, and wayfinding signage throughout the Waterfront. The project also includes supportive facilities such as an ADA-accessible public restroom, seating, lighting, and

¹⁴ San Francisco Bay Ferry. 2025. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed January 2026).

¹⁵ WETA. 2022. WETA Berkeley Ferry Service. <https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf> (accessed January 2026).

landscaping, all of which improve user experience and accessibility to encourage greater use of the bicycle and pedestrian network.

Collectively, these improvements would create a safe and continuous active transportation network supported by amenities that reduce barriers to use and enhance the overall user experience, strengthen regional Bay Trail connectivity, and facilitate non-automobile access to the Waterfront, Pier and proposed ferry terminal. By combining high-quality infrastructure with amenities that support and incentivize walking and bicycling, the proposed project would advance Goal (B), *invest in networks of safe and accessible bicycle and pedestrian infrastructure*.

Goal (C) Include Investments in Light-, Medium-, and Heavy-Duty Zero-Emission Vehicle Infrastructure

The project would constitute a major regional investment in zero-emission vehicle infrastructure. The design would include Universal Charging Floats that deliver 4 MW, 23 kV shore power to charge WETA's all-electric ferry vessels. Each float would include marine-grade Echandia LTO battery storage (~1,351 kWh) for load-leveling, redundancy, and operational resilience in the event of short-term power disruptions. On the land, the renovated Seawall Drive parking areas would incorporate electric vehicle charging stalls with the option to include an elevated solar canopy paired with battery energy storage, which could further support ferry charging demand. The project's electricity would be primarily supplied through Ava Community Energy's increasingly renewable energy mix, which as of 2023 was 54.8 percent renewable as the energy provider progresses toward its goal of being 100 percent carbon-free by 2030.¹⁶ Therefore, the project would advance the State's transition toward zero-emission mobility through both its Landside and Waterside improvements, and would advance Goal (C), *include investments in light-, medium-, and heavy-duty zero-emission vehicle infrastructure*.

Goal (D) Develop a Zero-Emission Freight Transportation System

The project would primarily support passenger transportation, as well as strengthen regional emergency response capabilities, consistent with WETA's role to operate and coordinate emergency water transit when regional systems are disrupted by disaster. In compliance with its Emergency Response Plan, WETA would manage emergency water transportation operation after a catastrophic incident (such as an earthquake) that would result in severe damage to normal transportation systems. Emergency operations could include the emergency movement of survivors, first responders and disaster service workers following a major disaster. In an emergency situation, WETA would manage and operate water transportation routes that provide service between ferry terminals as part of a larger transportation system that connects with care and shelter sites or base camps. Movement of first responders and disaster service workers into incident areas to provide life safety services is likely to require shuttle service as many of these individuals would stage out of base camps away from incident locations.¹⁷ Although the project would not introduce freight operations, it would represent an investment in and advancement of overall regional zero-emission transportation infrastructure. It would not hinder the State's efforts to develop zero-emission freight infrastructure and would not introduce any conflicts with freight-related corridors or energy demands. Therefore, the project would not conflict with Goal (D), *develop a zero-emission freight transportation system*.

¹⁶ Ava Community Energy. 2026. How it Works. Available: <https://avaenergy.org/your-energy-options/how-it-works/> (accessed January 2026).

¹⁷ San Francisco Bay Ferry. 2025. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed January 2026)

Goal (E) Reduce Public Health and Economic Harms and Maximize Community Benefits

The project would reduce public health harm through its ferry service and active transportation enhancements. Operation of the project would provide an opportunity to shift transbay travel from single-occupancy vehicles to zero-emission ferries, which would reduce regional vehicle miles traveled (VMT) and associated greenhouse gas emissions, thereby reducing exposure to localized air pollutants. In addition, the project's active transportation improvements and transit upgrades would provide expanded mobility options for residents who currently rely on auto travel, further reducing VMT while introducing recreational opportunities through the proposed pedestrian and bicyclist amenities.

The design and composition of these transportation improvements have been directly informed by extensive community engagement led by the City of Berkeley beginning in 2021, including over 50 public meetings, workshops, and stakeholder discussions. Feedback from residents, advocacy groups, and Waterfront users resulted in key design refinements that prioritize safety, accessibility, and multimodal connectivity, such as aligning the pier and ferry infrastructure to minimize in-water conflicts, inclusion of a separated cycle track along University Avenue to reduce landside conflicts, expanded AC Transit bus stop capacity to support increased transit service, and a Bay Trail extension identified as a top community priority to improve shoreline access. Community feedback provided an instrumental role in project development to ensure that the project helps to address both regional objectives and community-identified safety needs and mobility gaps.

The project would also introduce various community-serving amenities, including a new ADA-accessible public plaza designed to accommodate community events, and would include landscaping, artistic paving, and public seating; a new restroom building with accessible stalls; a fish cleaning station, benches, shade canopies, and interpretive signage on the pier and breakwater; safer bus stops with loading islands; bicycle lockers and racks, wayfinding signage, and improved pedestrian areas; and improved parking infrastructure with electric vehicle charging stalls, safe lighting, and improved circulation. These amenities would expand public access and recreational opportunities, as well as support local Waterfront businesses through increased visitation from ferry riders and active transportation users. The plaza and Waterfront improvements reflect community priorities for flexible and inclusive public space, emphasizing open space for programming, improved shoreline access for diverse users, and preservation of existing recreational uses, all of which were shaped through public engagement to maximize safety and overall community benefit.

In addition, the project would reduce local economic harms by providing East Bay residents with an affordable transbay transit option, thereby improving the accessibility of higher-paying jobs. As discussed further in Section 2.3, *Public Works*, WETA identifies existing gaps in transit access to jobs in West Berkeley, with the area having fewer jobs reachable with a 30-minute peak-hour transit trip, along with lower median incomes, higher unemployment rates, and a greater share of non-white residents compared with the broader city and regional averages.¹⁸ Accordingly, the project's community benefits would go beyond recreation and public access, as its transbay ferry service and other landside transportation improvements would represent a meaningful connection to higher-wage employment opportunities for East Bay residents, ameliorating existing economic inequity in the project vicinity.

While a formal community benefits agreement has not been pursued, the project inherently advances community benefit objectives because it is located on public trust lands required to serve public purposes, including public access, water-dependent transportation, recreation, and environmental protection. Consistent with these requirements, the project has been designed in coordination with the City and community stakeholders to maximize public access, support equitable mobility, and deliver long-term public benefits. Therefore, the project would advance Goal (E), *reduce public health and economic harms and maximize community benefits*.

¹⁸ WETA. 2022. WETA Berkeley Ferry Service. <https://d262kwcyl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf> (accessed January 2026).

Goal (F) Make Safety Improvements to Reduce Fatalities and Severe Injuries of All Users Towards Zero

According to data from the City of Berkeley Police Department, there have been five reported traffic incidents within the vicinity of the project over the past 15 years, which have resulted in one injury and one fatality. The fatality involved a single vehicle traveling at a high speed and did not involve pedestrians or bicyclists. While overall crash frequency is low, these data highlight the importance of safety design to prevent high-severity incidents and maintain safe conditions for all users. As such, safety considerations and improvements are integrated throughout the project's design. Landside, the project would relocate the AC Transit Line 51B stop to the far side of the University Avenue/Marina Boulevard crosswalk and introduce new bus loading islands, which would reduce pedestrian-bus conflicts and improve pedestrian safety. In addition, the project's active transportation improvements, such as the 12-foot raised cycle track and 3-foot buffer improved sidewalks, as well as the use of down-cast DarkSky-compliant lighting, would improve nighttime visibility and reduce the potential for conflicts between vehicles, pedestrians, and bicyclists. Parking lot renovation would also include clearly defined pedestrian pathways and improved lighting to reduce collision risks and enhance safety for visitors. Through the public engagement process, safety concerns raised by community members and Waterfront users included vehicle break-ins and overall security within parking areas, particularly in low-light conditions. In response, the project incorporates improved lighting elements that passively improve user safety.

The pier would similarly include new lighting for improved visibility, as well as new guardrails. The pier would also be designed to accommodate emergency access for fire and medical vehicles, improving safety at the Waterfront. In addition, as described under Goal (D) Consistency, above, the project would bolster WETA's emergency response capabilities, thereby improving safety at the regional level. Collectively, these design elements reflect both data-driven safety needs and community-identified concerns, and align with Goal (F) principles by proactively reducing the likelihood and severity of roadway conflicts while improving personal security for all users. Therefore, the project would advance Goal (F), *make safety improvements to reduce fatalities and severe injuries of all users toward zero*.

Goal (G) Assess and Integrate Assessments of Physical Climate Risks

The project would incorporate multiple adaptation measures to address climate-related hazards, particularly sea-level rise (SLR), storm events, and strong wave exposure. The project design takes into account projected sea level rise. The pier itself is designed to Risk Category IV (Essential Facility) performance standards to ensure structural integrity during natural or man-made disasters. The infrastructure would include adjustable gangways and boarding floats, which would maintain operational reliability across tidal ranges and future SLR conditions, while the approximately 400-foot breakwater would provide a sheltered harbor to reduce wave energy at the pier. In addition, the zero-emission ferry vessels would be supported by the Universal Charging Floats' integrated battery system and Ava Community Energy's renewable energy mix, with the potential for additional use of renewable energy if the City chooses to implement the optional parking lot solar canopy, all of which would increase the resilience of vessel charging during temporary electrical disruptions. In addition, in the event of an emergency when electrical power is disrupted, WETA envisions using a power generation barge, which would be brought to the Universal Charging Float and electrically connected to maintain vessel charging capabilities. Furthermore, the project would bolster WETA's emergency response capabilities. WETA is legislatively mandated to operate and coordinate emergency water transit when regional systems are disrupted due to disasters, such as physical climate risks.¹⁹ As documented in WETA's emergency operations framework, emergency water transportation is activated when major disruptions affect regional transbay infrastructure, such as closure of the Bay Bridge, BART Transbay Tube shutdowns, or other long-term outages, providing a resilient transportation alternative when other modes are unavailable

¹⁹ San Francisco Bay Ferry. 2025. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed January 2026).

or constrained.²⁰ Emergency operation could include the emergency movement of survivors, first responders and disaster service workers following a major disaster. In an emergency situation, WETA would manage and operate water transportation routes that provide service between ferry terminals as part of a larger transportation system that connects with care and shelter sites or base camps. The project's Landside and Waterside design would improve the project site's resilience to physical climate risks, while operation of emergency ferry services would improve the region's capacity to respond to emergencies caused by physical climate risks. Therefore, the project would advance Goal (G), *assess and integrate assessments of physical climate risks*.

Goal (H) Consistency: Promote Projects That Do Not Significantly Increase Passenger Vehicle Travel

The project has been intentionally designed to avoid increases in automobile traffic, instead prioritizing transit-first and active transportation access. The project would offer Bay Area residents an affordable zero-emission transbay transit option, with WETA estimating that in the first year of operations, the ferry would serve approximately 955 unique users daily for a total weekday demand of approximately 1,910 ferry trips, thereby replacing a significant number of transbay car trips that would otherwise occur on I-80 and the Bay Bridge. In addition, the project would incorporate multimodal features, including improvements to the AC Transit Line 51B westbound stop and crosswalk, the raised cycle track, Bay Trail Extension, bicycle parking and lockers, and the pedestrian-oriented plaza design, all of which would support convenient access to the ferry terminal by alternative modes of transportation that would not rely on passenger vehicles. These Transportation Demand Management (TDM) strategies have been developed, in part, as part of the City's Parking and Transportation Demand Management (TDM) Plan.^{21 22} Therefore, the project would advance Goal (H), *promote projects that do not significantly increase passenger vehicle travel*.

Goal (I) Consistency: Promote Compact Infill Development While Protecting Residents and Businesses from Displacement

The project would occur on City-owned land and would not involve the removal or displacement of any residences or businesses. Existing liveaboards and commercial uses at the marina would continue, as the project does not include changes to the existing marina. The project would not draw business or recreators away from existing businesses or recreation opportunities at the Waterfront. On the contrary, the construction of recreational and ferry facilities proposed by the project would have positive economic and social effects on the Berkeley Waterfront and surrounding areas by drawing new customers and recreators to the area. While the project is located on public trust lands that are designated for water-dependent uses and therefore cannot accommodate residential or mixed-use infill development, the City and WETA have coordinated to ensure that the project supports compact development patterns in adjacent areas, including West Berkeley and major corridors such as San Pablo Avenue. These nearby areas are planned for and experiencing infill and mixed-use development, and the project has been designed to complement and enhance those land use patterns.

As identified in WETA's Berkeley Ferry Service Business Plan, West Berkeley currently experiences relatively limited transit access compared to other parts of the city, alongside concentrations of lower-income and historically underserved populations. The project would improve access to employment, education, and essential services within Berkeley, as well as to major job centers such as San Francisco,

²⁰ San Francisco Bay Ferry. 2025. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed January 2026).

²¹ Berkeley, City of. 2025. Water Transportation Pier-Ferry Project Parking and TDM Plan. March. Available: <https://berkeleyca.gov/sites/default/files/documents/Berkeley-WTPF-Parking-and-TDM-Plan-March-2025-Public-Draft.pdf> (accessed January 2026)

²² Berkeley, City of. 2025. Water Transportation Pier-Ferry Project Parking and TDM Plan Addendum. May. Available: https://berkeleyca.gov/sites/default/files/documents/Addendum_Draft-Water-Transportation-Pier-Ferry-Project-Parking-and-TDM-Plan.pdf (accessed January 2026)

where wages are higher on average.²³ By expanding high-quality transbay transit and improving first- and last-mile connectivity, the project addresses existing transit accessibility gaps and supports equitable access to employment, reinforcing compact development by improving the feasibility of living and working in infill areas without reliance on single-occupancy vehicles.

In addition, the project would further support community stability by replacing deteriorated pier infrastructure, including the removal of approximately 1,280 feet of the closed, 2,970-foot-long existing Berkeley Pier, with a new, structurally sound 1,080-foot pier and accessible 400-foot breakwater walkway that would maintain and enhance public access and recreational fishing opportunities. Furthermore, the project includes additional amenities such as fish cleaning stations, benches, and canopies along the pier, as well as an ADA-accessible public plaza designed to be pedestrian-oriented and to facilitate public gatherings, and active transportation improvements such as the raised cycle track, bicycle lockers, bicycle racks, and Bay Trail Extension, which would draw in additional visitors and further improve public access, recreation, and community benefits. Additionally, the project's multimodal access improvements support compact development patterns by reducing reliance on automobile travel and improving first- and last-mile connectivity between the Waterfront and adjacent urban areas. These improvements make it more feasible for existing and future infill developments in nearby districts to be served by high-quality, zero-emissions transportation options. This includes planned growth areas such as the San Pablo Avenue corridor, where the City is currently advancing a Specific Plan to guide higher-density, mixed-use development supported by expanded regional and transbay public transit options provided by the proposed project.

Although the exact increase in recreators is not known, WETA estimates that in the first year of operations, the ferry would serve approximately 955 unique weekday users daily, representing a substantial increase in visitors to the Waterfront. Existing businesses and existing recreational uses would continue and could flourish from increased activity at the Berkeley Waterfront. Through this coordinated approach the project does not directly develop infill housing or commercial space due to public trust constraints but instead functions as essential supporting infrastructure that facilitates and reinforces compact, transit-oriented development in surrounding areas, improves equitable access to jobs and services for residents in those areas, and does so without displacing existing residents or businesses. Therefore, the project would not conflict with Goal (I), *promote compact infill development while protecting residents and businesses from displacement*.

Goal (J) Consistency: Protect Natural and Working Lands

The project has been designed to minimize environmental impacts on natural and aquatic resources. As described in the Draft EIR, all impacts to biological resources would be mitigated to a less than significant level. Waterside, the project site consists of developed, armored shoreline and does not contain eelgrass beds or other sensitive habitats. Although in-water construction activities such as pile driving and dredging would be required, they would be implemented with seasonal work windows, sound attenuation measures, soft-start procedures, and biological monitoring in accordance with mitigation measures identified in the Draft EIR. The Draft EIR also requires compensatory mitigation in the form of removal of additional piers from the abandoned pier. In addition, the City is coordinating with regulatory agencies to address impacts on biological resources through the permitting process; those agencies may impose additional conditions of approval on the project. Onshore, the project would occur in areas that have been primarily disturbed, such as roadways and parking lots. Approximately 300 feet of shoreline will be repaired to address active erosion and restore the structural integrity of the existing riprap slope, which is not used for beach or swimmer access because it is armored and steeply sloped. Project landscaping would incorporate new trees and stormwater treatment areas, thereby offsetting landscape disturbance and improving ecological function. The project would not conflict with Goal (J), *protect natural and working lands*.

²³ WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. Prepared by Economic Planning Systems, Inc. March 17. Available: <https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf>. (accessed June 2026).

Climate Action Plan Consistency Summary

- (A) *Build toward an integrated, statewide rail and transit network:*
 - **Advances Goal.** The project advances regional multimodal connectivity by adding zero-emission ferry service from Berkeley with bus, bicycle, and pedestrian access improvements that integrate the Waterfront into WETA's regional transit network.
- (B) *Invest in networks of safe and accessible bicycle and pedestrian infrastructure:*
 - **Advances Goal.** The project includes a new 12-foot wide raised cycle track, Bay Trail Extension, ADA-accessible plaza, enhanced crossings, and wayfinding signage that expand safe active transportation access to the Waterfront.
- (C) *Include investments in light-, medium-, and heavy-duty zero-emission vehicle infrastructure:*
 - **Advances Goal.** The project would facilitate high-capacity electric ferry charging via Universal Charging Floats, while landside improvements would incorporate electric vehicle charging and the option for solar and battery storage, supporting zero-emission vehicle infrastructure.
- (D) *Develop a zero-emission freight transportation system:*
 - **No Conflict.** Although not a freight facility, the project would provide passenger transit and enhanced regional emergency response capabilities, and would advance community investments in and development of zero-emission transportation. It would not introduce any conflicts with the development of a zero-emission freight transportation system.
- (E) *Reduce public health and economic harms and maximize community benefits:*
 - **Advances Goal.** The project reduces VMT and emissions through operation of a zero-emission ferry service and the introduction of extensive public amenities and active transportation opportunities, which would enhance public health and access. The project would also connect East Bay residents to high-wage job opportunities in the region, reducing local economic inequity.
- (F) *Make safety improvements to reduce fatalities and severe injuries of all users towards zero.*
 - **Advances Goal.** The project improves multimodal safety with protected bikeways, an upgraded bus stop with new loading islands, pedestrian-scaled lighting, ADA-accessibility, and safe pier access compliant with emergency response requirements. The project would also improve regional safety by expanding WETA's emergency response capabilities.
- (G) *Assess and integrate assessments of physical climate risk:*
 - **Advances Goal.** The project incorporates climate adaptation into its design, including raising the plaza elevation by approximately 5.5 feet, designing the pier to Risk Category IV standards, installing adjustable floats, constructing a wave-attenuating breakwater, relying on a resilient electricity supply to support zero-emission ferry service, and expanding WETA's capabilities to provide emergency water transit in the event of a disaster, including those caused by physical climate risks.
- (H) *Promote projects that do not significantly increase passenger vehicle travel:*
 - **Advances Goal.** The project is designed to shift Waterfront access and transbay travel away from single-occupancy vehicle use through robust transit, bicycle, and pedestrian improvements that are expected to replace thousands of potential transbay car trips.
- (I) *Promote compact infill development while protecting residents and businesses from displacement:*
 - **No Conflict.** The project would occur within an existing public Waterfront area, would not displace any housing or commercial uses, including liveaboards in the marina, and would replace deteriorated pier infrastructure with new public access while supporting increased visitation to existing Waterfront businesses.

- (J) *Protect natural and working lands:*
 - **No Conflict.** The project avoids sensitive habitats, as the site consists of developed riprap shoreline with no wetlands or eelgrass, and applies strict in-water environmental protections and shoreline revitalization measures to minimize biological and coastal resource impacts.

2.3 Public Works

PRC § 21189.81(g)(2): Transportation-related projects are public works for the purposes of Section 1720 of the Labor Code and shall comply with the applicable provisions of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code.

Pursuant to Section 1720 of the Labor Code, construction of the project would constitute a public work and therefore comply with the prevailing wage and skilled workforce requirements set forth in Chapter 1 of Part 7 of Division 2 of the Labor Code. "Public works" are defined to include construction, alteration, demolition, installation, or repair work. Operation of the project, which would include transbay ferry service, would not fall within the definition of public works established by Section 1720 of the Labor Code. Accordingly, while construction activities would be subject to prevailing wage and skilled workforce requirements, operation of the ferry service would not.

In addition to Section 1720 of the Labor Code, construction contracts awarded by the City with an estimated value exceeding \$500,000 are subject to the City of Berkeley's Community Workforce Agreement (CWA). The CWA is a project labor agreement with Alameda County Building and Construction Trades Council that goes beyond Section 1720 by setting local hiring goals, integrating pathways for apprenticeship/pre-apprenticeship, and establishing procedures to prevent work stoppages and resolve disputes. Pursuant to Berkeley Municipal Code Section 13.26.080, city contracts between \$100,000 and \$500,000 are subject to Berkeley's First Source Program. Although contractors retain full hiring discretion, contractors must use the City's First Source as the initial recruitment and referral portal, allow an initial three-day applicant referral window (with limited emergency waivers), and interview qualified First Source referrals before considering other candidates. Attachment B includes the CWA and First Source requirements.

Both the CWA and First Source requirements may be waived where prohibited by federal or state law or specific funding agreements. For example, FEMA has generally restricted "first source" type provisions on some disaster grants but does not prohibit workforce agreements such as CWA. If federal funds with such conditions are involved, the City will coordinate to ensure any required waivers are documented while maintaining all Labor Code Section 1720 obligations.

Although operation of the project is not considered a public work and is therefore not subject to Labor Code Section 1720 requirements, WETA's Berkeley Ferry Service Business Plan identifies equitable job access as a priority for the project. The proposed project is located near West Berkeley's growing employment hub, and as such, ferry access is expected to support existing activities as well as attract new events and businesses. In addition, by facilitating zero-emission ferry transit to San Francisco, the project would increase access from Berkeley and neighboring communities to higher-paying job centers. WETA estimates that on average, jobs in San Francisco and San Mateo offer salaries approximately 21 percent higher than jobs in Alameda and Contra Costa. Accordingly, the project would be a practical pathway to a higher income for residents of the East Bay. Additionally, WETA documents transit job-access gaps in West Berkeley. Within the vicinity of the project site, there are fewer jobs reachable within a 30-minute peak transit trip, lower median incomes, higher unemployment rates, and a higher share of non-white residents compared to the broader city and region.²⁴ The ferry, combined with the pedestrian, cycle, roadway, and public transit facility improvements that the project would involve, would address these disparities by improving safe, affordable, multimodal access to opportunities such as higher-paying jobs, higher education, and recreation in the Bay Area. Therefore, although operation of the ferry is not

²⁴ WETA. 2022. WETA Berkeley Ferry Service. <https://d262kwcyl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf> (accessed January 2026).

subject to Section 1720 requirements, project operation would fulfill similar goals by providing Berkeley residents with increased opportunity to high-wage jobs.

2.4 Transportation Related Projects

PRC § 21189.82(a)(3)(A): The Governor may certify up to 20 transportation-related projects for purposes of this chapter, including up to 10 state projects proposed by the Department of Transportation and up to 10 local or regional projects, that meet the requirements of subdivision (g) of Section 21189.81.

The project is a transportation-related project that fulfills the requirements of Section 21189.81(g). See above discussion under Section 2.2 (*PRC § 21189.81(g)(1)*). To date, the Governor has certified one other transportation-related project and the cap of 20 has not yet been used. If approved, this project would be one of the 10 local or regional projects.

2.5 Disadvantaged Communities

PRC § 21189.82(c): An applicant for certification of an infrastructure project under this chapter shall do all of the following:

- (1) Avoid or minimize significant environmental impacts in any disadvantaged community.***
- (2) If measures are required pursuant to this division to mitigate significant environmental impacts in a disadvantaged community, mitigate those impacts consistent with this division, including Section 21002. Mitigation measures required under this subdivision shall be undertaken in, and directly benefit, the affected community.***
- (3) Enter into a binding and enforceable agreement to comply with this subdivision in its application to the Governor and to the lead agency prior to the agency's certification of the environmental impact report for the project.***

Pursuant to *PRC § 21189.82(c)*, a Disadvantaged Communities Memorandum was prepared to support this application. The following includes a summary of the Disadvantaged Communities Memorandum. Please refer to Attachment C to review the full analysis.

CalEnviroScreen results indicate that the census tract encompassing the project site does not meet the CalEPA definition of a disadvantaged community (DAC) at the tract level.

However, the census tract encompassing the project site exhibits elevated scores for several individual pollution-burden indicators and includes populations with recognized vulnerabilities, such as low-income households, minority residents, and live-aboard communities within the Berkeley Marina who may be more sensitive to environmental exposures. Therefore, the project site was evaluated for potential impacts on DACs consistent with *PRC § 21189.82(c)*.

Consistent with *PRC § 21189.82(c)(1)* requirements to avoid or minimize impacts in DACs, the project incorporates enforceable mitigation measures and design features that would reduce potential temporary construction-related air quality, noise, and hazardous materials impacts. Operational emissions would be minimal due to the use of zero-emission vessels, and long-term hazardous material use is not anticipated. Applicable mitigation measures, including AQ-1 and NOI-1 (refer to Attachment E), would be implemented within and directly benefit affected communities in accordance with *PRC § 21189.82(c)(2)*, and formalized through a binding and enforceable agreement via the Mitigation Monitoring and Reporting Program and compliance with *PRC § 21189.82(c)(3)* if the project is approved.

In addition to required mitigation, the project includes components that would serve as benefits to the surrounding DACs, such as improved multimodal access, expanded pedestrian and bicycle facilities, and enhanced access to the Waterfront. While communities near the project site exhibit characteristics associated with disadvantaged or vulnerable populations, the analysis in the DAC Memorandum

(Attachment C) concludes that the project would not result in disproportionately high or adverse environmental or public health impacts, with the exception of special-event noise, which would remain significant and unavoidable after mitigation. All other potential impacts would be temporary, minimized to the extent feasible, and addressed through compliance with CEQA and *PRC § 21189.82*.

2.6 Minimization of Greenhouse Gas Emissions

PRC § 21189.83(b): In addition to the requirements of Section 21189.82, with respect to any transportation-related project, the Governor may certify the project pursuant to this chapter only if the project does not result in any net additional emission of greenhouse gases, excluding greenhouse gas emissions from employee transportation. For purposes of this section, a project is deemed to meet the requirements of this section if the applicant demonstrates to the satisfaction of the Governor that the applicant has a binding commitment that it will mitigate impacts resulting from the emission of greenhouse gases, if any, preferably through direct emissions reductions where feasible, but where not feasible, then through the use of offsets that are real, permanent, verifiable, and enforceable, and that provide a specific, quantifiable, and direct environmental and public health benefit to the same air pollution control district or air quality management district in which the project is located, but if all of the project impacts cannot be feasibly and fully mitigated in the same air pollution control district or air quality management district, then remaining unmitigated impacts shall be mitigated through the use of offsets that provide a specific, quantifiable, and direct environmental and public health benefit to the region in which the project is located.

PRC § 21189.83(c): The applicant shall be responsible for the costs of preparing an analysis of the emission of greenhouse gases resulting from the project.

Section 3.6, *Greenhouse Gas Emissions and Energy*, of the Draft EIR addresses the potential GHG emissions impacts of the project. The analysis demonstrates that over the 30-year timeline of project operations used for GHG modeling, the project would result in net negative GHG emissions due to the conversion of commutes from vehicles to commutes from electric ferry vessels; along with additional reductions from the installation of parking spaces with electric vehicle chargers. It should be noted that GHG reductions may be even greater, since the City is considering the installation of solar at the Seawall Drive Parking Lot. The modeling did not account for GHG emission reductions from the potential solar at the parking lot.

This approach demonstrates that even under a more conservative analytical horizon yielding greater annualized emissions, the project would achieve net negative GHG emissions. Furthermore, the GHG analysis conservatively assumes a 30-year operational period, which is a commonly used timeframe for evaluating long-term emissions and ensures that construction-related emissions are amortized over a shorter period, resulting in higher annualized emissions estimates. However, the project infrastructure, including the pier and breakwater, is expected to have an approximately 50-year design life, which is standard for marine concrete structures. This design life represents the period before major deterioration may begin, and with routine inspection and maintenance, the useful life of these facilities could extend beyond 50 years. Because construction emissions result in a finite short-term emissions over only the construction period, spreading these emissions over the project's anticipated 50-year lifespan would further reduce the annualized GHG emissions compared to the conservative 30-year assumption used in the analysis. Accordingly, the project would not only remain GHG-negative over the conservative 30-year analytical period but would continue to result in net GHG reductions over the full 50-year design life and beyond, as operational benefits from mode shift to electric ferry service would persist while construction emissions remain fixed.

The analysis also demonstrates that the project would not conflict with the Bay Area Air District thresholds and also would not conflict with the 2022 Scoping Plan, or other regional and local GHG reduction plans. Please refer to Attachment D for a detailed discussion about how the project would not result in any additional net emissions of GHGs and would result in a negative net GHG emissions total of 22,435 MTCO₂e.

2.7 Record of Proceedings

Pursuant to *PRC § 21189.86*, the City of Berkeley, as Applicant and Lead Agency, is preparing and financing the preparation of the record of proceedings in the manner specified by *PRC § 21189.86 (a-k)*. The environmental review for the project has begun, and the City of Berkeley is working to ensure compliance with *PRC § 21189.86* provisions. Table 4, below, summarizes the City of Berkeley’s efforts to gather the record of proceedings and make this record available on its website, pursuant to *PRC § 21189.86*.

Table 4 Status of Berkeley WTPF CEQA Record of Proceedings

PRC § 21189.86 Requirement	Berkeley’s Current Efforts to Achieve Compliance
<i>PRC § 21189.86. Notwithstanding any other law, the preparation and certification of the record of proceedings for an infrastructure project shall be performed in the following manner:</i>	
<i>(a) The lead agency for the project shall prepare the record of proceedings under this division concurrently with the administrative process.</i>	The City of Berkeley, as CEQA Lead Agency, will maintain a record of proceedings. The City is working to gather the complete record of proceedings and make the record publicly available on its website as soon as possible.
<i>(b) All documents and other materials placed in the record of proceedings shall be posted on, and be downloadable from, an internet website maintained by the lead agency commencing with the date of the release of the draft environmental impact report.</i>	The City of Berkeley, as CEQA Lead Agency, will maintain a record of proceedings, and will post all documents and other materials in the record of proceedings in downloadable form on the City project website. These documents and materials will be posted on the date that the DEIR is released, and the City will continue to post additional documents and materials as they become available.
<i>(c) The lead agency shall make available to the public in a readily accessible electronic format the draft environmental impact report and all other documents submitted to, or relied on by, the lead agency in preparing the draft environmental impact report.</i>	The Draft EIR will be available on the City of Berkeley’s website in March 2026. All materials cited in the Draft EIR and that are not protected by copyright restrictions, will be available in electronic format on the City’s website at that time. The City of Berkeley will ensure that all other documents submitted to, or relied on by, the City in preparing the Draft EIR will be available in electronic format on its website prior to the Governor’s certification.
<i>(d) Any document prepared by the lead agency or submitted by the applicant after the date of the release of the draft environmental impact report that is a part of the record of proceedings shall be made available to the public in a readily accessible electronic format within five days after the document is released or received by the lead agency.</i>	As both the lead agency and applicant, the City of Berkeley will ensure that all such documents will be made available to the public in a readily accessible electronic format within five days after the document is released.

PRC § 21189.86 Requirement	Berkeley's Current Efforts to Achieve Compliance
<p>(e) <i>The lead agency shall encourage written comments on the project to be submitted in a readily accessible electronic format, and shall make any comment available to the public in a readily accessible electronic format within five days of its receipt.</i></p> <p>(f) <i>Within seven days after the receipt of any comment that is not in an electronic format, the lead agency shall convert that comment into a readily accessible electronic format and make it available to the public in that format.</i></p>	<p>The City of Berkeley performed extensive public outreach and community engagement prior to and throughout drafting the EIR, as described in Section 1, <i>Project Description and Background</i>, above. The City provided options for the public to submit comments in electronic and other formats. All comments on the project will be posted electronically, regardless of the method of comment submittal, on the City's website along with other responsive records in a readily accessible electronic format. Pursuant to CEQA guidelines governing responses to Draft EIR comments, the City of Berkeley will respond as appropriate to any comments related to the project in its Final EIR, which will be published in Summer or Fall 2026.</p>
<p>(g) <i>Notwithstanding subdivisions (b) to (f), inclusive, documents submitted to or relied on by the lead agency that were not prepared specifically for the project and are copyright protected are not required to be made readily accessible in an electronic format. For those copyright-protected documents, the lead agency shall make an index of these documents available in an electronic format no later than the date of the release of the draft environmental impact report, or within five days if the document is received or relied on by the lead agency after the release of the draft environmental impact report. The index shall specify the libraries or lead agency offices in which hardcopies of the copyrighted materials are available for public review.</i></p>	<p>The City of Berkeley, acting as lead agency, will ensure that documents relied upon to support preparation of the EIR but are copyright protected, will be compiled in a readily available electronically formatted index prior to or along with the release of the draft EIR. The City will ensure that the index specifies the library or lead agency offices in which hardcopies of the copyrighted materials are available for public review.</p>
<p>(h) <i>The lead agency shall certify the final record of proceedings within five days of its approval of the project.</i></p>	<p>The City of Berkeley, as lead agency, shall certify the final record of proceedings within five days of its approval of the project, pursuant to PRC § 21189.86(h).</p>
<p>(j) <i>The contents of the record of proceedings shall be as set forth in subdivision (e) of Section 21167.6.</i></p>	<p>The City of Berkeley shall ensure that the contents of the record of proceedings shall comply with PRC §21167.6(e).</p>
<p>(k) <i>The applicant shall pay the costs of preparing the record of proceedings for the project concurrent with review and consideration of the project under this division, in a form and manner specified by the lead agency for the project. The cost of preparing the record of proceedings for the project shall not be recoverable from the plaintiff or petitioner before, during, or after any litigation.</i></p>	<p>The City of Berkeley, as the applicant and lead agency, agrees to finance the preparation of the record of proceedings concurrent with review and consideration of the project.</p>

2.8 Public Noticing

PRC § 21189.87(a): Within 10 days of the certification of a project pursuant to Section 21189.82, the lead agency shall, at the applicant's expense, if applicable, issue a public notice in no less than 12-point type stating the following:

"THE APPLICANT HAS ELECTED TO PROCEED UNDER CHAPTER 7 (COMMENCING WITH SECTION 21189.80) OF DIVISION 13 OF THE PUBLIC RESOURCES CODE, WHICH PROVIDES, AMONG OTHER THINGS, THAT ANY JUDICIAL ACTION CHALLENGING THE CERTIFICATION OF THE ENVIRONMENTAL IMPACT REPORT (EIR) OR THE APPROVAL OF THE PROJECT DESCRIBED IN THE EIR IS SUBJECT TO THE PROCEDURES SET FORTH IN SECTIONS 21189.85 AND 21189.86 OF THE PUBLIC RESOURCES CODE. A COPY OF CHAPTER 7 (COMMENCING WITH SECTION 21189.80) OF DIVISION 13 OF THE PUBLIC RESOURCES CODE IS INCLUDED BELOW."

PRC § 21189.87(b): The public notice shall be distributed by the lead agency as required for public notices issued under paragraph (3) of subdivision (b) of Section 21092.

Upon certification of the project, the City of Berkeley will issue the required public notice to:

- All organizations and individuals who have previously requested notice;
- Internet website of the lead agency;
- At least one of the following procedures:
 - Newspaper of general circulation in project area;
 - On- and off-site at project; and/or
 - Direct mailing to owners and occupants of contiguous properties on latest equalized assessment roll.

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Attachment A

Draft EIR Project Description

2 Project Description

This chapter describes the proposed project, specifically the project location and setting, existing project site characteristics, project objectives, proposed project components, construction and operational details, emergency operation, and discretionary actions and required approvals.

2.1 Project Location and Setting

2.1.1 Regional Location

The City of Berkeley (City or Berkeley) is located in northern Alameda County within the San Francisco Bay Area (see Figure 2-1). Berkeley is bounded by the City of Albany and the unincorporated community of Kensington to the north, by Contra Costa County and the City of Oakland to the east, the Cities of Oakland and Emeryville to the south, and the San Francisco Bay to the west. The City of Berkeley is surrounded by the urban and suburban areas of Albany, Kensington, and Oakland to the north and south and the open space of the hillsides to the east. Berkeley encompasses approximately 17.7 square miles, of which approximately 7.2 square miles is comprised of submerged/reclaimed waters of the San Francisco Bay to the west of the city. The city is highly urbanized and developed with a mix of land uses, including low density residential neighborhoods, mixed-use and multi-family residential areas, offices, retail, faith-based and cultural institutions, schools, hotels, recreational uses, parking, and public streets. Regional access to the City of Berkeley is provided via Interstate 80 (I-80); Interstate 580 (I-580); State Route 123 (SR 123), also known as Ashby Avenue in Berkeley; and State Route 13 (SR 13), also known as San Pablo Avenue in Berkeley.

2.1.2 Project Site Setting

The project site is located within the San Francisco Bay waters and the Berkeley Waterfront, and is bounded by McLaughlin Eastshore State Park, the Berkeley Marina Basin, and the San Francisco Bay to the north; Frontage Road to the east; San Francisco Bay waters south of University Ave and parking lots to the south; and San Francisco Bay waters to the west and south (shown in Figure 2-2). Developed areas adjacent to the project site include commercial and government buildings, the Cal Sailing Club and UC Aquatic Center, as well as parking lots. The closest residential buildings are located east of the project site (just east of I-80); however, there are live-aboard boats in the Berkeley Marina Basin. Recreational areas near the project site include César E. Chávez Park, Horseshoe Park, and Marina Mall to the north, Shorebird Park to the southeast and South Sailing Basin to the south-southeast. Natural habitat areas within one mile of the project site include portions of McLaughlin Eastshore State Park (Berkeley Meadow, Strawberry Creek, and the North and South Sailing Basins submerged tidelands), as well as Berkeley Aquatic Park. All ground disturbing work would occur west of I-80. The project does not include any ground disturbing work east of I-80.

Vehicle access to the project site is available via University Avenue and Seawall Drive. Bicycle and pedestrian access is also available at multiple locations at the project site, including existing sidewalks and pathways for pedestrians and bicyclists on both sides of University Avenue, the Bay-side of Seawall Drive, and completed portions of the Bay Trail Extension. AC Transit bus route 51B provides public bus access to the project site.

Figure 2-1 Regional Location



Imagery provided by Esri and its licensors © 2025.

23-15427 EPS

Fig 1 Regional Location

★ Project Location

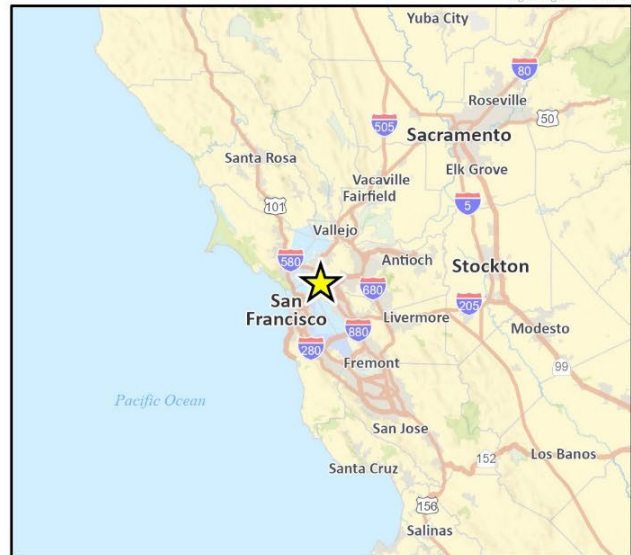


Figure 2-2 Project Site Location



Imagery provided by Microsoft Bing and its licensors © 2025.

23-15427 EFS
Fig X Berkeley WTPF Project Footprint

2.2 Existing Project Site Characteristics

The project site is situated at the Berkeley Waterfront along the San Francisco Bay. The project site (shown in Figure 2-2) specifically encompasses the closed Berkeley Pier, including the entry area for the Berkeley Pier; the San Francisco Bay waters surrounding a portion of the closed Berkeley Pier; the existing parking lot off Seawall Drive; the Skates on the Bay parking lot and parking lot M (for construction staging); roadways with landscaping (University Avenue and Seawall Drive); and various internal pathways and sidewalks.

There are some parks, trails, and buildings located near where construction for the project would occur. Shorebird Park, Adventure Playground and portions of the Bay Trail Extension, as well as other internal pathways and landscaping, are located near the project site. There are six commercial buildings located off University Avenue and Seawall Drive near the project site. No changes to these parks, trails, and buildings are proposed as part of the project.

2.3 Project Objectives

The project objectives are as follows:

- Enhance public access and recreational opportunities at the Berkeley Waterfront that:
 - Develop or enhance public pier facilities at the City of Berkeley Waterfront.
 - Provide sufficient public access and recreational opportunities at the Berkeley Waterfront that meet regional needs, consistent with BCDC Bay Plan Policies maximizing access to the Bay.
 - Minimize environmental impacts by considering existing infrastructure and sea level rise projections.
 - Encourage the use of public transit, bicycle, and other forms of active transportation and sustainable travel to access the site.
- Provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco that:
 - Improves regional connectivity and resiliency with enhanced public transportation choices for East Bay residents, including for accessing jobs in San Francisco and other locations along the Bay for commerce and recreational purposes, and to address existing deficiencies in the Transbay transportation network.
 - Reduces the use of single-occupancy vehicles for Transbay trips, thereby reducing greenhouse gas and air quality emissions and decreasing congestion on the regional roadway system, consistent with regional and Statewide goals.
 - Provides travel times and costs that are competitive with other Transbay modes of travel.
 - Provides public transit facilities that are compatible with operations and recreational activities at the Berkeley Waterfront.
 - Provides navigable conditions for safe and efficient operation of ferry vessels.
 - Provides options for emergency response and transportation services in case of an emergency, such as a natural or human-caused event that disables roads, other transit, bridges, and/or tunnels.

2.4 Existing General Plan and Zoning

The project site has a Berkeley General Plan land use designation of Waterfront/Marina.¹ The General Plan describes the Waterfront/Marina as areas “intended to maintain and preserve areas of Berkeley adjacent to the Bay for open space, recreational uses, waterfront-related commercial and visitor services, boating, and water transit facilities.” In 1986, the City Council adopted the Waterfront Specific Plan and Waterfront Amendment to the General Plan; however, these documents only have specific jurisdiction over the uplands and tidelands east of Marina Boulevard and do not include the project site.² The 1986 Waterfront Specific Plan generally identifies priority uses for the Bay shoreline within Berkeley, which include continuous shoreline public access, wildlife habitat, recreational uses, playing fields, active recreation facilities, cultural and art facilities, other public uses.

The project site is also subject to the Berkeley Marina Master Plan, which was adopted in 2003. The 2003 Berkeley Marina Master Plan establishes a long-term strategy for the development and enhancement of the Berkeley Marina. Through its guiding principles, the Berkeley Marina Master Plan emphasizes the maintenance and perseverance of the Marina as a recreational and open space resource and prioritizes enhanced public access and expansion of recreational facilities. New development described in the Berkeley Marina Master Plan is limited to replacing and remodeling existing commercial and non-profit facilities and some limited expansion considered on a case-by-case basis. The Plan identifies specific capital improvement projects to be implemented at the Marina.³ The 2003 Plan includes neither a ferry facility nor significant capital improvements at the Pier; however, this document was adopted 12 years before the Pier was closed due to structural deterioration.

In 2022, the City initiated a public planning process to develop a new Waterfront Specific Plan for the area west of Marina Boulevard that would provide a long-term vision and guidance for the sustainable development, operation, and maintenance of the Berkeley Waterfront for the next 25 to 50 years. The Waterfront Specific Plan is currently a draft document and has not yet been adopted by the City. Given that the Waterfront Specific Plan has not yet been adopted, the policies in the Draft Waterfront Specific Plan do not apply to the project. However, if the Draft Waterfront Specific Plan were adopted in the future, the Plan provides that ferry vessel access would be an allowed use in the Berkeley Waterfront.

The project site has a zoning designation of Unclassified (U). Within the Unclassified zoning designation, allowed uses include all uses not prohibited by law. A Use Permit would be required to establish any new use, consistent with the procedures of Berkeley Zoning Code Section 23.208.020, which include a public hearing.

The proposed project would not require amendments to the City General Plan or Zoning Code.

¹ Berkeley, City of. 2001. Berkeley General Plan Land Use Element. Available: https://berkeleyca.gov/sites/default/files/documents/02_Land%20Use%20Element-FINAL.pdf (accessed December 2025).

² Berkeley, City of. 1986. Waterfront Master Plan. Adopted October 7, 1986. Available: <https://berkeleyca.gov/your-government/our-work/adopted-plans/waterfront-master-plan> (accessed March 2025)

³ Berkeley, City of. 2003. Marina Master Plan. Available: <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-marina-master-plan> (accessed December 2025).

2.5 Proposed Project Components

The following discussion describes the different components associated with the proposed project. For an overview of the components being proposed, please refer to Figure 2-3. For project renderings, please refer to Figure 2-4.

2.5.1 Waterside

Proposed New Pier and Breakwater

The proposed project would demolish approximately 1,280 feet of the approximately 2,970-foot-long closed pier to accommodate the new pier, which is proposed to be approximately 1,080 feet in length.

The City would build a new pier at the existing location of the closed Berkeley Pier, as well as a new breakwater, all of which would provide the public with new recreational access to the San Francisco Bay. Figure 2-5 shows the configuration of the proposed pier and breakwater, also known as Option 1A or the “sword design”. This option was selected as the preferred configuration for the breakwater during the project feasibility phase, which included a public engagement process and was presented to City Council and WETA Board in late 2021/early 2022. The final feasibility study was published in 2023.⁴

The new pier and breakwater would have safety railings, public amenities (fish cleaning station, seating, shade canopy, and security gates). In addition, at the entrance to the pier, the City is proposing a gate that would remain open to the public, except in cases where public safety requires closure, such as during a tsunami evacuation, high wind advisory, or other emergency situations. The proposed pier would be a maximum of 1,080 feet in length and would have a width of 22 feet. The reinforced concrete deck comprising the pier would be an approximately 2-foot-thick slab. Piles for the pier are discussed in Section 2.7.2 below.

The proposed new breakwater would create a safe harbor from the predominant southwesterly wind and waves for ferry vessel charging and boarding on the north side of the new pier. The breakwater would also offer recreational pedestrian access. The proposed breakwater would be approximately 400 feet in length and would have a width of 15 feet. The reinforced concrete deck comprising the breakwater would be an approximately 2-foot-thick slab. Piles for the breakwater are discussed in Section 2.7.2 below.

The proposed pier would include a shade canopy, with the purpose of shielding ferry vessel users from the sun and rain while waiting to board a vessel. The canopy would be about 16 feet wide and slope from 11.75 feet to 16-feet in height. It would be constructed of tempered glass or polycarbonate roof panels on steel frames. Guardrails would be proposed along the length of the pier and breakwater with a maximum height of approximately 4 feet. The pier would allow for emergency access for both fire trucks and ambulances to access the pier.

⁴ Berkeley, City of. 2023. Feasibility Study. Ferry Facility at Berkeley Municipal Pier. Available: https://berkeleyca.gov/sites/default/files/documents/FINAL_Ferry%20Terminal%20Facility%20Feasibility%20Study%20-%20Berkeley%20Municipal%20Pier.pdf (accessed February 2025)

Figure 2-3 Overview of Proposed Project Components

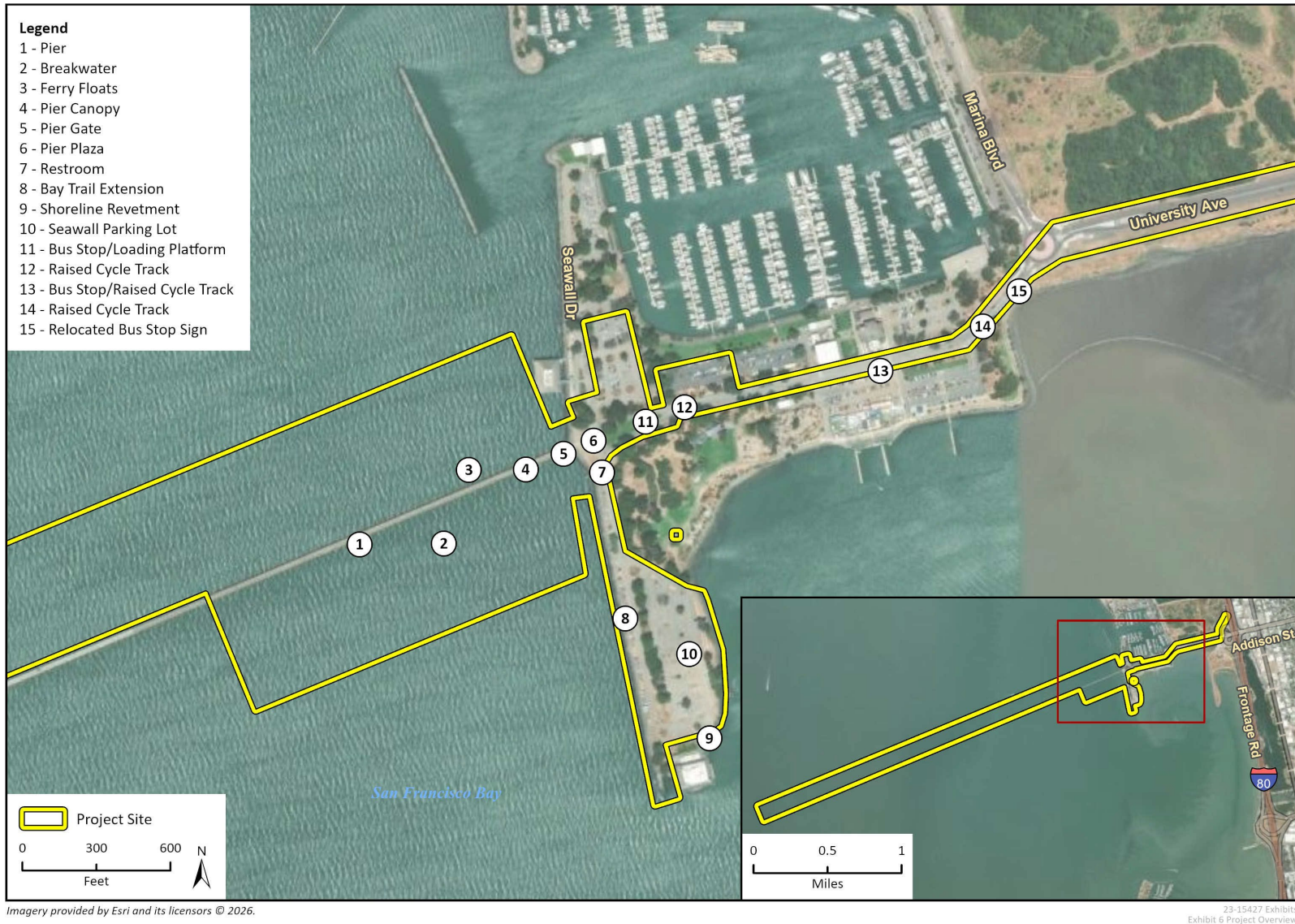


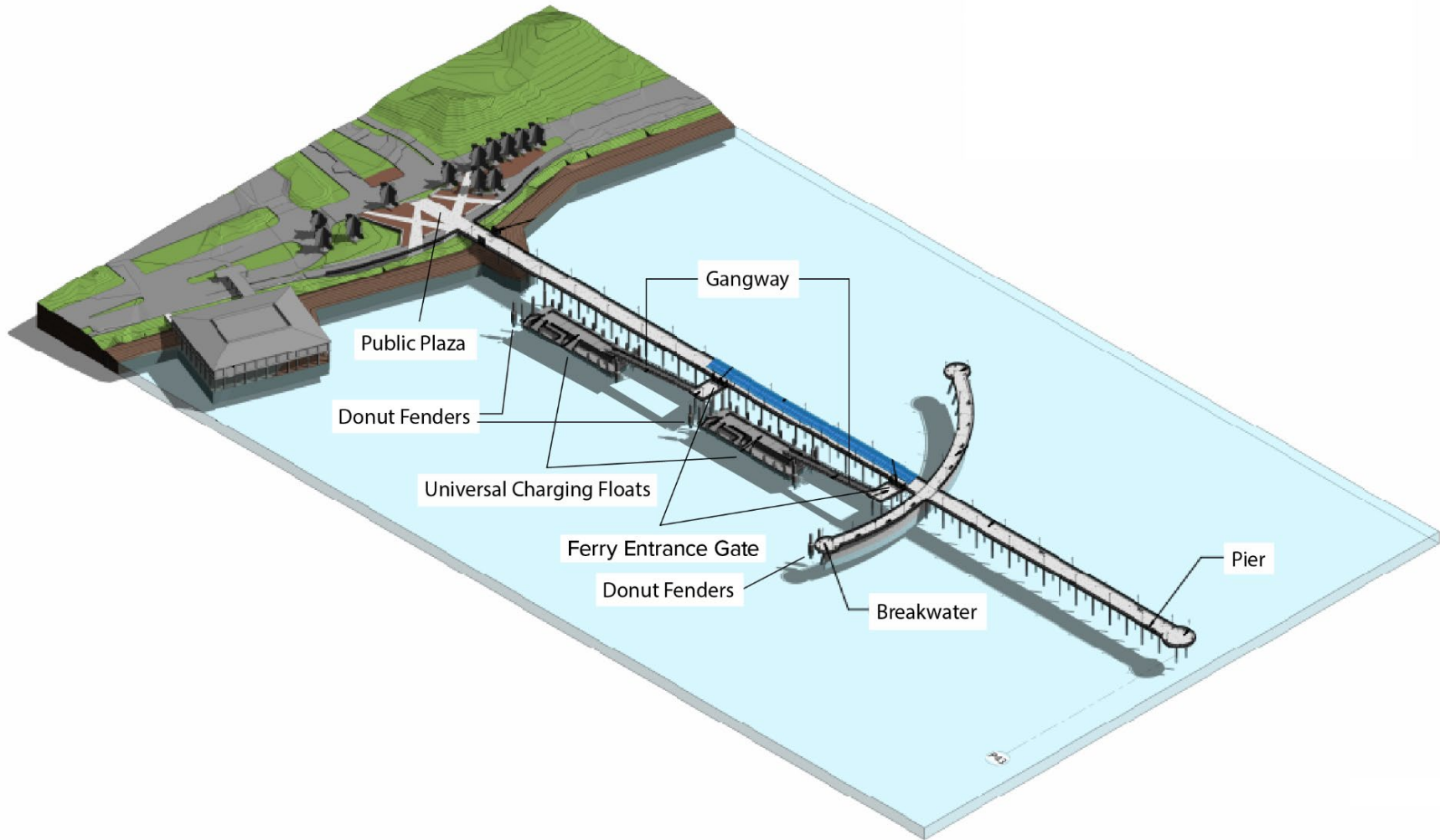
Figure 2-4 Project Waterside Rendering⁵



Source: Imagery provided by Roumel Butiong, Robin Chiang & Company, 2026

⁵ The project would include a Universal Charging Float or UCF featuring a 1.351 MWh Echandia battery weighing approximately 47,554 pounds. The UCF has not yet been designed and is not included in this rendering. UCF dimensions may differ from what is shown in this rendering.

Figure 2-5 Proposed Pier, Breakwater, and Ferry Vessel Infrastructure Layout



The proposed pier would have a lifespan of approximately 50 years. The proposed pier would be designed to meet the standards for a Risk Category IV, Essential Facility, in compliance with the International Building Code Section 1604.5. This risk category is designated for structures that are considered to be essential in that their continuous use is needed, particularly in response to natural or man-made disasters.⁶ In accordance with standards as set by the American Society of Civil Engineers (ASCE), the proposed pier would comply with ASCE Risk Category IV requirements and base design loads. The project design takes into account projected sea level rise.⁷

Proposed Recreational Amenities

The proposed pier and breakwater would provide areas for passive recreational activities, such as walking, sightseeing, and fishing. At the end of the pier and each end of the breakwater, the deck would be shaped in the form of a rounded terminus, which would be accomplished with slight cantilevering and would not require additional piles. Interpretive and educational signs would be placed along the pier and breakwater to provide the history of the Berkeley Waterfront and notable geographic landmarks. Benches and seats, which would be bolted to the pier deck for security, would be located intermittently along the length of the pier. A fish cleaning station would be provided at the western terminus of the pier, and would have cold water potable taps, and drain directly into the Bay. Standard covered trash cans and fishing line recycling receptacles would be provided at regular intervals along the pier and breakwater.

Proposed Ferry Vessel Infrastructure

The proposed ferry vessel infrastructure would include up to two 120-foot-long and 10-foot-wide gangways⁸ that would bring passengers from the pier to the two proposed boarding floats⁹, which would measure approximately 135 feet in length and 42 feet in width. Each float would include 4 to 6 steel guide piles to moor the floats in place. In addition, there would be a total of 6 donut fenders (2 at the end of each float and 2 near the breakwater), each of which would be 6-feet in diameter and would require a 3-foot pile.

The floats will be designed as Universal Charging Floats (UCF) that include electrical charging equipment to charge the electric ferry vessels. The UCF is a floating barge-like structure that would be used to rapidly charge the battery electric ferry vessels. The UCF contains electrical infrastructure, including switch gear, transformers, converters, and vessel charging towers. The electrical components will convert the 4MW, 12kV input power from the shore, to the 1,000V direct current power necessary to charge the ferry vessels. In addition, the UCF includes batteries (Echandia, LTO-chemistry lithium-ion batteries) with a total capacity of 1,351 kWh. Echandia batteries are designed for marine installations. These batteries would allow for load leveling electrical demand, as well as provide charging redundancy in case of short-term power disruptions. The batteries would be monitored by Echandia's battery management system, provide real time monitoring of temperatures, gas detection, state-of-charge, and state-of-health to prevent thermal runaway, with direct input to ventilation and firefighting systems. The system is designed to limit the risk for large scale battery failure, fire, and explosion. In addition, the UCF would be equipped with cooling equipment (i.e., HVAC units, ventilation fans, cooling pumps, cooling skids); smoke-

⁶ International Building Code. 2024. 2024 International Building Code Table 1604.5 Risk Category. Available: <https://codes.iccsafe.org/s/IBC2024V1.0/chapter-16-structural-design/IBC2024V1.0-Ch16-Sec1604.5> (accessed February 2026).

⁷ COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study. Prepared for City of Berkeley. December.

⁸ Gangway is defined as a raised platform or walkway that provides a passage. For the proposed project, the gangway would provide passage from the pier to the float.

⁹ Floats are defined as structures buoyant in water.

tight spaces; fire alarms; and closed-circuit television (CCTV) in the battery room, which would provide a direct feed to WETA's Central Bay Operations and Maintenance Facility. In addition, the UCF would include a fire suppression system for the batteries comprised of a primary fire suppression (direct foam injection system), secondary fire suppression (aerosol fire suppression), and tertiary fire suppression (freshwater deluge system).

Additional ferry vessel infrastructure would include:

- Fare collection and security systems with associated communication systems;
- Electrical power line receptacles for operation and maintenance;
- Lighting on gangway, adjustable ramps, and on float;
- Loading ramp lift system;
- Water lines and hose bibs for maintenance and fire suppression;
- Landing platform connecting the Pier to the gangway, approximately 40-feet wide and 16-feet long;
- Security gates at the entrance to the landing platforms, equipped with two doors measuring approximately 8 feet high and 4 feet wide each, with access control, electronic signage, and security cameras.

Figure 2-5 illustrates the layout of the proposed pier, breakwater, and ferry vessel infrastructure. In the first phase of the project, the City would implement one gangway and one float, which would allow for the docking of one ferry vessel at a time. In a future phase, the project would implement a second gangway and second float, which would allow for the docking of a second ferry vessel while the first float is also in use.

The waterside improvements also include dredging for the operation of ferry vessels. The extent of dredging is shown in Figure 2-2.

2.5.2 Landside

Public Plaza

The project would replace the existing entrance to the pier with a new public plaza. This would include the demolition of the existing sundial located at the entrance to the closed pier. Grading for the public plaza would increase the existing elevation by approximately 5.5 feet to account for future sea level rise. The proposed public plaza would include ADA-accessible durable surfacing with artistic inlay patterns, a restroom, bicycle lockers, free-standing public seating, paving, lighting, drainage, and landscaping. The public restroom would be located in the southeastern portion of the plaza. The restroom would be approximately 18-feet in length and 8-feet in width and would include two to three stalls, one of which would be Americans with Disabilities Act (ADA) compliant. Throughout the plaza, landscaping, including low shrubs and small trees are proposed. In the existing vegetated median area 50 feet to the east of the plaza, the sculpture known as "The Guardian" would be moved slightly to the north, in order to be centered in the reconfigured median. Figure 2-6 shows the plans for the proposed public plaza.

University Avenue

Proposed Circulation and Roadway Improvements

As part of the proposed project, University Avenue would be reconstructed and restriped between Marina Boulevard and Seawall Drive (see Figure 2-7 through Figure 2-10). The existing sidewalks along this segment of University Avenue would be repaired/replaced within their existing footprint as needed. In addition, as discussed further below under the *Proposed Recreational Amenities* and *Proposed Transit Improvements* subsections, a raised cycle track and bus stops with bus passenger loading islands would be installed along this segment of University Avenue. There would be no change to the existing circulation for vehicles on University Avenue and Seawall Drive. The typical existing cross section for University Avenue includes an approximately 40-foot-wide roadway with approximately 7-foot-wide sidewalks on each side (if a sidewalk is present in a certain section). With the proposed project, the typical cross section for University Avenue would be revised to be an approximately 26-foot-wide roadway, 3-foot buffer, and 12-foot-wide cycle track, with approximately 6-foot-wide sidewalks on each side.

Proposed Recreational Amenities

The proposed project would include a grade-separated and dedicated two-way raised cycle track, 12 feet wide, on the south side along University Avenue between Marina Boulevard and Seawall Drive (approximately 1,800 feet in length). The proposed cycle track would connect with the existing Bay Trail Extension just south-west of the existing roundabout. Please refer to Figure 2-7 through Figure 2-10, which show the proposed raised cycle track on University Avenue. A minimum of twelve bicycle lockers, which can hold 24 bicycles total, would be installed at the public plaza; six bike racks would be placed next to the bicycle lockers in the public plaza; and four bike racks would be installed at the south end of Seawall Drive. Additional bike racks or lockers may be installed within paved areas in the future if needed.

Proposed Transit Improvements

AC Transit Bus Route 51B connects the Waterfront and Rockridge BART via College Avenue, Downtown Berkeley BART, and University Avenue. Within the project site, there are three bus stops for AC Transit Bus Route 51B: (1) University Avenue and Marina Boulevard; (2) University Avenue and the Sports/Bait Shop; and (3) University Avenue and Seawall Drive. Only one out of every three scheduled bus trips between 7 a.m. and 9 p.m. serves the Waterfront; all other trips terminate at the Berkeley Amtrak station at 4th Street, resulting in a frequency of two (2) buses every hour at the Waterfront.¹⁰

Proposed transit improvements along University Avenue would include the relocation of the existing bus stop, located just before the existing crosswalk in the westbound direction south-west of the roundabout located at the University Avenue/Marina Boulevard intersection, to the far side of the existing crosswalk (see Figure 2-7) for improved pedestrian safety. Additional improvements would include the placement of a bus passenger loading island on eastbound University Avenue just north of the South Cove West Parking Lot (see Figure 2-8) and at the western terminus of University Avenue (see Figure 2-10). Along the south side of University Avenue, a three-bus parking and loading/unloading zone is proposed, with a length of approximately 170 feet, adjacent to a 3-foot

¹⁰ AC Transit. 2025. 51B AC Transit Schedule. Effective August 10, 2025. Available: https://www.actransit.org/sites/default/files/timetable_files/51B-2025_08_10.pdf. (accessed February 2026).

Figure 2-6 Proposed Public Plaza Layout

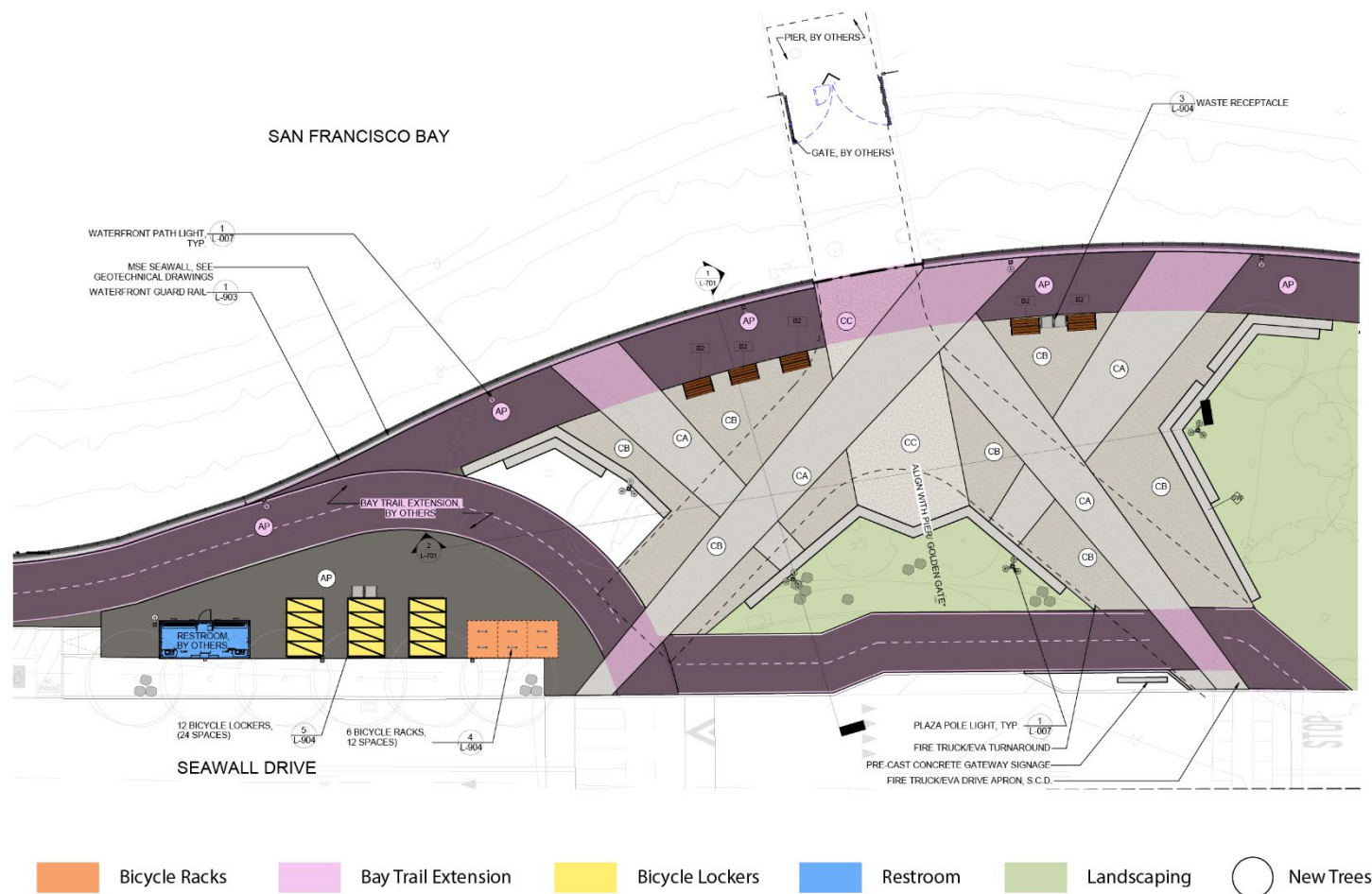
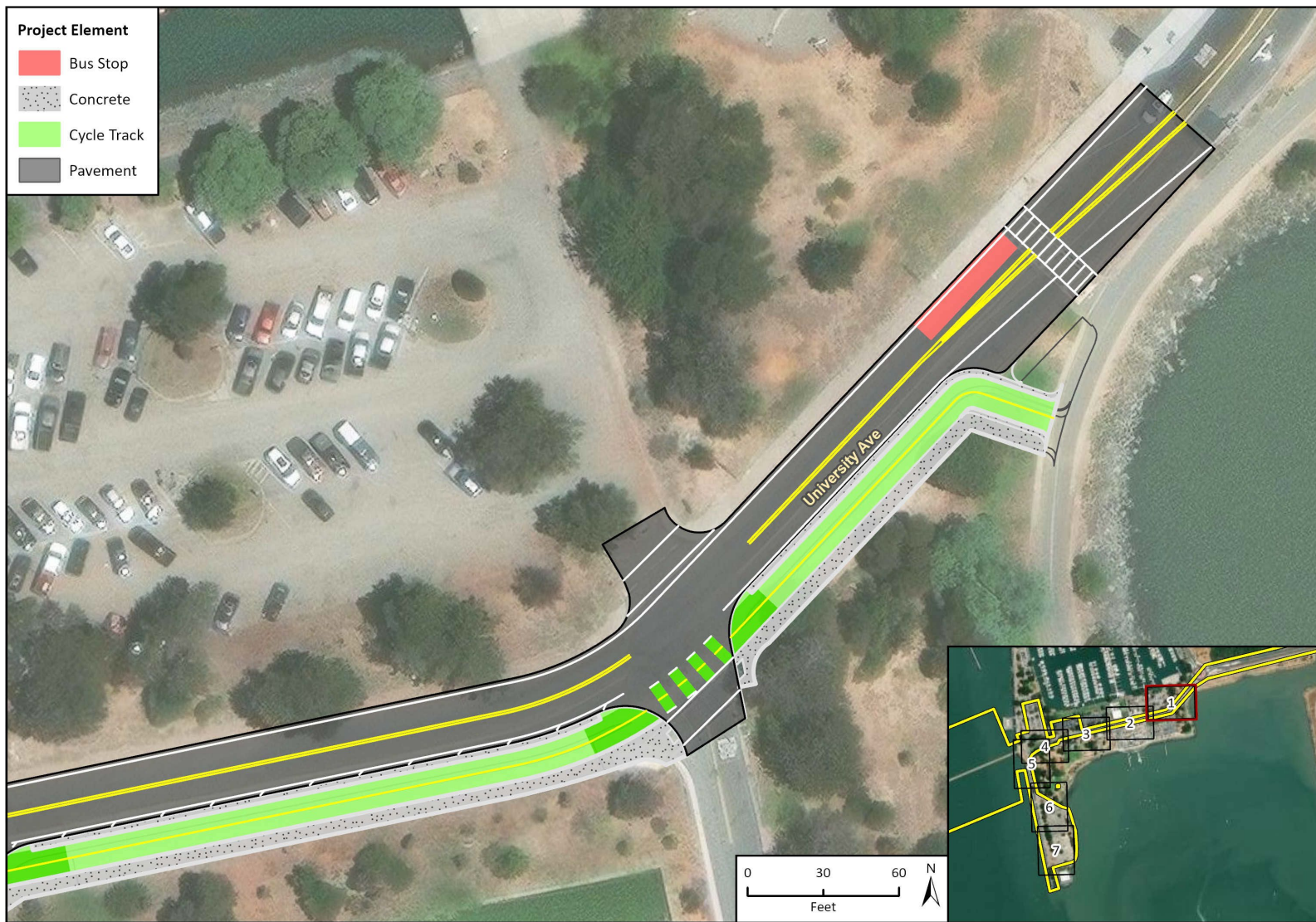


Figure 2-7 University Avenue Improvements (1 of 4)



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23-15427 EFS
Fig 2-X University Avenue Improvements

Figure 2-8 University Avenue Improvements (2 of 4)



Figure 2-9 University Avenue Improvements (3 of 4)



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23-15427.EPS
Fig 2-X University Avenue Improvements

Figure 2-10 University Avenue Improvements (4 of 4)



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23-15427 EFS
Fig 2-X University Avenue Improvements

buffer and the 12-foot two-way cycle track, as described in the *Proposed Recreational Improvements* section above (see Figure 2-10). A passenger loading zone would be located on the north side of the terminus of University Avenue.

Seawall Drive

Proposed Circulation and Roadway Improvements

As part of the proposed project, circulation for vehicles on Seawall Drive would remain the same. The general alignment of Seawall Drive roadway would stay the same. The pavement of Seawall Drive would be reconstructed. Parallel parking with permeable paving is proposed along the western side of Seawall Drive south of University Avenue (see Figure 2-11). The Bay Trail Extension would be located to the west of the parallel parking area, separated by a 2- to 3-foot buffer.

Proposed Recreational Amenities

The proposed project would include implementing a portion of the Bay Trail Extension, south of the pier along Seawall Drive. The proposed Bay Trail Extension would extend along the western edge of Seawall Drive and would consist of a 12-foot-wide paved path with shoulders approximately 2 feet in width. Interpretive and educational signs, such as signs explaining the history of the Berkeley Waterfront and notable environmental or geographic landmarks, would be placed along the proposed Bay Trail Extension. Where the Bay Trail Extension or recreation amenities are adjacent to Seawall Drive, the City would implement safety measures to create a barrier between vehicles and pedestrians (such as parking areas, boulders, bollards, fence, or guardrail).

Proposed Vehicle Parking

The proposed project would renovate the existing parking lot located east of Seawall Drive. The proposed project includes the removal of the existing asphalt and concrete pavement, street lights, and vegetation, including the vegetated parking islands, trees, and the berm.

Figure 2-12 and Figure 2-13 provide an overview of the proposed parking layout, which shows that there are several rows of parking spaces within the east parking lot, west of Seawall Drive with views of the Bay, on the eastern edge of the parking lot with views of the Bay, and adjacent to Shorebird Park. The majority of the parking (all spaces except for ADA stalls and EV stalls) would be constructed from a permeable pavement material (such as stabilized gravel or permeable pavers). Vehicles would access the parking lot from Seawall Drive and would navigate the parking lot using new proposed signage. Paths and crosswalks would allow for safe pedestrians and cyclists navigation through the parking lot. The proposed parking lot would also include safety lighting and landscaped areas as required for stormwater treatment.

The existing Seawall Drive Parking lot includes approximately 320 parking spaces, and the parking off Seawall Drive adjacent to the Bay and south of the pier entrance includes approximately 84 parking spaces for a total of 404 existing parking spaces across the project site. The proposed project would replace all of the existing parking spaces with 400 to 450 new parking spaces (pending final design), including ADA-accessible and EV parking spaces.

Figure 2-11 Proposed Landside Recreation and Parking Facilities (1 of 3)



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23-15427 EPS
Fig 2-X Landside Recreation and Parking Improvements

Figure 2-12 Proposed Landside Recreation and Parking Facilities (2 of 3)¹¹

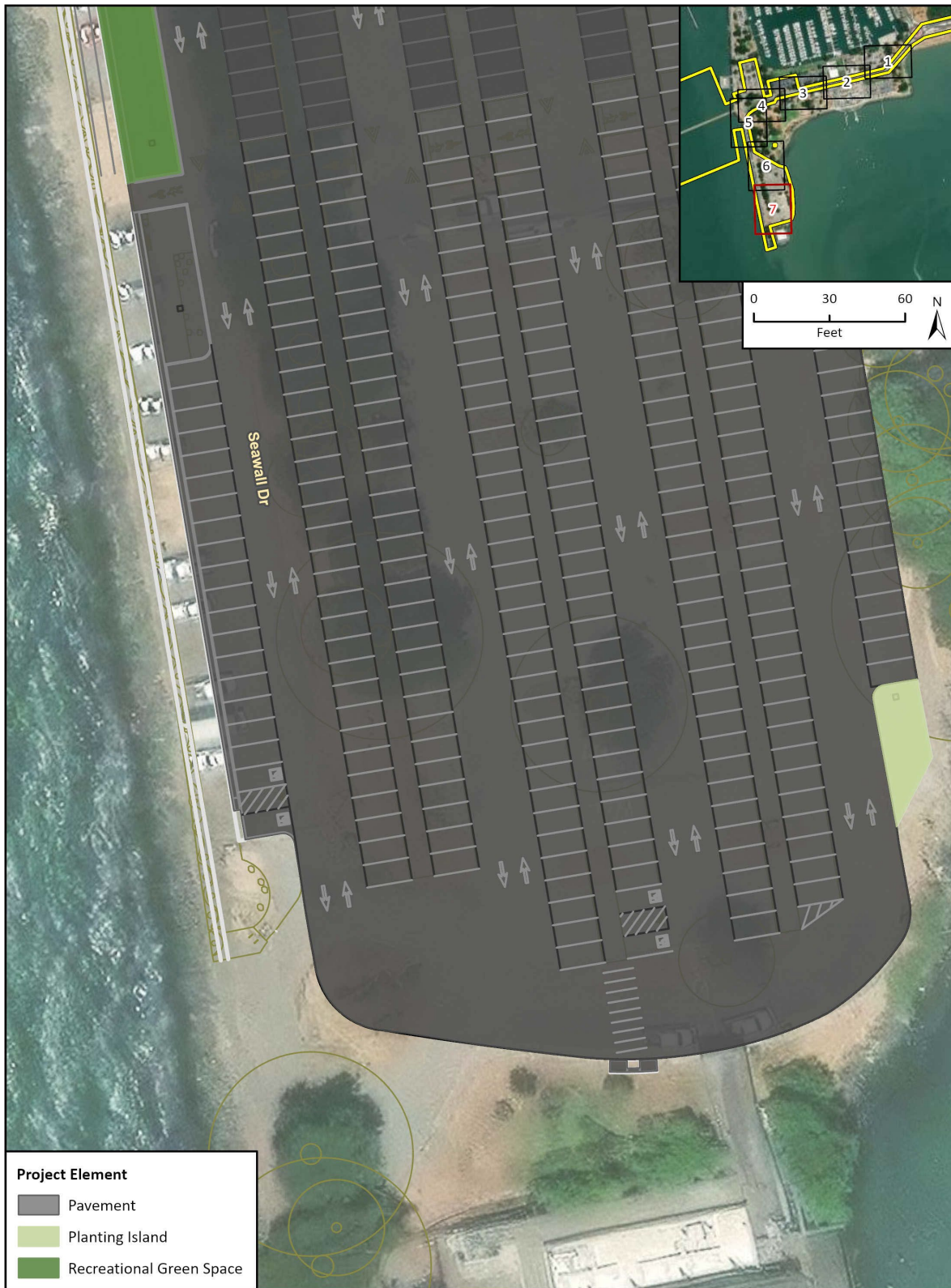


Imagery provided by Esri and its licensors © 2026.

23-15427 EPS
Fig 2-X Landside Recreation and Parking Improvements

¹¹ Note that this figure does not depict parking spots for Electrical Vehicle (EV) charging.

Figure 2-13 Landside Recreation and Parking Facilities (3 of 3)¹²



Imagery provided by Esri and its licensors © 2026.

23-15427 EPS
Fig 2-X Landside Recreation and Parking Improvements

¹² Note that this figure does not depict parking spots for Electrical Vehicle (EV) charging.

As a potential option, the Project may install a solar panel system over the Seawall Drive Parking Lot. For the purposes of this EIR, the installation of this overhead solar panel system is considered in the analysis where there could be environmental impacts from its installation. Because the solar panels may not be constructed, however, they are not considered operational when considering reductions in greenhouse gas emissions. If constructed, the parking lot solar panel system would be designed to support ferry vessel charging infrastructure. The system would consist of above-ground solar panels mounted on a canopy structure, providing shade coverage over designated parking areas. The canopy would range from 14 feet to 20 feet and would be supported by vertical steel posts approximately 16-feet in height. These posts would require excavation to depths of approximately 12 feet below grade to accommodate structural foundations. The solar panel system would include an associated battery energy storage system (BESS). The BESS equipment footprint is estimated to be approximately 20 feet wide by 10 feet tall by 8 feet wide, with an additional 10 feet of clearance on all sides, and would be located within the parking lot footprint.

Proposed Shoreline Repair

The proposed project includes repairing a stretch of the shoreline that is actively eroding, in the form of rock rip rap slope protection. This stretch of shoreline measures approximately 300 feet in length and is located on the eastern side Seawall Peninsula, just north of the 199 Seawall Drive structure. Shoreline revement shall be restored to match the surrounding shoreline and will include a minimum of geotextile/geogrid fabric, bedding layer, and riprap.

2.5.3 Proposed Wayfinding Signage, Lighting, and Landscaping

Proposed Wayfinding Signage

Wayfinding signage would be installed at various points along University Ave, Marina Boulevard, and Seawall Drive & Parking Lot. In addition, wayfinding signage would also be installed in a small portion of Shorebird Park, as shown in Figure 2-2, and within existing parking lots at the Waterfront. The purpose of this signage would be to direct visitors to the new pier, ferry vessels, and Seawall Drive parking lot as well as other recreational locations throughout the Berkeley Waterfront. These wayfinding signs may be lighted at night. Interpretive/educational signage regarding the history of the Berkeley Waterfront and notable environmental or geographic landmarks would be installed at locations along the Pier, Breakwater, and/or the new Bay Trail Extension. These interpretive/educational signs would not be lighted at night.

Proposed Lighting

Lighting already exists on the closed pier (28 lights spaced approximately 110 feet apart from each other on the north side of the closed pier), as well as the existing Seawall Drive parking lot (eight lights in parking islands). The proposed project would remove the existing lighting from the pier and the parking lot during construction of the proposed project.

New lighting is proposed for University Avenue and the Plaza, parking lot, pier, and ferry terminal, and additional lighting poles would be provided for the proposed Bay Trail Extension along Seawall Drive. LED lighting would be installed for the pier/breakwater, gangway walkway, and railings. Down-cast LED lights would be placed approximately every 50-feet along the Pier and Breakwater on 16-foot tall poles. The pier canopy structure would be fitted with LED linear downlights attached to the roof and wall sconces attached to the columns. Stainless steel guardrails on the pier would contain LED handrail point lighting aimed at the deck, which would also to be used for emergency

egress lighting. A solar-powered marine navigational signal lights and emergency LED path of egress lighting would be installed on the ferry float system and the central charging inverter.

All Project lighting would be designed in compliance with Illuminating Engineering Society recommendation¹³ and DarkSky Policy¹⁴ glare mitigation requirements. As such, full cut-off photocell fixtures with side shields and visors would be used for roadway and street lighting. The ferry terminal photocell lighting fixtures would be dimmable and controlled by a timer. The Pier, plaza, and parking lot would include a bi-level lighting system comprised of full cut-off photocell fixtures equipped with shields, guards to the seaside, and controlled by a timer.

Proposed Landscaping

The proposed project would require the removal of vegetation, such as shrubs and trees from the Seawall Drive eastern berm and the eastern parking lot to accommodate the new Bay Trail Extension. Vegetation and trees would also be removed in the vicinity of the plaza and in the median at the intersection of University Avenue and Seawall Drive. In total, approximately 40 trees would be removed for the proposed project, the majority of which are in poor health and include species such as Monterey Cypress, Monterey Pine, Italian Stone Pine, Japanese Black Pine, Soapwood, Blackwood Acacia, Coast Reedwood, Cataline Ironwood, and New Zealand Christmas Tree.

The proposed project would include new vegetated stormwater treatment areas, trees, and shrubs in the public plaza, on Seawall Drive and University Avenue island, and in the Seawall Drive East Parking lot. New trees to be planted would be 24-inch box trees and would include the following trees: California Buckeye, Monterey Cypress, Primrose tree, Drooping Melaleuca, and Torrey Pine. As part of the proposed project, between 50 and 70 trees would be planted.

2.5.4 Proposed Utility Connections and Extensions

Electrical Distribution

The proposed project would include electrical infrastructure to provide the power necessary to charge ferry vessels, as well as for site lighting, EV charging, and other uses including the restroom, adjustable ramp lift system, electronic key gate systems, Clipper Card readers, cameras, and electrical outlets for crew working on the float deck.

Pacific Gas and Electric (PG&E) has identified that a 12kV duct bank would be required to provide electricity for the proposed project.¹⁵ Permitting, development, and construction of the 12kV duct bank would be the responsibility of PG&E, which has its own process for evaluating service changes as part of its programming.¹⁶ Nonetheless, because this duct bank would connect to infrastructure associated with the proposed project, this 12kV duct bank is included in the proposed project description and analyzed throughout the EIR. The 12kV duct bank would be installed underground, between the portion of Frontage Road, northeast of the intersection of University Avenue and Frontage Road; and near the intersection of University Avenue and Seawall Drive (see Figure 2-2). At the eastern end of the project footprint, the electrical conduit would connect to an existing

¹³ Illuminating Engineering Society. 2025. The IES Lighting Library Standards Collection. Available: <https://ies.org/standards/lighting-library/> (accessed December 2025).

¹⁴ DarkSky International. 2025. DarkSky Approved Luminaires. Available: <https://darksky.org/app/uploads/2025/04/DarkSky-Luminaires-program-packet-V3-2025-3.pdf> (accessed December 2025).

¹⁵ PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

¹⁶ PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

underground conduit. Approximately 1,200 feet of new cable would be installed within the existing conduit; however, no trenching would be required. In addition, approximately 2,000 feet of new overhead wires would be installed on existing poles east of Highway 80; however, no trenching or new electrical poles would be required.¹⁷ Given that there would be no trenching for the installation of wires within existing conduits and overhead poles, and that installation of these lines would occur within existing infrastructure, no physical impacts on the environment are anticipated from these activities. Therefore, the areas associated with adding wires within existing conduits and overhead lines is not included in the project footprint and is not discussed further in this EIR.

Near the plaza, the 12kV line will be connected to a new PG&E transformer (approximately 8 feet wide, 8 feet deep, 2 feet and 8 inches tall) and a main switchboard (11 feet and 3 inches wide, 4 feet and 2 inches deep, and 7 feet and 6 inches tall).¹⁸ The site would be served by two separate underground electrical services. One 1600 amperes (A) main service switchboard will provide 120/208V power to two separately metered 800A switchboards for the low voltage needs on the pier and landside facilities, such as lighting, card readers, electronic signage, and EV charging. Another 600A main service switchboard will provide dedicated 12kV power to the ferry vessel chargers.

Electrical conduit lines for the pier would be located beneath the pier structure and would be suitable for marine-grade environments. All conduits near water would be PVC Coated Galvanized Rigid Steel or approved equivalent.

For information about the source of electricity, please refer to Section 2.7.2, *Energy Source and Consumption* below.

Stormwater

The proposed drainage improvements include construction of new bioretention areas and permeable pavers/parking with perforated underdrains. The underdrains will discharge into the bioretention areas, which will have overflow points connecting to the existing storm drain outfalls into the Bay.¹⁹

For the renovated Seawall Drive Eastern Parking Lot and in the parking strip west of Seawall Drive, the proposed project would include the installation of permeable parking (such as stabilized gravel or permeable pavers) for all non-ADA parking stalls. Stabilized gravel consists of a High-Density Polyethylene grid (or other permeable surface) that is filled with gravel and placed on a layer of 3-foot deep drain rock that would serve as a reservoir for stormwater runoff. In addition, the proposed project would include the installation of bioretention and other stormwater treatment planting areas along University Avenue, near the plaza and in the Seawall Drive parking lot.

Water

There is an existing 8-inch, high pressure East Bay Municipal Utility District water main located under Seawall Drive. At the proposed plaza, the project would include a 2-inch domestic water supply connection to this water main. The proposed domestic water pipe would be mounted against the underside of the pier structure to serve the pier, using stainless steel seismically rated pipe clamps. The proposed project would provide water connections for a fish cleaning station at the

¹⁷ PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

¹⁸ A switchboard is a centralized panel that distributes electrical power to various circuits and includes protective and control devices

¹⁹ COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.

pier, hose bibs along the pier and at the ferry vessel landing floats for deck cleaning, and the restroom and drinking fountain at the public plaza.

The proposed project would also include a new 6-inch, dedicated fire water main line and new fire hydrant. Like the domestic water pipe, the fire water main line would be mounted against the underside of the pier structure. The proposed project would include fire risers and connections on the pier, located at maximum spaced intervals of 300 feet and 150 feet from structure dead end in accordance with National Fire Protection Association 307 part 7.1, as well as one fire hose cabinet for each ferry vessel ramp and float.

Wastewater

An existing 8-inch City of Berkeley sewer main is located under Seawall Drive near the project site. A new underground 4-inch sewer pipe would connect the proposed restroom at the public plaza with the existing sewer main on Seawall Drive.

Telecommunication Facilities

The proposed project would include connections to existing telecommunication lines located on the project site, for infrastructure associated with ferry vessel operation and vessel charging, as well as Clipper Card readers, security cameras, and an emergency call box.

Solid Waste

Trash cans would be placed throughout the project site, including on the pier, public plaza, and renovated parking areas. Trash bins would be the size of standard public trash bins, which are typically 30 to 50 gallons. Trash bin service would occur as needed.

2.6 Construction Details

2.6.1 Construction Activities and Equipment

Landside

The following discussion applies to the landside improvements for the proposed project, including the public plaza, the improvements on University Avenue and Seawall Drive, the renovated parking lot, the new Bay Trail Extension, and all associated amenities and utilities. Construction of the landside components would involve the following process: demolition; site preparation; geotechnical solutions, such as deep soil mixing and/or retaining walls at the proposed plaza; grading; construction of proposed project components; shoreline revetment, paving; landscaping, lighting, and amenities.

Equipment

The following equipment is expected to be used during construction of the landside components of the proposed project:

- Aerial Lifts
- Backhoes
- Bore/Drill Rigs
- Cement and Mortar Mixers
- Concrete/Industrial Saws
- Compactors
- Compressors
- Cranes
- Crushing/Processing Equipment
- Dozers
- Excavators
- Generators
- Graders
- Loaders, Rubber Tired
- Pavers
- Pressure Washers
- Rollers
- Rough Terrain Forklifts
- Signal Boards
- Skid Steer Loaders
- Surfacing Equipment
- Sweepers/Scrubbers
- Trenchers
- Welders
- Water Trucks

Staging

Staging for construction equipment would primarily be located within the existing closed Seawall Drive East parking lot. The Skates/N Lot and M Lot may also be used for staging.

Waterside

The following discussion applies to the improvements over the water for the proposed project, including the new pier, breakwater, and associated amenities for ferry vessels. Construction of the waterside components would involve the following process: demolition; dredging; pile installation; installation of deck, float, and gangway, and amenities.

Equipment

The following equipment is expected to be used during construction of the waterside components of the proposed project:

- Aerial Lifts
- Concrete Truck
- Concrete/Industrial Saws
- Compressors
- Cranes
- Crushing/Processing Equipment
- Forklifts
- Generators
- Pressure Washers
- Pumps
- Rough Terrain Forklifts
- Skid Steer Loaders
- Welders
- Barge Crane
- Excavator Barge
- Flat Deck Barges
- Tugboats
- Crew Boats
- Skiff
- Vibratory Hammer
- Impact Hammer
- Dump Scow

Piles

Demolition of the closed pier is anticipated to be conducted using a crane positioned on a floating crane barge and supporting tugboats, material barges, and various smaller support vessels. Demolition of the closed pier would involve the removal of the existing concrete decking followed by the removal of existing 20-inch octagonal piles. The 20-inch piles would be removed using either

a dead pull method or the use of a vibratory hammer. If full removal is not possible, the 20-inch pipe piles may be cut at the mudline.

The landside retaining wall would be a mechanically stabilized earth (MSE) with a pre-cast concrete panel face. Following the completion of the shoreline retaining wall and landside concrete abutment, the new pier would be constructed from the shoreline heading westward likely using a combination of a floating crane barge and shore-based cranes operating from the progressive extension of the newly constructed concrete abutment and pier. The 1,080-foot pier would be constructed using 24-inch octagonal precast concrete piles (24-inch concrete piles). Two 24-inch concrete piles would be installed approximately every 25 feet using a combination of jetting and impact pile driving. At the landside interface approximately 2 steel piles will be driven through the existing rock dike using a crane and a combination of vibratory and impact hammers. The construction of the pier would progress westward to include construction of the landing floats using 24-inch concrete vertical piles and eventually construction of loading ramps, and adjacent donut fender piles using 36-inch steel pipe piles as support guide piles. The 36-inch steel pipe piles anchoring the UCFs and donut fenders would be installed using a combination of vibratory and impact pile driving hammers. To complete the project and to help protect the ferry boarding areas and reduce wave energy, a concrete sheet pile breakwater perpendicular to the new pier would be constructed using 24-inch concrete batter piles and interlocking 48-inch x 14-inch prestressed concrete sheet piles (sheet piles) using a combination of jetting and impact pile driving hammers for the 24-inch concrete batter piles and sheet piles. Table 2-1 provides a summary of the kinds of piles and the number of piles that are proposed.

Table 2-1 Summary of Proposed Piles²⁰

Location	Pile Type	Number of Piles
Landside/Shoreline Retaining Wall	24-inch Steel Pipe Pile	46
UCF Guide and Donut Piles	36-inch Steel Pipe Pile	18
Pier, Landing Platform, and Breakwater	24-inch Octagonal Prestressed Concrete Pile	227
Breakwater	48-inch x 14-inch Concrete Sheet Pile	125

Construction Materials and Demolition/Dredging Debris

The following volumes of materials and demolition/dredging debris were developed based on the 30 percent Project design and include a contingency, which means that these are conservative (i.e., high estimate) numbers.²¹

Construction Materials

Construction of the project would require bringing materials to the project site via trucks and barge as follows:

- 12,500 cubic yards of import fill/crushed rock
- 4,000 cubic yards of asphalt
- 6,000 cubic yards of concrete (3,600 cubic yards for landside and pier elements; 2,400 cubic yards of piles via barge).

²⁰ The number of piles presented in Table 2-1 is based on the current design of the Project and may be reduced in the future. The number of piles in Table 2-1 is a conservative estimate. For example, the retaining wall may be MSE and would not require the number of piles identified.

²¹ COWI. 2025. Berkeley Water Transportation Summary of Quantities. July 11.

Disposal of Demolition Debris and Soils

Construction of the project would also require the disposal of demolition debris and soils generated by the project via trucks, as follows:

- 10,000 cubic yards of export fill
- 4,500 cubic yards of asphalt debris
- 500 cubic yards of concrete debris

In addition, removal of the pier would also generate demolition debris in the form of the concrete decking and piles, as well as the timber piles. The volume of demolition debris that would be generated by the waterside components of the project and that would require disposal via barge (to Pier 96 in San Francisco for sorting), followed via truck for disposal include the following:

- 2,000 cubic yards of concrete demolition debris
- 1,000 cubic yards of timber demolition debris

Dredging and Debris Disposal

Dredging is the process of removing sediment from the bottom of waterbodies to make waterways deeper for boats. The following specifications represent the maximum extent of potential dredging; however, further design may decrease the proposed dredging footprint and/or volume.

Nonetheless, for the purposes of environmental analysis, this Environmental Impact Report uses these conservative assumptions.

As part of the proposed project, dredging would be conducted north of the closed pier. Dredging would be needed along the existing 100-foot wide United States Army Corps of Engineers (USACE)-designated federal navigation channel that parallels the closed pier and which future ferry vessels would use to travel to and from the pier. Refer to Figure 2-2 for the location of dredging. In addition, dredging would be needed for the turning basin, which would allow for ferry vessels to turn and dock at the two ferry boarding floats. Dredging would be done to a maximum depth of minus 12.51 feet City of Berkeley mean lower low water (MLLW)²², which is equal to -12 feet National Oceanic and Atmospheric Administration (NOAA) MLLW. A maximum total of 400,000 cubic yards of dredged materials would be generated and would require disposal.

Dredged materials and demolition debris would all be transported via barge that have a capacity of between 3,000 and 6,000 cubic yards. The location for disposal of dredged materials would depend on the sampling results of the dredged materials, as well as permitting requirements. However, based on the recently completed Berkeley Marina Dredging Project of 2024 to 2025, it is expected that disposal would occur at Montezuma Wetland Restoration Project (Beneficial Reuse), Alcatraz Disposal Site, or another disposal site in the San Francisco Bay.

2.6.2 Construction Schedule

Construction for the proposed project would primarily occur during the day; however, nighttime work may be required for pile driving. Based on the number of piles per day that are proposed, the number of nights for nighttime work is not expected to exceed 50 nights. When work occurs during the day, construction would be limited to 7:00 A.M and 7:00 P.M. on weekdays and 9:00 A.M. and 8:00 P.M. on weekends and holidays, in compliance with the City of Berkeley's Municipal Code.

²² The 12.51 feet measurement uses City of Berkeley Datum.

Completion of construction of the proposed project, and initiating ferry service is proposed for the end of 2028. The overall phasing of construction has not yet been determined and would be dependent on obtaining funds to construct the project, as well as completing permitting, final design, and bidding for construction. The Project may be completed in a single or multiple phases depending on these factors. The City anticipates the proposed project could be completed in the following separate phases:

- University Avenue, including all proposed amenities along University Avenue.
- Seawall Drive rehabilitation, Seawall Drive Parking Lot construction, and Bay Trail Extension
- Construction of pier, plaza, and associated infrastructure, including one gangway and one boarding float
- Construction of second gangway and second float
- Construction of Solar Panels in the Seawall Drive parking lot

Table 2-2 identifies the duration for construction of the landside activities and Table 2-3 identifies the duration for construction of the waterside activities. The construction durations presented are not sequential; construction could occur simultaneously at several locations. The durations noted below are for actual construction activity. These facilities would require permitting and contractor selection prior to construction. As a result, the total duration could be longer than the construction durations noted in the tables.

Construction is expected to begin as early as April 2027.

Table 2-2 Summary of Duration of Landside Activities

Construction Phase	University Avenue Duration (Workdays)	Seawall Drive and Parking Lot Duration (Workdays)	Public Plaza Duration (Workdays)	Shoreline Revetment (Workdays)
Demolition	20	30	10	5
Site Preparation	10	14	5	5
Grading	10	14	15	5
Restroom Construction	0	15	0	0
Utilities	40	60	10	0
Asphalt Paving, Curbs, and Plaza Pavers	20	30	20	0
Deep Soil Mixing	0	0	15	0
Retaining Wall	0	0	15	0
Landscaping	10	15	15	0
Amenities (Benches, Signs, Lights, Handrails, Fish Station, Architectural sculpture or signs, Bus Stop etc.)	10	15	25	0
Total	120	193	130	15

Table 2-3 Summary of Duration of Waterside Activities

Construction Phase	Pier, Breakwater, and Float Duration (Workdays)	Second Float Duration (Workdays)
Float Construction	230	230
Demolition	50	0
Dredging	83	0
Pile Installation	49	10
Deck Construction	120	10
Amenities (Electrical, Utilities, Canopy, Gangway, Float, Gates, Handrails, etc.)	95	20
Total	400	270

2.7 Operational Details

2.7.1 Operational Scenario and Ridership²³

A conceptual plan for ferry service has been provided in the 2022 San Francisco Bay Area Water Emergency Transportation Authority (WETA) Berkeley Ferry Service Business Plan, Version 1.0.²⁴ This is a living document and updates to the Business Plan and contemplated ferry service will be captured in future updates. The following ferry operation is proposed in the current Berkeley Ferry Service Business Plan, Version 1.0:

- WETA would operate two 250-passenger electric zero-emission vessels on the weekday route between Berkeley and San Francisco.
- Weekend service would operate a single 250-passenger vessel to Larkspur and a single 250-passenger vessel to San Francisco.
- At least three round-trip services would be completed during peak hours for the Berkeley/San Francisco weekday service, pursuant to WETA Board-adopted standards.
- The Berkeley-San Francisco service would travel 6.7 miles between the Berkeley Ferry Terminal and the San Francisco Ferry Terminal. The total one-way travel time would be 25 minutes, door-to-door. Weekday peak-direction headways²⁵ would be approximately 35 minutes. Weekend headways would be 70 to 110 minutes, depending on the time of day.
- The Berkeley-Larkspur service would travel 11.8 miles between the terminal at the Berkeley Marina and the Larkspur Ferry Terminal. The one-way travel time would be 35 minutes, door-to-door. Weekend headways would be 90 to 150 minutes, depending on the time of day.
- Special event service may operate between Berkeley and San Francisco or Mission Bay (e.g., for events at the Chase Center or Oracle Park or future events at the Berkeley Marina), as well as between Larkspur and Berkeley.

²³ As described in Chapter 1, *Introduction* of this EIR, operation of ferry vessels serving Berkeley has been analyzed by WETA in the Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR in 2003. WETA’s Program EIR has been incorporated by reference.

²⁴ WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17, 2022. Available: <https://d262kwcyl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf> (accessed August 2024).

²⁵ A headway refers to the time interval between successive ferry departures.

The projected ridership for the ferry service in the first year and fifteenth year of service is provided in Table 2-4 below. The information presented in Table 2-4 shows total trips. For example, in the weekday scenario to San Francisco in the first year of service, a total of 1,910 trips is estimated. Assuming that an individual rider is taking a round trip, then the 1,910 total trips would represent 955²⁶ unique riders taking a round trip between Berkeley and San Francisco. Per WETA standard operating procedure, ferry vessels would reduce speed to 0 to 8 knots when approaching the Berkeley pier boarding float.²⁷

Table 2-4 Daily Ridership Projections (trips)

Destination	Weekday	Weekend Day	Special Events
Projected First Year of Service			
San Francisco	1,910	1,367	209
Mission Bay ¹	2,106	1,503	209
Larkspur ²	–	515	104
Estimated Fifteenth Year of Service¹			
San Francisco	2,110	1,510	230
Mission Bay ¹	2,320	1,660	230
Larkspur ²	–	580	115

¹ Total trips (including stop at San Francisco Ferry Terminal) (i.e., ridership estimate is additive of Berkeley to San Francisco passengers)

² Weekend service only

Source: WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17

2.7.2 Energy Source and Consumption

The project site receives electricity from a community-governed power supplier, Ava Community Energy (Ava), formerly East Bay Community Energy, delivered by PG&E. Ava’s service area covers approximately 849 square miles, serving all of Alameda County and the cities of Tracy, Stockton, and Lathrop.²⁸ As of 2023, Ava’s power mix is comprised of 54.8 percent eligible renewable energy and is on track to be 100 percent carbon free by 2030.²⁹

Power would be delivered by PG&E, which acquires energy from power plants owned by Ava Community Energy. Electricity would be delivered via PG&E electrical conduits from the nearest PG&E substation, El Cerrito G, located approximately 5 miles northeast of the project site in Contra Costa. It is anticipated that the project would require approximately 4 megawatts of electricity to support operational electricity needs. The project could be served from existing capacity at El Cerrito G. To the extent that trenching and placement of new conduits for power or other infrastructure upgrades are required at the project site; those improvements are assessed herein. PG&E has its own process for evaluating service changes as part of its programming and planning for the service area.³⁰ Except as specifically included herein (see Section 2.5.4), PG&E upgrades would be subject to their own environmental review process as they arise.

²⁶ 955 riders is calculated as 1,910 total trips divided by 2 trips by one person (to San Francisco and back to Berkeley).

²⁷ 8 knots is equal to approximately 9.2 miles per hour.

²⁸ Ava Community Energy. 2025. What We Do. Available: <https://avaenergy.org/what-we-do/> (accessed July 2025).

²⁹ Ava Community Energy. 2025. How it Works. Available: <https://avaenergy.org/your-energy-options/how-it-works/> (accessed August 2025).

³⁰ PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

2.7.3 Infrastructure and Ferry Vessels Maintenance

The City and WETA would divide the operation and maintenance responsibilities in a separate future agreement for the leasing and operation phase of the project for the following elements:

- Restroom, trash, landscaping, fish cleaning station, public pier entrance gate, lighting, and recreation pier maintenance (City)
- Ferry berth gates, floats, gangways, electrical, and all other ferry-related infrastructure, as necessary (WETA)
- Roads, Bay Trail, plaza, landscaping, resurfacing, and other maintenance (City)

In addition, ferry vessels would occasionally layover at the ferry landing. However, any maintenance on ferry vessels would occur at WETA's Central Bay Operations and Maintenance Facility at 670 West Hornet Avenue in Alameda, where WETA currently maintains its vessels.³¹ Implementation of this project would not change the maintenance practices currently in place at WETA's Central Bay Operations and Maintenance Facility.

2.7.4 Programming and Plaza Operation

Future programming at the public plaza has not yet been determined and would depend on input from the public, as well as any regulatory agencies that have jurisdiction over the project site, such as the San Francisco Bay Conservation and Development Commission (BCDC). For the purposes of environmental analysis in this Environmental Impact Report, the City has identified potential programming options that could occur in the public plaza. Programming may include small mobile vendors, such as coffee carts or food trucks. The City may also plan special events, such as small concerts, fishing derbies, and semi-regular pop-up style events such as a Farmer's or Craft Market. Amplified sound would only occur in the public plaza for special events. The City estimates that special events would be limited to approximately 12 days per year, between the hours of 10:00 A.M. and 8:00 P.M. The public plaza can also serve as a meeting place for formal or informal group recreation activities like running, biking, walking, or nature viewing groups.

2.8 Emergency Operation Options³²

WETA has a legislative mandate to operate and coordinate emergency water transit when regional transportation systems are disrupted due to disaster or other events.³³ In compliance with its Emergency Response Plan, WETA would manage emergency water transportation operation after a catastrophic incident (such as an earthquake) that would result in severe damage to normal transportation systems.³⁴ The Emergency Response Plan would likely be implemented after a catastrophic incident that would result in a Governor's Proclamation of Emergency and an

³¹ Because the proposed project would not result in any changes to operation at this Maintenance Facility, and would not require any changes to infrastructure at this facility, there would be no physical impact on the environment from ongoing maintenance associated with ferry vessels that would serve the proposed project. Therefore, maintenance at this facility is not discussed further in this EIR.

³² CEQA Guidelines 15269(c) states that "specific actions necessary to prevent or mitigate an emergency" are statutorily exempt from CEQA. Because the emergency operations that could occur in the future are statutorily exempt from CEQA, they are not discussed further in the environmental analysis of this EIR.

³³ WETA. 2024. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed September 2025)

³⁴ WETA. 2024. Emergency Response. Available: <https://sanfranciscobayferry.com/emergency-response/> (accessed September 2025)

accompanying Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707) (Stafford Act) Disaster Declaration that would require activation of the State Operations Center.³⁵

Emergency operation could include the emergency movement of survivors, first responders and disaster service workers following a major disaster. In an emergency situation, WETA would manage and operate water transportation routes that provide service between ferry terminals as part of a larger transportation system that connects with care and shelter sites or base camps. Movement of first responders and disaster service workers into incident areas to provide life safety services is likely to require shuttle service as many of these individuals would stage out of base camps away from incident locations.

In the event of an emergency, when electrical power is disrupted, WETA envisions using a power generation barge, which would be brought to the UCF and electrically connected to maintain vessel charging capabilities.

2.9 Discretionary Actions and Required Approvals

Implementation of the proposed project would require the following approvals:

- **City Approvals**
 - Demolition Permit;
 - Building/Grading/Encroachment Permit;
 - Use Permit; and
 - Additional memorandum of understanding(s) and agreements with WETA regarding Pier/Ferry construction, operations and maintenance.
- **Responsible Agency Approvals**
 - United States Army Corps of Engineers Individual Permit pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (with U.S. Coast Guard coordination);
 - California Department of Fish and Wildlife Endangered Species Act Incidental Take Permit;
 - National Marine Fisheries Service Incidental Harassment Authorization Permit (if necessary);
 - National Marine Fisheries Endangered Species Act Section 7 Consultation;
 - Water Quality Certification (Section 401) from the San Francisco Regional Water Quality Control Board;
 - State Water Resource Control Board General construction activity storm water permit under Section 402 National Pollutant Discharge Elimination System; and
 - San Francisco Bay Conservation and Development Commission McAteer-Petris Act Major Permit or Major Permit Amendment.

³⁵ WETA. 2016. San Francisco Bay Area Water Emergency Transportation Authority Emergency Response Plan. March. Available: <https://d262kwcxyl71on.cloudfront.net/wp-content/uploads/20240910102156/WETAEmergencyResponsePlan030316.pdf> (accessed February 2026).

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Attachment B

City of Berkeley Community Workforce Agreement and First Source Agreement

City of Berkeley
Community Workforce Agreement

CITY OF BERKELEY
COMMUNITY WORKFORCE AGREEMENT

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Agreement to be Bound

COMMUNITY WORKFORCE AGREEMENT
For the
City of Berkeley

This Agreement is made and entered into retroactively from July 1, 2023 by and between the City of Berkeley (“City”) together with other contractors and/or sub-contractors, who shall become parties to this Agreement by signing the “Agreement to be Bound” (Attachment A), and the Local Unions signatory hereto and the Alameda County Building & Construction Trades Council (“Council”) and its affiliated local unions who have executed this Agreement.

PURPOSE

The purpose of this Agreement is to support the efforts of the City to increase employment opportunities for workers who reside in Berkeley, to help increase training and employment opportunities for Berkeley residents in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools, to promote efficiency of construction operations performed for and within the City of Berkeley and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects.

RECITALS

WHEREAS, the successful completion of the City's construction projects is of the utmost importance to the City of Berkeley; and

WHEREAS, the interests of the general public, the City, the Unions and Contractor(s) would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and calendar conditions for the workers employed on construction work for and within the City of Berkeley by the Contractor(s), and further, to encourage close cooperation among the Contractor(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, contracts for construction work within the City of Berkeley will be awarded in accordance with the applicable provisions of the Charter of the City of Berkeley, the California State Public Contract Code and the Labor Code, including but not limited to requiring competitive bidding and prevailing wages; and

WHEREAS, the City of Berkeley has the absolute right to select the lowest responsive and responsible bidder for the award of the construction contracts on the Projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards a mutually satisfactory completion of the Projects;

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1 **DEFINITIONS**

1.1 "Agreement" means this Community Workforce Agreement.

1.2 "Berkeley Resident" means any individual who is a current resident of Berkeley can certify through a utility bill, or other similar means acceptable to the parties to this Agreement that the individual resides within the boundaries of the Berkeley City Limits.

1.4 "City" means the City of Berkeley.

1.5 "Completion" means that point at which the City accepts a project at issue by filing a Notice of Completion, or as otherwise provided by applicable state law. "Punch list" items and any other work within the scope of this Agreement not completed prior to commencement of revenue service shall nonetheless be included within the scope of this Agreement. It is understood by the parties that portions of the Projects may be completed in phases and Completion of any such phase may occur prior to Completion of the Projects.

1.6 "Contractor(s)" and/or "Subcontractor(s)" means any individual, firm, partnership or corporation, or combination thereof, including joint ventures, which is an independent business enterprise and has entered into a contract with the City or any of its contractors or subcontractors of any tier, with respect to the construction work necessary for any part of the Projects. This shall include subcontractors not required to be listed in the bid documents. As applicable depending on its context, "Contractor" shall refer to Contractor or Contractor and Subcontractor.

1.7 "Construction Contract(s)" means all of the contract(s) for construction of any of the Projects.

1.8 "Council" means the Alameda County Building and Construction Trades Council, AFL-CIO.

1.9 "New Apprentice" is a Berkeley Resident who is enrolled in a State of California approved apprenticeship program that is a joint labor management apprentice program for no more than twenty-four months

1.11 "Projects" mean any construction project of the City whose value as estimated by the City meets or exceeds \$500,000 (Five hundred thousand) dollars.

1.12 "Union" or "Unions" means the Council and any other labor organization signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

1.13 "Project Manager" means the person or persons or business entity designated by the City to oversee all phases of construction on the Projects.

1.14 "Master Labor Agreement" or "MLA" shall mean the collective bargaining agreement of each craft Union that is Signatory to this Agreement

1.15 "Calendar Day" shall mean any day, relating to any day of the week including Saturday, Sunday and public holidays.

1.16 "Apprenticeship Program" -Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s)/Employer(s) shall employ apprentices of a California State-approved Joint Apprenticeship Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

The apprentice ratios will be in compliance with the applicable provisions of the applicable "Master Labor Agreement".

ARTICLE 2
SCOPE OF AGREEMENT

21 Parties: This Agreement shall apply and is limited to all Contractors and subcontractors performing Construction Contracts necessary for the Projects, the City, the Council and any other labor organization signatory to this Agreement, acting in their own behalf and behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

22 Project Description: This Agreement shall govern the award of all of the Construction Contracts identified by the City as part of the Projects. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Projects. Should the City suspend or remove any contract from the Projects and thereafter authorize that construction work be commenced on such contract, then such contract shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its

Construction Contract with the City. For the purposes of this Agreement, a Construction Contract shall be considered Completed as set forth in Section 1.5 of this Agreement.

23 Covered work:

2.3.1 This Agreement covers, without limitation, all on-site construction, demolition, alteration, painting or repair of buildings, structures, landscaping, temporary fencing and other works and related activities for the Projects that is within the craft jurisdiction of one of the Unions and that is part of the Projects, including, without limitation, pipelines, site preparation, survey work, demolition of existing structures and all construction, demolition or improvements required to be performed as a condition of approval by any public agency. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.3.2 The Projects include work necessary for the Projects and/or in temporary yards or areas adjacent to and dedicated to the Projects, and at any on-site batch plant(s) constructed solely to supply materials to the Projects, when those sites are dedicated exclusively to the Projects. This Agreement covers all on-site fabrication work over which the City, Contractor(s) or subcontractor(s) possess the right of control (including work done for the Projects in any temporary yard or area established for the Projects.)

2.3.3 The furnishing of supplies, equipment or materials which are stockpiled for later use shall in no case be considered subcontracting. Construction trucking work, such as the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill material and/or mud, shall be covered by the terms and conditions of this Agreement, to the fullest extent provided by law and by prevailing wage determinations of the California Department of Industrial Relations. Employers, including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) calendar days of written request or as required by bid specifications.

24 Exclusions: The following shall be excluded from the scope of this Agreement:

2.4.1 This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the City which are outside the identified scope of work of the Projects.

2.4.2 This Agreement is not intended to, and shall not affect the current or anticipated operation, maintenance, access or use of any of the City's buildings or facilities, whether or not such facilities are identified in Section 1.7 above.

2.4.3 This Agreement shall not apply to a Contractor or subcontractor's executives, managerial employees, engineering employees, design employees, supervisors (except

those covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

2.4.4 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county or other governmental bodies or their contractors; or by public or private utilities or their contractors; or by the City or its contractors for work not part of the scope of the Projects. Parties performing work shall notify in writing, The Council and The District of any work being performed near or leading to the site work that is not covered by this agreement. Further, this Agreement shall not be construed to prohibit or restrict the City or its employees from performing work on or around the Project construction sites or from entering the sites for any purposes deemed necessary or appropriate by the City.

2.4.5 This Agreement shall not apply to the off-site maintenance of leased equipment or the on-site supervision of such work.

2.4.6 This Agreement shall not apply to any start-up, calibration, performance testing, repair, maintenance, operational revisions to systems and/or subsystems performed after Completion.

2.5 Termination, Suspension and/or Delay of Work: It is understood and agreed that the City, at its sole option, may change, terminate, delay and/or suspend any and all portions of the covered work at any time. Further, the City may prohibit some or all work on certain days or during certain hours of the day to comply with applicable codes, laws or regulations, permits or to accommodate the ongoing operations of the City's facilities and/or to mitigate the effect of the ongoing Projects' work on the businesses and residents in the neighborhood of the Project sites; and/or require such other operational or schedule changes that it may be deemed necessary, in its sole judgment, to effectively maintain the primary purpose of the City's facilities and to remain a good neighbor to the residents and businesses in the area of any Projects. In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the affected Contractor and Union(s) with reasonable notice of any changes it requires pursuant to this Section.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles 4, 8, 12 and 13 of this Agreement shall apply to such work.

ARTICLE 3
EFFECT OF AGREEMENT/SUBCONTRACTORS

3.1 By executing this Agreement, the Unions and the City agree to be bound by each and every provision of this Agreement.

3.2 By accepting the award of a Construction Contract for the Projects, whether as contractor or subcontractor at any tier, the Contractor/Subcontractor agrees to be bound by each and every provision of this Agreement.

3.3 This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any other party.

3.4 It is understood that this Agreement, together with the referenced MLA , constitute an integrated, self-contained, stand-alone agreement, and that by virtue of having become bound to this Agreement, the Contractor will not be obligated to sign any other local, area, or national agreement as a condition of performing work within the scope of this Agreement. In addition, it is understood and agreed that all grievances and disputes involving the interpretation or application of this Agreement, including the MLA, shall be resolved according to the procedures set forth in Article 12 of this Agreement; provided, however, that should a dispute involve a single MLA and a Contractor signatory thereto, and not involve interpretation or application of this Agreement, then such dispute shall be processed and resolved pursuant to the grievance provisions of that MLA. Should there be a dispute in the first instance as to whether the provisions of Article 12 of this Agreement or the grievance procedures of a MLA apply, the dispute shall be presented initially to arbitrator Judge William Cahill or, if unavailable, arbitrator Earnest Brown, for resolution as to the applicable procedure. Such referral of a dispute as to the applicable procedures shall be done by an immediate conference call among the parties and the arbitrator, and heard and decided within three (3) calendar days. Should the arbitrator hold that Article 12 applies, the parties may, by mutual agreement, submit the issue to the same arbitrator pursuant to the provisions of Article 12, or, absent mutual agreement, commence processing the dispute at Step 1 of that Article.

3.5 Subcontractors. At the time that any Contractor enters into a subcontract with any subcontractor of any tier for the performance of construction or construction trucking work within the scope of this Agreement, the Contractor shall provide a copy of this Agreement, as it may from time to time be modified by the negotiating parties, to said subcontractor and shall require the subcontractor as a part of accepting an award of a construction subcontract to agree to be bound by each and every provision of the Agreement prior to the commencement of work.

3.5.1 Each Contractor and Subcontractor shall evidence their agreement to be bound to this Agreement by executing the Agreement To Be Bound form attached hereto as Appendix A. A copy of the Agreement To Be Bound executed by the Contractors and Subcontractors shall be submitted to the Union(s) prior to both the commencement of work and the Pre-Job Conference and will be a required submittal within the City's bid packages. If the Contractor or Subcontractor refuses to execute the Agreement To Be

Bound, then such Contractor or Subcontractor shall not be awarded a Construction Contract to perform work on the Projects. A Contractor or Subcontractor who executes the Agreement to Be Bound shall be considered a signatory party to this Agreement.

36 It is understood that the liability of each Contractor and Subcontractor and the liability of each Union under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the City and/or any Contractor or Subcontractor.

37 With regard to any Contractor or subcontractor that is independently signed to any MLA, this Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such MLA, except as specifically set forth in section 3.7.1 of this Agreement. Any such subcontracting clause in a MLA shall remain and be fully enforceable between each craft union and its signatory employers and no provision of this Agreement shall be interpreted and/or applied in any manner that would give this Agreement precedence over subcontracting obligations and restrictions that exist between craft Unions and their respective signatory employers under a MLA, except as specifically set forth in section 3.7.1 in this Agreement. To the extent that the provisions of this Agreement are inconsistent with any other provisions contained in a MLA, the provisions of this Agreement shall prevail

3.7.1 If a craft Union (“Aggrieved Union”) believes that an assignment of work on this Project has been made improperly by a Contractor or subcontractor, even if that assignment was as a result of another craft Union’s successful enforcement of the subcontracting clause in its MLA, as permitted by section 3.7 of this Agreement, the Aggrieved Union may submit a claim under the jurisdictional dispute resolution procedure contained in Article 13 of this Agreement and the decision rendered as part of that process shall be enforceable to require the Contractor or subcontractor that made the work assignment to assign that work prospectively to the Aggrieved Union. An award made to a craft Union under the subcontracting clause of its MLA, as permitted under section 3.7 of this Agreement, shall be valid and fully enforceable by that craft Union unless it conflicts with a jurisdictional award made pursuant to Article 12 of this Agreement. If the award made under MLA conflicts with the jurisdictional award, the award of any damages under the former shall be null and void *ab initio*.

ARTICLE 4
WORK STOPPAGES, STRIKES, SYMPATHY STRIKES, JURISDICTIONAL
DISPUTES AND LOCKOUTS

4.1 The Unions, City and Contractor agree that for the duration of the Projects:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, hand-billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or construction persons employed on the Projects, at a job site of the Projects or at any other facility of the City because of a dispute on the Projects. Nor shall the Unions or construction persons employed on the Projects participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing,

slowdowns, or otherwise advising the public that a labor dispute exists at a Project jobsite because of a dispute between Unions and Contractor(s) on any other project.

4.1.2 As to construction persons employed on the Projects, there shall be no lockout of any kind by a Contractor covered by this Agreement. It shall not be a violation of this Article if a Contractor or Subcontractor (1) suspends or terminates a portion of the Project work or (2) discharges an employee for just cause.

4.1.3 If a MLA between a Contractor and the Union expires before the Contractor completes the performance of a Construction Contract and the Union or Contractor gives notice of demand for a new or modified MLA, the Union agrees that it will not strike, picket, hand-bill, slowdown or engage in any other disruptive activity against the Contractor and the Contractor will not lockout construction persons of the Union on said Construction Contract for work covered under this Agreement and the Union and the Contractor agree that the expired MLA shall continue in full force and effect for work covered under this Agreement until a new or modified MLA is reached between the Union and Contractor. If the new or modified MLA reached between the Union and Contractor provides that any terms of the new MLA shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified MLA which are applicable to construction persons employed on the Projects within seven (7) calendar days.

4.2 A party to this Agreement shall institute the following procedure, prior to invoking any other action at law or equity when a breach of this Article 4 is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify, by the most expeditious means available, with notice by facsimile, electronic mail or telephone to the City, to the party alleged to be in violation, to the Council and to the involved local Union if a Union is alleged to be in violation.

4.2.2 Upon receipt of said notice, the City will contact the designated permanent arbitrator, Judge William Cahill, or if unavailable, his alternate Ernest Brown, who shall attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The Arbitrator shall notify the parties by facsimile, electronic mail or telephone of the place and time for the hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of this Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to

award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article 4 and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2.4 of this Article 4, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings provided in this Article and the party alleged to be in breach of its obligations under this article.

4.3 Liquidated Damages. If the arbitrator determines that a violation of Section 4.1 has occurred, the breaching party shall, within eight (8) hours of the issuance of the decision take all steps necessary to immediately cease such activities and return to work. If the breaching party involved does not cease such activities by the beginning of the next regularly scheduled shift following the expiration of the eight (8) hour period after the arbitrator's issuance of the decision, then the breaching party shall pay the sum of ten thousand dollars (\$10,000) as liquidated damages to the City per shift until the breach is remedied. The arbitrator shall retain jurisdiction for the sole purpose of determining compliance with this obligation and determining the amount of liquidated damages, if any; but such retention shall not prevent the moving party from seeking judicial enforcement of the initial decision.

ARTICLE 5

PRE-JOB CONFERENCE

5.1 A mandatory pre-job conference shall be held prior to the commencement of each Construction Contract. Such conference shall be attended by a representative each from the participating Contractor(s) and Union(s) and the Project Manager. All efforts will be made to hold the pre-job conference in sufficient time to ensure all parties the ability to properly raise and resolve any issue that may arise out of such meeting, with a

goal that such conferences will be held at least 21 work days before the work commences.

ARTICLE 6
NO DISCRIMINATION

6.1 The Contractors and Unions agree not to engage in any form of discrimination on the ground of or because of race, color, creed, national origin, ancestry, age, religious or political affiliation, gender, sexual orientation or disability against any person, or applicant for employment on the Projects.

ARTICLE 7
UNION SECURITY

7.1 The Contractors recognize the Union(s) as the sole bargaining representative of all construction persons working within the scope of this Agreement.

7.2 All construction persons who are employed by the Contractor(s) shall, as a condition of employment, on or before the eighth (8th) day of consecutive or cumulative employment on the Projects, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the applicable local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union construction persons from joining the local union.

ARTICLE 8
REFERRAL AND LOCAL HIRE PROGRAM

8.1 Referral

8.1.1 Contractor (s) performing construction work on the Projects described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory hereto ("Job Referral System"). Such Job Referral System will be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and nondiscrimination.

8.1.2 The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.1.3 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions(s).

8.1.4 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a seventy-two (72) hour period after

such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain employees from any source. Contractor(s) shall promptly notify the Union(s) of any applicants hired from other sources. This provision does NOT affect core employees as defined below.

8.15 Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s).

8.16 Core Employees

All parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the hall, qualified and available, and bona-fide Berkeley Residents for Project work.

8.17 The parties also recognize and support the City's commitment to provide opportunities for participation on the Projects to Berkeley Residents who are regular, experienced employees ("Core" employees) of contractors and subcontractors awarded work on the Projects and who do not traditionally work under a local collective bargaining agreement(s). In furtherance of this commitment, the parties agree that such contractors and subcontractors awarded work on the Projects may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

- (1) Possess any license required by state or federal law for the Project work to be performed;
- (2) Have worked a total of at least one thousand (1,000) hours in the construction craft during the prior three (3) years;
- (3) Were on the Contractor's active payroll for at least sixty (60) out of the one hundred and eighty (180) calendar days prior to the contract award;
- (4) Have the ability to perform safely the basic functions of the applicable trade, and
- (5) Are Berkeley residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired five (5) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work the ratio shall be maintained and when the Contractor's workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

8.1.8 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union's hiring hall before commencing Project work. If there is any question regarding an employee's eligibility under this Subsection 8.2.1, the City Representative, at a Union's request, shall obtain satisfactory proof of such from the Contractor.

8.2 Local Hire

8.2.1 To the extent allowed by law and consistent with the non-discriminatory referral procedures of the Union hiring halls, the Parties agree to a goal that Berkeley Residents will perform a minimum of 20% of the hours worked, on a craft by craft basis for the Projects. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions' hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of Berkeley Resident workers and in their hiring hall procedures to facilitate this 20% goal on the Projects. In the event that referral facilities maintained by the Union(s) are unable to fulfill the 20% local hire requirement, paragraph 8.2.2 of this Article shall not apply. Contractors shall document all efforts to hire locally and provide such documents to the City of Berkeley. The Council will provide an annual census of Berkeley residents, in each of the crafts party to this agreement, to the City of Berkeley. This report will be provided by August 1 of each year of this agreement.

8.2.2 Should any of the contractors performing work on the Projects fail to meet this 20% goal and fail to demonstrate efforts to do so, through a specific submittal process to be included in their contractual requirements and enforced by the grievance procedure. The contract's 10% retention will be held until such time that this failure is remedied, but not longer than sixty (60) calendar days after the date of substantial completion of the Projects or as required by law, in addition to the breach of contract remedies available to the parties for non-performance under this Agreement.

8.2.3 Apprenticeship & Workforce Development

A) Consistent with the requirements of California Labor Code §§ 1776, 1777.5 and 1777.6, Contractor(s) will be required to hire 1 New Apprentice Berkeley resident as for every \$500,000 dollars or more of total construction bid amount. The New Apprentice(s) must work a minimum of 10% of the projects work hours. The contractor may deploy the apprentice to work on another concurrent project in order to meet the minimum hours, and those hours will be counted towards the total hours of the craft on the Berkeley project. Certified Payroll must reflect the hours worked.

Contractor must fully document efforts to hire a New Apprentice, through the following steps: 1) requesting New Apprentices through the Union dispatch procedure, 2) contacting a minimum of three MC3-approved pre-apprenticeship training programs for referral of Berkeley residents. Unions shall provide written documentation to the contractor in response to dispatch requests to fulfill the New Apprentice requirement, the next tier of residents will come from the Green Corridor.

B) There can be no more than 1 entry-level New Apprentices for each craft, provided said crafts have apprenticeship openings and the general contractor will be able to include New Apprentices hired by their subcontractor to meet this requirement. Unions will agree to cooperate with Contractor(s) in furnishing apprentices as requested and the hiring of the apprentices will be in accordance to the Apprenticeship provisions listed in the Master Agreements and or the union agreements with the division of apprenticeship standards, and the apprentices shall be properly supervised and paid in accordance with provisions contained within the MLA'S. The Unions and Contractors will agree to cooperate with local pre-apprenticeship programs to ensure Berkeley residents have the opportunity to apply for and enter the into the apprenticeship programs.

C) The intent of this provision is to utilize Berkeley Resident New Apprentices to the fullest extent permissible by state law and the MLA. Failure of Contractor(s) and their subcontractors to maintain qualified apprentices on the job will be subject to further penalties as determined by the Grievance Committee as identified in Article 12.

8.11 Enforcement, Compliance & Reporting.

Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports documenting the Contractor's compliance with the requirements described in this article. At a minimum the monthly reports must include 1) data on Berkeley Resident's work hour utilization on a craft by craft basis, 2) number of New Apprentices hired and the hours they have worked, 3) documentation showing any requests made to the union dispatchers for Berkeley Residents and the Union's response to the request. Enforcement of this article shall be according to the Grievance and Arbitration procedure outlined in Article 12.

ARTICLE 9
HELMETS TO HARDHATS

9.1 The parties recognize a desire to facilitate the entry into the Building and Construction Trade Union(s) of Veterans who are interested in careers in the building and construction industry. The parties agree to utilize the services of the Center for Military Recruitment, Assessment and Veteran's Employment ("Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

9.2 The Union(s) and Contractor(s) agree to coordinate with the Center to participate in an integrated database of Veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Union(s) will give credit to such Veterans for bona fide, provable past experience.

ARTICLE 10
GRIEVANCE PROCEDURE

10.1 Any Contractor which is not otherwise bound through an agreement with a Union to a grievance procedure which confers jurisdiction to consider and resolve disputes over the imposition of discipline or dismissal of its construction persons working on this Project shall be bound to the arbitration procedure contained in the MLA of the craft representing the employee(s) involved in the dispute. For the purposes of this Article, such grievance procedure shall be limited to disputes regarding the imposition of discipline or dismissal arising from work covered by the Agreement. Such Contractor shall not impose discipline or dismissal on its construction persons covered by this Agreement without just cause.

ARTICLE 11
JOINT ADMINISTRATIVE COMMITTEE

11.1 The parties to this Agreement shall establish a five (5) person Joint Administrative Committee comprised of at least one and up to two (2) representatives representing the City; two (2) representatives of the signatory Unions and The Council; and one industry representative, mutually selected by the City and The Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

11.2 The Joint Administrative Committee shall meet at the request of either party, but not less than once each quarter, to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, Workforce development and Industry trends. Requests for certified payroll made by a Joint Labor/Management Committee to which the Union(s) signatory to this Agreement are a party shall be provided as allowed by law.

ARTICLE 12
GRIEVANCE ARBITRATION PROCEDURE

12.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set out herein. No grievance shall be recognized unless the grieving party provides notice in writing to the signatory party with whom it has a dispute within seven (7) calendar days after becoming aware of the dispute, but in no event more than thirty (30) calendar days after it reasonably should have become aware of the event giving to the dispute. The time limits in this Article 12 may be extended by mutual written agreement of the parties.

12.2 Grievances shall be settled according to the following procedures:

Step 1: Within seven (7) calendar days after the receipt of the written notice of grievance, the Business Representative of the involved Local Union, the City's authorized representative, representative of the construction person, and the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within seven (7) calendar days after its referral to Step 1, either involved party may submit it within three (3) calendar days to Grievance Committee. The Grievance Committee shall consist of one (1) person selected by the City and one (1) person selected by the Council, which shall meet within seven (7) calendar days after such referral (or such longer time as mutually agreed upon by all representatives of the subcommittee), to confer in an attempt to resolve the grievance. The decision of the Grievance Committee shall be legal, final and binding. If the dispute is not resolved within such time seven (7) calendar days after its referral or such longer time as mutually agreed upon) it may be referred within seven (7) calendar days by either party to Step 3.

Step 3: Within seven (7) seven calendar days after referral of a dispute to Step 3, the representatives shall submit the matter to the designated permanent Arbitrator, Judge William Cahill.

12.3 In the event that Judge Cahill is unavailable, the arbitrator shall be Earnest Brown.

12.4 The Arbitrator shall arrange for a hearing no later than fourteen days (14) calendar days after the matter has been submitted to arbitration. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the Arbitrator. The time limits specified in any step of the Grievance Procedure set forth in Section 12.1 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without the request for an extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

12.5 The decision of the Arbitrator shall be binding by all parties. The Arbitrator shall not have authority to change, amend, add, or detract from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties.

12.6 In order to encourage the resolution of disputes and grievances at Step 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE 13 **JURISDICTIONAL DISPUTES**

131 The assignment of Covered Work will be solely the responsibility of the Contractor/Employer(s) performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

132 All jurisdictional disputes on this Project between or among the Union(s) and the Contractor/Employer(s), parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department, or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractor/Employer(s) and Union(s) parties to this Agreement.

13.2.1 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch and Thomas Pagan and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California, within fourteen (14) calendar days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

133 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor/Employer(s)' assignment shall be adhered to until the dispute is resolved. Individuals violating this Section shall be subject to immediate discharge.

134 Each Contractor/Employer(s) shall conduct a Pre-Job Conference with the Council prior to commencing Covered Work. The Primary Employer, Coordinator and the District will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Contractor(s) may be held together.

ARTICLE 14 **APPRENTICES**

14.1 Recognizing the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry, the Contractor (s) shall employ apprentices in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

14.2 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination.

14.3 There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

14.4 All Apprentices will come from a State approved Labor Management Apprenticeship program.

ARTICLE 15 **MANAGEMENT RIGHTS**

15.1 The Contractor shall retain full and exclusive authority for the management of their operations, including the right to direct their work force in their sole discretion with regard to the following: the hiring, promotion, transfer, layoff, corrective action or discharge for just cause of its employees (in accordance with Article 9); the determination of the number of employees needed for the Project work; the selection/hiring of foremen and supervisors; the assignment and schedule of work; the requirement of overtime work, the determination of when it will be worked, and the number of employees engaged in such work, except as otherwise limited by the terms of this Agreement and/or the MLA. No rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of construction persons except that the lawful manning provisions of the MLA shall be recognized.

ARTICLE 16 **WAGES/BENEFITS**

16.1 **Wages.** All construction persons covered by this Agreement shall be classified in accordance with work performed and paid the hourly wage rates for those classifications in the applicable MLA for such craft work and in compliance with the applicable prevailing wage rate determination.

16.2 **Benefits.** Contractor agrees to pay contributions into established construction person benefit funds in the amounts designated in the appropriate MLA; provided, however, that each Contractor and Union agree that only such bona fide construction person benefits as included in the prevailing wage determination shall be included in this requirement and required to be paid by the Contractor under this Agreement; provided further, however, that this provision does not relieve Contractors signatory to a local collective bargaining agreement with a signatory Union which would be applicable to the Projects from making

any other fund contributions (including, but not limited to, those for contract administration), required by such local agreement. Contractor shall not be required to pay contributions to any other trust funds to satisfy their obligation under this Article. By signing this Agreement, the Contractors adopt and agree to be bound by the written terms of the legally established Trust Agreements, specifying the detailed basis on which the payments are to be made into, and the benefits paid out of, such Trust Funds.

16.3 Compliance. It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of the agreement contained in Article 15. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project.

ARTICLE 17

MODIFIED MASTER LABOR AGREEMENTS

17.1 Certain Provisions Shall Not Apply. Provisions negotiated into the new or modified MLA which are less favorable to the Contractor than those uniformly required of employers for construction work normally covered by those agreements or which may be construed to apply exclusively or predominately to work covered by this Agreement shall not apply to work covered by this Agreement. Any disagreement between the parties regarding the application of the provisions of any new or modified collective bargaining agreement to work covered by this Agreement shall be resolved under the dispute and grievance arbitration procedures set forth in Article 12 hereof.

ARTICLE 18

DRUG and ALCOHOL TESTING

18.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

18.2 Employer shall be allowed to utilize employment drug screens. All personnel are subject to random alcohol and drug/alcohol testing at any time, except, the following changes will apply. Employer shall follow said Unions Master Labor Agreement drug polices, regulations and limits. Body fluid tests will utilize urine and saliva specimens. Employer may also selectively require an employee to undergo alcohol or drug/alcohol testing if Employer has reasonable cause to believe that an employee's ability to work safely may be impaired. All requirements and activities of the Employer with regard to drug/alcohol testing shall comply with the provisions of State law.

ARTICLE 19
SAVINGS CLAUSE

19.1 The parties agree that in the event any article, provision, clause, sentence or word of this Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by the court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

19.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of this Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

ARTICLE 20
ENTIRE AGREEMENT

20.1 This Agreement represents the complete understanding of the parties. The provisions of this Agreement, including the MLA, shall apply to the work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a MLA, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a MLA and is not covered by this Agreement, the provisions of the MLA shall prevail. Nothing contained in a MLA, working rule, by-laws, constitution or other similar document of the Unions shall in any way affect, modify or add to this Agreement unless otherwise specifically set forth in this Agreement or mutually agreed to in writing executed by the parties.

20.2 The parties agree that this Agreement covers all matters affecting wages, hours, and other terms and conditions of employment and that during the term of this Agreement the parties will not be required to negotiate on any further matters affecting these or any other subject not specifically set forth in this Agreement except by mutual agreement of the parties.

20.3 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages and when bound together all necessary signatures shall constitute an original. Facsimile signature pages transmitted to other parties to this Agreement shall be deemed the equivalent to original signatures.

ARTICLE 21
TERM

21.1 The Agreement shall be included as a condition of the award of the Construction Contracts.

21.2 The Agreement shall continue in full force and effect for a term of three years from the Effective Date of July 1, 2023 through June 30, 2026 and shall be applicable to all Projects until completion that are advertised for bidding during the term.

21.3 This Agreement shall continue in full force and effect until Completion of the Project. The parties may mutually agree to extend and/or amend this Agreement.

SIGNATURES

City of Berkeley

By: _____

Dee Williams-Ridley, City of Berkeley City Manager

Date: _____

Alameda County Building & Construction Trades Council, AFL-CIO

By: _____

Andreas Cluver, Secretary-Treasurer for the Building Trades Council of Alameda County on behalf of the Signatory Unions

Date: _____

Signatory Unions

Asbestos Workers, Local 16 Boilermakers, Local 549

Bricklayers & Allied Craftsmen

Local 3 Cement Masons, Local 300

Electrical Workers, Local 595

Elevator Constructors, Local 8

Hod Carriers, Local 166

Iron Workers, Local 378

Laborers, Local 67

Laborers, Local 304

Operating Engineers,

Local 3 Plasterers, Local 66

Roofers, Local 81

Sheet Metal Workers, Local 104

Sign Display, Local 510

Sprinkler Fitters, Local 483

Teamsters, Local 853

**United Association of Journeymen and Apprentices Fitting Industry,
Underground Utility & Landscape, Local 355**

**United Association of Steamfitters, Ironworkers City and the RDA Council
of Pipefitters, Plumbers, & Gas California Fitters, Local 342**

Council No. 16 Northern California

International Union of Laborers

Painters & Allied Trades (On behalf
of Painters, Local 3; Carpet & Linoleum
Layers, Local 12; Glass Workers, Local
169; Auto & Marine Painters, Local 1176)

Northern California Carpenters

Regional Council (on behalf of Carpenters,
Local 713; Carpenters, Local 2236; Lathers,
Local 68L; Millwrights, Local 102; Pile
Drivers, Local 34)

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project ("Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project's Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.
2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;
3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in form identical to this document.
4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft agreement contained in Schedule "A" of Agreement.

Date: _____

Company Name: _____

Name of Prime Contractor or Higher Level Subcontractor:

Name of Project: _____

Signature: _____

Print Name: _____

Title: _____

Contractor's License #: _____

Motor Carrier Permit (CA) #: _____

City of Berkeley First Source Agreement

CITY OF BERKELEY
FIRST SOURCE AGREEMENT - CONSTRUCTION

I certify that:

- I I am authorized to enter into this agreement on behalf of the company whose name appears below ("Contractor").
- II Contractor understands and agrees to comply with the First Source Program as described in Berkeley Municipal Code Section 13.26.080.
- III Contractor understands that agreement with Berkeley Municipal Code Section 13.26.080 means that Contractor agrees as follows:
 - A. To utilize the City of Berkeley's First Source Program as the first place utilized for recruitment and referral of applicants for new and replacement employment.
 - B. To allow the City First Source Program a minimum of three days to refer applicants to contractors. (Contractor may apply to the City for a waiver of the three-day requirement for an emergency situation.)
 - C. To interview and consider qualified applicants referred by the First Source Program before interviewing others.
 - D. That the Contractor has the sole discretion to make all final hiring decisions.
- IV Contractor also agrees:
 - A. To ensure that workers employed through this Agreement are treated in a manner that is equal to all other employees.
 - B. To ensure that job specifications/requirements accurately reflect job functions.
 - C. To designate a qualified representative of the Contractor and each Subcontractor who will be the responsible party for implementation and compliance with the goals, objectives and responsibilities specified in this agreement. Contractor will inform the City of the designated representative(s) at the Non-Discrimination Conference.
 - E. To provide to the City, upon request, information on the employment status of First Source placements, and reason for separation if employee is terminated.

The above First Source Agreement provisions shall apply for the duration of covered contracts. Covered contracts are all construction projects over \$100,000 and shall include all subcontracts.

I declare the foregoing to be true and correct under penalty of perjury.

Signed: _____ Date: _____

Title: _____

Company: _____

Project Manager Date: _____

Attachment C

Disadvantaged Communities Impacts Memorandum

January 30, 2026
Project No: 23-15427

Liza McNulty, PE
Parks, Recreation, & Waterfront Department
2180 Milvia Street, 3rd Floor
Berkeley, California 94704
Via email: lmcnulty@berkeleyca.gov

**Subject: Berkeley Water Transportation Pier Ferry Project
Disadvantaged Communities Impacts Memorandum**

Dear Ms. McNulty:

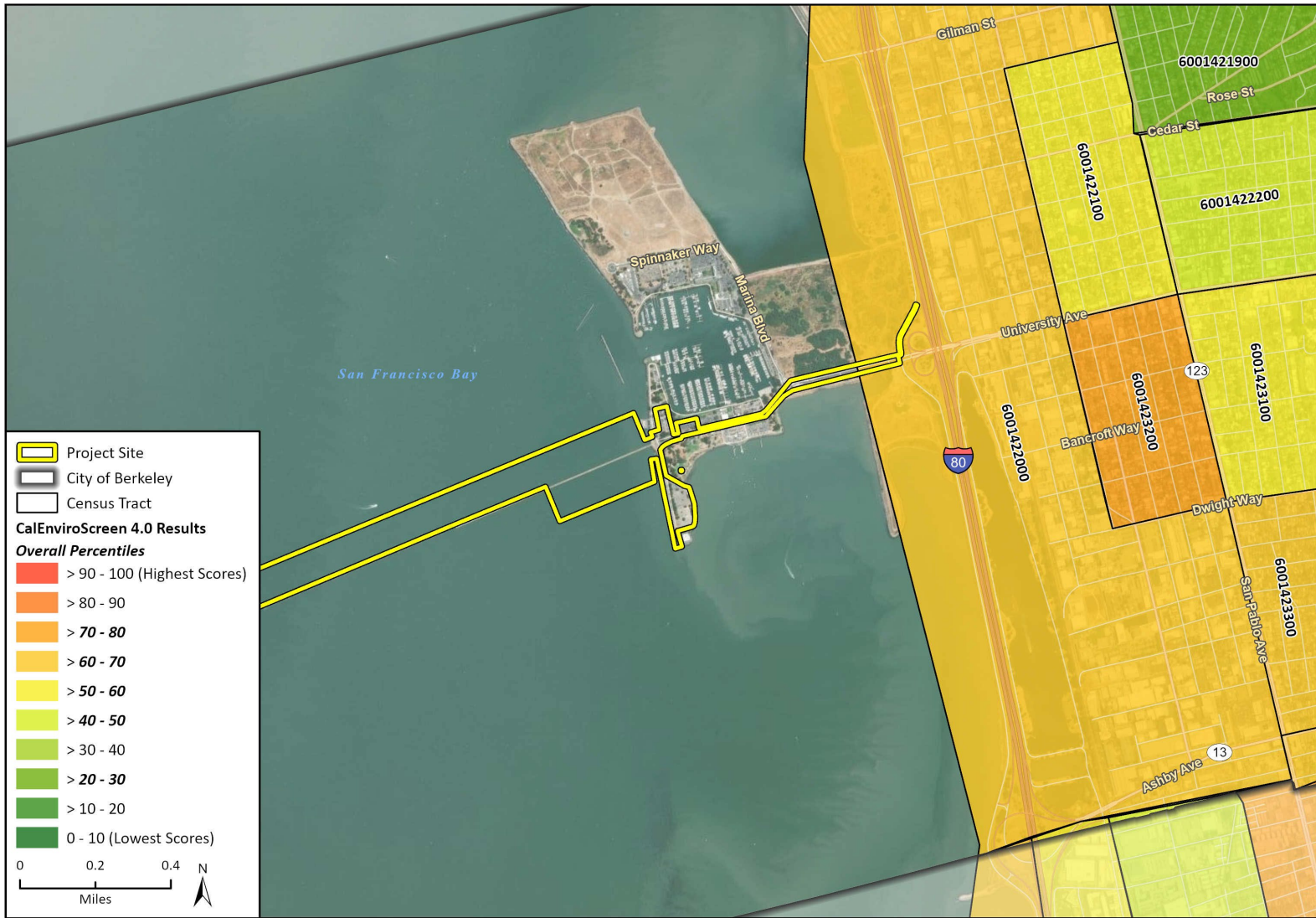
This Memorandum identifies how the proposed Berkeley Water Transportation Pier Ferry Project (proposed project) complies with the following requirements related to disadvantaged Communities:

- Public Resource Code § 21189.82(c): An applicant for certification of an infrastructure project under this chapter shall do all of the following:
 - (1) Avoid or minimize significant environmental impacts in any disadvantaged community.
 - (2) If measures are required pursuant to this division to mitigate significant environmental impacts in a disadvantaged community, mitigate those impacts consistent with this division, including Section 21002. Mitigation measures required under this subdivision shall be undertaken in, and directly benefit, the affected community.
 - (3) Enter into a binding and enforceable agreement to comply with this subdivision in its application to the Governor and to the lead agency prior to the agency's certification of the environmental impact report for the project.

A disadvantaged community (DAC) is defined by California Government Code Section 65302(h)(4)(A) as an area identified by the California Environmental Protection Agency (CalEPA) pursuant to Health and Safety Code Section 39711 or a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. CalEPA formally identifies DACs using the Office of Environmental Health Hazard Assessment's (OEHHA) California Communities Environmental Health Screening Tool (CalEnviroScreen). CalEnviroScreen 4.0 was used to identify DACs in and proximate to project site, shown in Figure 1.

The census tract that partially contains the project site (Census Tract 4220) does not meet the CalEPA definition of a DAC based on the overall CalEnviroScreen score, as it ranks below the 75th percentile statewide. However, Census Tract 4220 exhibits elevated scores for several individual pollution burden indicators, including diesel particulate matter, traffic density, hazardous waste sites, groundwater threats, and impaired waters, many of which rank above the 75th percentile. In addition, the tract includes populations that meet other DAC criteria, including minority populations, the presence of low-income households, and communities with identified social and contamination vulnerabilities. The area near the project site also includes houseboats and live-aboard vessels within the Berkeley Marina, where individuals and families reside on boats. Due to the relative affordability of live-aboard housing compared to surrounding Bay Area housing costs and the sensitivity of these residents to environmental conditions such as noise and air quality, live-aboards were considered a disadvantaged or vulnerable population for the purposes of this analysis. Given the combination of elevated pollution indicators, vulnerable populations, and the presence of live-aboard residents near the project site, Census Tract 4220 was evaluated for potential impacts on DACs, despite the tract's overall CalEnviroScreen percentile ranking.

Figure 1 CalEnviroScreen Overall Percentile Score in or Proximate to the Project Site



Imagery provided by Esri and its licensors © 2026.
Additional data provided by CalEnviroScreen 4.0, 2021. * Overall CalEnviroScreen Percentiles that are italicized and **bolded** are within the map frame.

23-15427 EPS E1
Fig X Overall CalEnviroScreen Percentiles



Public Resources Code (PRC) Section 21189.82(c)(1) requires that an applicant for certification of an infrastructure project avoid or minimize significant environmental impacts in any DAC. Consistent with this requirement, the project has been planned to avoid or minimize potential environmental and public health impacts in all communities, including DACs. Potential environmental impacts associated with the project are primarily related to temporary construction activities and include increased air quality emissions, construction noise, and limited hazardous materials exposure. Long-term operational impacts are expected to be minimal, as the project would utilize zero-emission electric ferry vessels and would not introduce new operational sources of criteria pollutants or toxic air contaminants.

With respect to air quality, construction-related emissions would be temporary and subject to applicable regulatory requirements and standard construction controls as identified in Mitigation Measure AQ-1. While construction equipment may contribute incrementally to regional air emissions during construction, the project would not result in exposure of sensitive receptors, such as houseboat occupants in the Berkeley Marina, to substantial localized concentrations of criteria pollutants or toxic air contaminants. Mitigation Measure AQ-1 requires use of Tier 4 final equipment or equivalent, alternative-fueled or electric equipment where available, idling limits, dust control measures, and other best management practices to minimize construction emissions. The use of zero-emission electric ferries during operation would avoid operational emissions and would not exacerbate existing air quality burdens in nearby DACs. As a result, the project would avoid or minimize air quality impacts consistent with PRC Section 21189.82(c)(1).

Construction noise would be temporary and would vary by activity and location. Noise generated during construction would be addressed through uniform construction noise controls applied consistently across the project area through implementation of Mitigation Measure NOI-1. These measures are intended to reduce noise exposure at nearby noise-sensitive uses, including uses located in or near DAC, including occupied live-aboard boats in the Berkeley Marina, and to ensure that potential noise impacts are minimized to the extent feasible. Noise mitigation measures would be applied equitably across all construction areas and would not be limited based on jurisdiction or neighborhood characteristics.

The project would not involve routine overland transport or long-term operational use or storage of hazardous materials. Pier construction materials would be delivered primarily by barge rather than overland transport, and ferry operations would utilize zero-emission electric vessels. Standard regulatory requirements governing fuel handling, equipment maintenance, and spill prevention would apply during construction activities, and no long-term hazardous materials use is anticipated during operation.

PRC Section 21189.82(c)(2) requires that, if mitigation measures are required to mitigate significant environmental impacts in a DAC, those measures must be implemented consistent with CEQA, including Section 21002, and must be undertaken in, and directly benefit, the affected community. For the project, applicable mitigation measures that would be implemented in, and directly benefit, communities in proximity to the project site include Mitigation Measures AQ-1 (air quality) and NOI-1 (construction noise). These mitigation measures would directly benefit the communities in which construction activities or special events take place, including any DACs, and would be applied uniformly, as applicable, across the project area.

PRC Section 21189.82(c)(3) further requires that, if measures are required to mitigate significant environmental impacts in a DAC, the applicant must enter into a binding and enforceable agreement to comply with this subdivision prior to certification of the environmental impact report. In the event that the City of Berkeley approves the project and certifies the associated CEQA document, the City would enter into a binding and enforceable agreement to implement applicable mitigation measures through the Mitigation Monitoring and Reporting Program (MMRP). The MMRP would ensure that mitigation measures are implemented as required and would remain in effect throughout construction and operation of the project.



In addition to mitigation measures required under CEQA, the project includes design features and environmental commitments that further avoid or minimize potential impacts to DACs and provide direct benefits. These features include zero-emission ferry operations, improved pedestrian and bicycle access through implementation of a cycle track along University Avenue and the extension of the Bay Trail, enhanced multimodal connectivity through implementation of additional bus service stop amenities, and expanded public access to the Berkeley Waterfront. The City has also conducted targeted outreach and engagement to meaningfully involve disadvantaged and vulnerable communities in project planning, consistent with applicable guidance related to DACs.

While the project is located in proximity to communities that meet one or more criteria associated with disadvantaged or vulnerable populations, including live-aboard and houseboat residents within the Berkeley Marina, nearby low-income households, minority populations, and communities experiencing elevated pollution burdens related to traffic and diesel particulate matter, the project would not result in disproportionately high or adverse environmental or public health impacts on those communities. Potential impacts would be temporary, minimized to the extent feasible, and addressed through enforceable mitigation measures consistent with PRC Section 21189.82(c).

Attachment D

Greenhouse Gas Analysis Memorandum

June 25, 2026
Project No: 23-15427

Liza McNulty, PE
Parks, Recreation, & Waterfront Department
2180 Milvia Street, 3rd Floor
Berkeley, California 94704
Via email: lmcnulty@berkeleyca.gov

**Subject: Berkeley Water Transportation Pier Ferry Project,
Greenhouse Gas Analysis for SB 149 Application**

Dear Ms. McNulty:

This study analyzes the greenhouse gas (GHG) emissions associated with the proposed Berkeley Water Transportation Pier Ferry Project (proposed project) in the City of Berkeley, Alameda County, California. The purpose of this study is to analyze the proposed project's GHG emissions related to both temporary construction activity and long-term operation of the proposed project with respect to SB 149 requirements. For Transportation Infrastructure projects such as the proposed project, the project must not result in any additional net emissions of GHGs.

Setting

Local Climate and Meteorology

Berkeley is located in Alameda County, a subregion of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB includes the Counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County. Due to the proximity of San Francisco Bay and the Pacific Ocean, the climate in the SFBAAB is characterized by warm dry summers and cool moist winters. The average annual maximum and minimum temperature in Berkeley is 64.9- and 49.2-degrees Fahrenheit, respectively. The average annual rainfall is 23.41 inches.¹

Berkeley's topography is characterized by a rolling sedimentary plain that gently rises from sea level to the base of the Berkeley Hills. The Berkeley Hills are part of the Pacific Coast Ranges and run northwest to southeast. Berkeley is generally bounded urban development to the north and south, the Oakland Hills to the east, and the San Francisco Bay to west.

The major large-scale weather feature controlling climate in the Air Basin is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. During winter months, marine air trapped in the lower atmosphere is often condensed into fog by the cool Pacific Ocean. Stratus-type clouds usually form offshore and move into the area during the evening hours. During winter months, the Pacific High becomes weaker and shifts south, allowing weather systems associated with the polar jet stream to affect the region. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. High-pressure systems are also common in winter, with low-level inversions that produce cool stagnant conditions.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This is caused by most of the sun's energy being

¹ Western Regional Climate Center. 2023. Berkeley California (040693) Period of Record Monthly Climate Summary. Available: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0693> (accessed September 2024).



converted to sensible heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air actually increases with height. This condition is known as temperature inversion because the temperature profile of the atmosphere is “inverted” from its usual state. Over the SFBAAB, the frequent occurrence of temperature inversions limits mixing depth and, consequently, limits the availability of air for dilution.

Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs. Prominent GHGs that naturally occur in the Earth’s atmosphere are water vapor, carbon dioxide (CO₂), methane (CH₄), oxides of nitrogen (NO_x), and ozone. Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of human-made gases with high global warming potential (GWP) (ozone-depleting substances such as chlorofluorocarbons [CFCs]) and aerosols, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The GHGs listed by the IPCC (CO₂, CH₄, nitrous oxide (N₂O), HFCs, PFCs, and SF₆) are discussed below, in order of abundance in the atmosphere. Water vapor, despite being the most abundant GHG, is not discussed below, because natural concentrations and fluctuations far outweigh anthropogenic influences, making it impossible to predict. Ozone is not included, because it does not directly affect radiative forcing. Ozone-depleting substances (CFCs, halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons) are not included, because they have been replaced by HFCs and PFCs.

The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere and is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO₂. Individual GHG compounds have varying potential for contributing to global warming. For example, CH₄ is 25 times as potent as CO₂, while SF₆ is 22,200 times more potent than CO₂ on a molecule-per-molecule basis. To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method for comparing GHG emissions is the GWP methodology defined in the IPCC reference documents.² The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO₂e), which compares the gas in question to that of the same mass of CO₂ (by definition, CO₂ has a GWP of 1). The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. Thus, to describe how much global warming a given type and amount of GHG may cause, the CO₂e is used. A CO₂e is the mass emissions of an individual GHG multiplied by its global warming potential. Therefore, a high GWP represents high absorption of infrared radiation and a long atmospheric lifetime compared to CO₂. One must also select a time horizon to convert GHG emissions to equivalent CO₂ emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) CO₂e emitted per year.

The atmospheric residence time of a gas is equal to the total atmospheric abundance of the gas divided by its rate of removal. The atmospheric residence time of a gas is, in effect, a half-life measurement of the length of time a gas is expected to persist in the atmosphere when accounting for removal mechanisms such as chemical transformation and deposition. Table 3.6-1 lists the GWP of each GHG and its lifetime. Units commonly used to describe the concentration of GHGs in the atmosphere are parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt), referring to the number of molecules of the GHG in a sampling of 1 million, 1 billion, or 1 trillion molecules of air. Collectively, HFCs, PFCs, and SF₆ are referred to as high-GWP gases. CO₂ is by far the largest component of worldwide CO₂e emissions, followed by CH₄, N₂O, and high-GWP gases, in order of decreasing contribution to CO₂e.

² IPCC. 2014. Frequently Asked Questions. Available: <https://www.ipcc-nggip.iges.or.jp/faq/FAQ.pdf> (accessed August 2025)



The primary human processes that release GHGs include the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release CH₄, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high-GWP gases. Deforestation and land cover conversion have also been identified as contributing to global warming by reducing the Earth's capacity to remove CO₂ from the air and altering the Earth's albedo or surface reflectance, thus allowing more solar radiation to be absorbed. Specifically, CO₂ emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change. CO₂, CH₄, and N₂O emissions associated with human activities are the next largest contributors to climate change. GHGs of California concern are defined by California Assembly Bill (AB) 32 and include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. A seventh GHG, nitrogen trifluoride (NF₃), was also added under the California Health and Safety Code Section 38505(g)(7) as a GHG of concern.

Existing GHG Emissions Inventories

Global GHG Emissions Inventory

Worldwide anthropogenic GHG emissions totaled 45.43 billion metric tons (MMT) of CO₂e in 2024, which is a 44.9 percent increase from 1990 GHG levels.³ Specifically, 77.2 percent is CO₂e of CO₂, 17.5 percent is CH₄, and 5.4 percent is N₂O. Worldwide per capita emissions have decreased from 7.1 tons per person in 1990 to 6.7 tons per person in 2024 a decrease of 5.6 percent.⁴

United States GHG Emissions Inventory

Net total U.S. GHG emissions were 5,489 MMT of CO₂e in 2022. Emissions increased by 1 percent between 2021 and 2022; however, total emissions in 2022 are 17 percent below 2005 levels. In 2022, transportation accounted for approximately 28 percent of U.S. emissions, electric power 25 percent, industry 23 percent, residential and commercial 13 percent, and agriculture approximately 10 percent.⁵

California GHG Emissions Inventory

Based on the CARB California Greenhouse Gas Inventory for 2000-2023, California produced 360.4 MMT of CO₂e in 2023, which is 111 MMT of CO₂e (23.6 percent) lower than 2005 levels. The major source of GHG emissions in California is the transportation sector, which comprises 38 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 22 percent of the state's GHG emissions, while electric power accounts for approximately 16 percent, residential, commercial and agriculture both account for 10, 7, and 8 percent, respectively.⁶ The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, its relatively mild climate is a factor that reduces California's per capita fuel use and GHG emissions as compared to other states. In 2016, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels, as emissions fell below 431 MMT of CO₂e.⁷

³ Our World in Data. 2024. Greenhouse Gas Emissions. Available: <https://ourworldindata.org/greenhouse-gas-emissions> (accessed January 2026).

⁴ Our World in Data. 2023. Greenhouse Gas Emissions. Available: <https://ourworldindata.org/greenhouse-gas-emissions> (accessed September 2024).

⁵ USEPA 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks. Available: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks> (accessed January 2025).

⁶ California Air Resources Board. 2025. Current California GHG Emissions Inventory Data 2000-2023 GHG Inventory (2025 Edition). Available: <https://ww2.arb.ca.gov/ghg-inventory-data> (accessed January 2026).

⁷ California Air Resources Board 2021. "California Greenhouse Gas Emissions for 2000 to 2019 – Trends of Emissions and Other Indicators." Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000_2019_ghg_inventory_trends_20220516.pdf (accessed September 2024).



Berkeley GHG Emissions Inventory

The City of Berkeley has long been a leader in climate action. In 2006, Berkeley residents voted to reduce the community's GHG emissions by 80 percent below 2000 levels by 2050, and the resulting CAP was adopted by the Berkeley City Council in 2009. In 2018, then-Governor Brown committed California to carbon neutrality by 2045, the Berkeley City Council resolved to become a "Fossil Fuel-Free City," and the Council declared a Climate Emergency, all steps to signal the urgency of these ambitious goals and the need to act on climate threats in an equitable manner. Additionally, in 2020, Berkeley City Council established a 2030 GHG emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in CO₂e, committing to reduce emissions 60.5 percent from 2018 levels by 2030.⁸

According to the most recent Berkeley GHG emissions inventory for year 2020, the majority of communitywide emissions are from the transportation and building sectors. The building sector accounts for 51 percent (253,465 MTCO₂e) of communitywide emissions and is broken down into residential gas (18 percent), commercial gas (14 percent), commercial electric (11 percent), and residential electricity (8 percent). Transportation sector accounts for 46 percent (232,009 MTCO₂e) of emissions, landfill waste accounted for 3 percent, water consumption and waste 0.3 percent and municipal energy use of 0.3 percent.⁹

Part of Berkeley's commitment to doing their part to reduce GHG emissions is to provide an annual update to track progress in reducing emissions. As of the most current data (2023 data), Berkeley has reduced overall GHG emissions by 41 percent over 2000 levels, despite a 16 percent overall growth in population.¹⁰ GHG emissions have been reduced 12 percent between 2021 and 2023.

Methodology

Emissions Model Tool

This section presents the methodology used for the analysis of existing GHG emissions and project-related construction and operational GHG emissions. GHG emissions for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.37. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutants and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E.¹¹ The input data and construction and operation emission estimates for the proposed project are discussed below. GHG assumptions and emissions estimates are calculated and included in Attachment 1. CalEEMod output GHG emissions modeling files for the proposed project are included in Attachment 2.

⁸ Berkeley, City of. 2022. Climate Action Plan and Resilience Update. November. Available: <https://berkeleyca.gov/sites/default/files/documents/2022-11-29%20Item%2016%20Climate%20Action%20Plan.pdf> (accessed October 2024).

⁹ Berkeley, City of. 2022. Climate Action Plan and Resilience Update. November. Available: <https://berkeleyca.gov/sites/default/files/documents/2022-11-29%20Item%2016%20Climate%20Action%20Plan.pdf> (accessed October 2024).

¹⁰ Berkeley, City of. 2025. Climate Action Plan and Resilience Update. Available: <https://berkeleyca.gov/sites/default/files/documents/2025-04-15%20Item%2023%20Climate%20Action%20Plan%20and%20Resilience%20Update.pdf> (accessed January 2026).

¹¹ California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model User's Guide Version 2022.1. April. https://caleemod.com/documents/user-guide/01_User%20Guide.pdf (accessed March 2024).



Existing Site Emissions Calculation

The project site is situated at the Berkeley Waterfront along the San Francisco Bay. The project site specifically encompasses the closed Berkeley Pier, including the entry area for the Berkeley Pier; the San Francisco Bay waters surrounding a portion of the closed Berkeley Pier; the existing parking lot off Seawall Drive; the Skates on the Bay parking lot and parking lot M (for construction staging); roadways with landscaping (University Avenue and Seawall Drive); and various internal pathways and sidewalks.

There are some parks, trails, and buildings located near where construction for the project would occur. Shorebird Park, Adventure Playground and portions of the Bay Trail Extension, as well as other internal pathways and landscaping, are located near the project site. There are six commercial buildings located off University Avenue and Seawall Drive near the project site. No changes to these parks, trails, and buildings are proposed as part of the project.

CalEEMod calculations included deriving the reduced emissions associated with the VMT decrease because vehicle trips to the ferry terminal reduce single occupancy vehicle use from an average of 25 miles per trip to 8 miles per trip for the anticipated project increase of 1,127 trips per day to the site, as estimated in Table 3 of the Transportation Impact Assessment included in Appendix F of the Draft EIR, which converts projected ferry ridership into daily vehicle trips based on mode share assumptions and trip-making characteristics.¹²

Proposed Construction Emissions Calculation

The project would involve the demolition and replacement of portions of the existing pier and renovating the surrounding area for recreational purposes, including improving surrounding streets, walkways, and parking lots (including the installation of parking for electric vehicles [EVs]). In addition, the proposed project would involve construction of a restroom building. The project includes electric infrastructure to charge the electric ferry vessels, including a battery energy storage system (BESS). The City is also considering the option of a photovoltaic (PV) system (solar panels) at the parking lot off Seawall Drive. There is a potential that the PV system may not be constructed; however, to provide a conservative analysis, the GHG emissions associated with the construction of this system is considered in this analysis as part of the construction emissions, but any emissions reductions/benefits associated with implementation of solar panels are not considered in this analysis.

Construction of the project would begin as early as April 2027 and occur over approximately 21 months. Construction-related emissions are limited in duration but would generate emissions from three primary sources: the operation of construction vehicles (e.g., scrapers, loaders, dump trucks, etc.); marine construction vessels (e.g., barges, tugboats, skiffs, etc.); and the travel of construction workers to and from the project site.

Construction Vehicle Sources

Construction vehicles include all the construction vehicles that would operate on the land portion of the project including upgrades to University Parkway, Sewall Drive and parking lot, the Plaza, as well as the shoreline repair. Emissions estimates were calculated using CalEEMod emission rates with the project identified equipment and horsepower that would be used to construct each project area. Construction sub-phases (i.e. demolition, grading, etc) were modeled for one day in CalEEMod and emissions for each landside area was determined by multiplying the emissions from the sub-phases occurring in that area by the number of days of activity in that area.

¹² Berkeley, City of. 2026. Berkeley Water Transportation Pier Ferry Draft Environmental Impact Report, Appendix F Table 3. Prepared by Kittelson & Associates.



Marine Construction Vessel Sources

Marine construction vessel sources include all the construction equipment that would operate on the water portion of the project including the Pier, breakwater, and float construction. Emissions estimates were calculated using CalEEMod for the project identified equipment that are part of the CalEEMod construction fleet inventory. For other marine equipment, such as tugs and barges, that are not part of the CalEEMod construction fleets, emissions were calculated in a separate spreadsheet. Emissions from CalEEMod and the project specific calculations were combined to determine total emissions for the marine based construction.

Construction Worker Travel

Construction worker travel represents the number of workers that would be accessing the site on a given day for the construction activities. The number of workers per phase were provided and the trip lengths, fleet mix, and emissions rates were based on CalEEMod default values for the project area.

Proposed Operational Emissions Calculation

Operation of the proposed project is expected to begin as early as 2028. In CalEEMod, operational sources of GHG emissions include area sources, energy, waste, water/wastewater, and mobile sources. Details used for modeling project operational emissions are detailed below.

Area Sources

Area source emissions include those emissions associated with landscaping, re-application of architectural coatings for buildings, as well as use of commercial aerosols associated with project operations. Emissions were calculated using CalEEMod default assumptions based on the land use types used for the project.

Energy Sources

Energy source emissions are based on CalEEMod default assumptions for the proposed land use types in each buildout scenario. Emissions from energy use include electricity and natural gas use. The proposed project would generate GHG emissions from electricity use associated with the restroom building¹³ and the electric ferry vessels (from electricity consumption). The proposed project would be served by Ava Community Energy and delivered by Pacific Gas & Electric (PG&E). Specific energy intensity factors (i.e., the amount of CO₂e per megawatt-hour) from PG&E are used in the calculation of GHG emissions. The proposed project also includes the option to install a PV system to support charging of electric vehicles (EVs). However, for the purposes of a conservative analysis, energy generated by the PV system was not accounted for in the analysis.

The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies. The 2022.1 CalEEMod currently incorporates California's 2019 Title 24 building energy efficiency standards. CalEEMod assumption values for health club and parking lot fixtures were used in the analysis.¹²

The project would be serviced by the Ava Community Energy, which will source all of its power from renewable resources by 2030. The analysis conservatively assumes the CalEEMod estimated emissions from electrical consumption for the project operations in 2028 would also occur in 2029 with a jump to 100 percent renewable electricity in 2030. In addition, for purposes of energy-related GHG emissions modeling, the project is assumed to stay in its initial automatically enrolled Ava Renewable 100 plan. The

¹³ Health club energy rates were used as a proxy for the restroom building since it represents a conservative estimate of energy use compared to other land uses.



two years' worth of operational GHG emissions from electrical generation are amortized over the 30-year life of the project to account for the majority of the project being serviced by 100 percent renewable resources. The GHG analysis provided herein assumes a 30-year project life for purposes of amortizing construction emissions and certain operational emissions. This assumption is consistent with standard practice in GHG analysis to evaluate emissions over a conservative analytical horizon. While the physical design life of the proposed project infrastructure is approximately 50 years, the use of a 30-year analysis period results in a more conservative estimate of annualized emissions. Specifically, total construction-related GHG emissions, which are fixed regardless of project duration, are distributed over a shorter period, resulting in higher annual emissions than would occur over the full 50-year design life. Accordingly, the use of a 30-year lifecycle in this analysis demonstrates that the project would achieve net-negative GHG emissions even under conservative assumptions. If the full 50-year project life were applied, the annualized emissions would be lower and overall GHG performance would be improved.

Waste Sources

GHG emissions from waste generation were also calculated in CalEEMod and are based on CARB's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste.¹⁴ Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by CalRecycle.

Water and Wastewater Sources

The analysis used CalEEMod default water and wastewater consumption rates to determine GHG emissions from water and wastewater sources. CalEEMod calculated GHG emissions from water and wastewater usage based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California¹⁵ and the average values for northern and southern California.

Mobile Sources

The proposed project would result in 1,127 trips per day to the project site.¹⁶ The 1,127 trips would travel on average 8 miles per day to Berkeley Pier. Approximately 425 to 475 parking spaces would be included as part of the project. Of these provided spaces 20 percent (85-95) would be EV capable. In addition to these EV capable spaces, another 10 percent (43-48 spaces) would have Level 2 charging stations implemented when the project begins operation. For modeling purposes, the project assumes 43 spaces would have charging stations incorporated at the beginning of project operations. Without the ferry service, the 1,127 trips per day would travel an estimated 25 miles per day.

The modeling for the analysis incorporates the 1,127 trips per day at 8 miles as project emissions, 1,127 trips per day at 25 miles as eliminated emissions, and the implementation of charging stations for the 43 spaces as eliminated emissions. The additional electrical use from the 43 charging stations was also incorporated as additional emissions.

¹⁴ CARB. 2010. Regulation for Mandatory Reporting Of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32). Available: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2010/ghg2010/ghgisor.pdf> (accessed October 2025).

¹⁵ CEC. 2006. Refining Estimates of Water Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118. December.

¹⁶ Berkeley, City of. 2026. Berkeley Water Transportation Pier Ferry Draft Environmental Impact Report, Appendix F Table 3. Prepared by Kittelson & Associates.



Results

Existing Emissions

The proposed project would increase roadway vehicle trips to the site by 1,127 trips per day.¹⁷ However, these are existing trips within the region that would otherwise be traveling an estimated average 25 miles to their destination per day. GHG emissions from the existing trips result in 2,351 MT CO₂e annually.

Project Construction Emissions

Project-related construction and decommissioning emissions are confined to a relatively short period in relation to the overall life of the proposed project. Table 1 shows that project construction would result in a total of approximately 48,601 MT CO₂e for the 21-month construction period.

Table 1 Estimated Annual Construction GHG Emissions

Year	Project Emissions (MT CO ₂ e)
2027	24,301
2028	24,301
Total Project Construction Emissions	48,601
Amortized average over 30-year analytical period and 50-year design life ¹	1,620 and 972

MT = metric tons

CO₂e = carbon dioxide equivalents

¹: The 30-year analytical horizon represents a conservative assumption relative to the project’s approximately 50-year design life.

Source: Attachments 1 and 2. See also Methodology, for a description of modeling assumptions.

Project Operational Emissions

The proposed project would generate GHG emissions during operation from area source, energy consumption, and mobile emissions.¹⁸ As shown in Table 2, the proposed project would generate approximately 1,010 MT of CO₂e per year from operation of proposed project before accounting for the reduction in emissions from the implementation of EV charging stations and the reduction in emissions from the reduction in VMT. Reductions from the change in VMT is estimated to reduce emissions by 2,351 MT CO₂e annually. Reduction from implementation of the charging stations, assuming only the original 43 spaces are equipped with charging stations between 2028 and 2045 would be 1,075 MT CO₂e annually. The use of the EV charging stations would result in an additional consumption of electricity and additional emissions of 48 MT CO₂e annually. As clarified in Footnote 2 in Table 2, energy-related emissions include a temporary increase during the initial operational years of 2028-2029, when electricity is assumed to not be sourced from 100 percent renewable resources. To conservatively account for this, CalEEMod outputs for 2028 energy emissions were doubled to reflect emissions over both 2028 and 2029, and this total was then amortized over the 30-year analytical horizon. No additional electricity-related emissions are assumed beyond 2030 due to the planned transition to fully renewable energy sources.

¹⁷ Berkeley, City of. 2026. Berkeley Water Transportation Pier Ferry Draft Environmental Impact Report, Appendix F Table 3. Prepared by Kittelson & Associates.

¹⁸ Area sources for this project refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).



Table 2 Estimated Annual and Total Operational GHG Emissions

Source	Project Emissions MT CO ₂ e ¹		
	Annual (30-Year Analytical Horizon/50-Year Design Life) ⁴	30 Years	50 Years
Mobile Project Specific VMT	889		
Area	<1		
Energy ²	121/73		
Water	<1		
Waste	<1		
Refrigerant	<1		
Operational Emissions Subtotal	1,010/962	30,300	40,080
Existing Commutes	(2,351)		
Reduction from EV Chargers	(1,075)		
Electricity Emissions from EV Chargers	48		
Operational Emissions Reductions Subtotal ³	(3,378)	(101,336)	(168,893)
Net Project Operational Emissions Total	(2,368)/(2,416)	(71,036)	(120,813)

Note:

MT = metric tons

CO₂e = carbon dioxide equivalents

¹ Parenthetical numbers are negative numbers

² Emissions from CalEEMod for 2028 Energy were doubled to account for 2028 and 2029 not being serviced by 100 percent renewable resources (1,815 *2 = 3,631). This value is amortized over the 30 years and 50 years of operation as there are no additional electrical emissions past 2030 (3,631 / 30 = 121; 3,631/50 = 73)

³ Operation Emissions Reduction subtotal is derived by adding the reductions from existing commutes, reductions from EV chargers, and the electricity emissions from EV chargers.

⁴ The 30-year values reflect the analytical horizon used in the GHG analysis to conservatively amortize construction and operational emissions, whereas the 50-year values reflect the actual expected emissions over the project's 50-year design life. The difference between a 30-year analysis and a 50-year analysis is the two years of electrical consumption relying on non-renewable sources amortized over 30 years (121) or over 50 years (73).

Source: Attachment 1 and 2. See also Methodology, for a description of modeling assumptions.

Total Project Emissions

As detailed above, the proposed project would generate GHG emissions during construction and operational activities. Construction activities would result in the generation of 48,601 MT CO₂e and operations 30,300 MT CO₂e, over the 30 -year life of the project as shown in Table 3. The project site would result in the overall reduction of emissions from reduced VMT and incorporation of EV Charging stations (including increased electrical consumption) of approximately 101,336 MT CO₂e over the lifetime of the project. These emissions are detailed above in Table 1 and Table 2 and summarized here in Table 3.

Although the proposed project would emit 78,901 MT CO₂e over the 30-year horizon used for conservative GHG analysis, including construction and base operational emissions, the proposed project would reduce GHG emissions by reducing VMT and incorporating EV charging stations, reducing by a total of 101,336 MT CO₂e. The net project GHG emissions would represent an approximately reduction of 22,435 MT CO₂e over the 30 years as shown in Table 3. Therefore, the project would exceed the SB 149 requirement for no net additional GHG Emissions.



It should also be noted that the project may result in greater reductions in GHG emissions, if the system of solar panels is implemented at the Seawall Drive parking lot. The City is still considering whether this will be implemented as part of the project.

The total emissions presented in this section are based on a 30-year analytical horizon, which was intentionally selected as a conservative assumption. The project’s actual design life is approximately 50 years based on standard engineering practice for concrete marine structures. Because construction emissions are fixed and occur upfront, evaluating emissions over a shorter 30-year period results in higher annualized emissions than are expected to occur over the full 50-year project life. If the emissions were instead amortized over 50 years, the total annual emissions rate prior to implementing any reductions from reducing existing commutes or providing EV chargers, would decrease from 1,010 MT CO_{2e} to 962 MT CO_{2e}, and the net annual GHG generation of the project would be less than reported herein. Once reductions are accounted for, as shown in Table 3, the Net benefit of the project increases from a -101,336 over 30 years to a – 168,893 over 50 years. Therefore, the 30-year analysis demonstrates that the project would exceed SB 149 requirement for no net additional GHG emissions over the remaining 20 years of its design life beyond the 30-year analytical horizon.

Table 3 Estimated Project GHG Emissions

Source	Project Emissions MT CO _{2e}	
	30 year	50 year
Construction	48,601	48,601
Operation	30,300	48,080
Combined Project Emissions	78,901	96,681
Existing Commutes	(70,530)	(117,550)
Reduction from EV Chargers	(32,259)	(53,765)
Electricity Emissions from EV Chargers	1,453	2,421
Combined Emissions Reductions	(101,336)	(168,893)
Net Total	(22,435)	(72,213)

Note: Parenthetical notation represents negative numbers.

MT = metric tons

CO_{2e} = carbon dioxide equivalents

Source: Attachment 1 and 2. See also Methodology, for a description of modeling assumptions.

Conclusion

The proposed project would emit a total of 78,901 MTCO_{2e} over the 30-year analytical period (or 2,630 MTCO_{2e} annually), which represents a conservative estimate of project emissions compared to the proposed project infrastructure design life of 50 years. The incorporation of the reduction in operational regional VMT and the inclusion of project-specific EV charging would result in a reduction of 101,336 MT CO_{2e} over 30 years (or 3,378 MTCO_{2e} annually) and 168,893 MT CO_{2e} over 50 years (3,378 MT CO_{2e} annually). Overall, net project GHG emissions would be -22,435 MTCO_{2e} over 30 years (or -748 MTCO_{2e} annually) and -72,213 MT CO_{2e} over 50 years (or -1,444 MT CO_{2e} annually) of project operation. In summary, the project operational annual GHG emissions in combination with the project construction GHG emissions amortized over 30 years reflects net negative GHG emissions for the project overall even under a more conservative analytical horizon compared to the actual expected project design life. Accordingly, the analysis demonstrates that the project would remain net-negative in GHG emissions over the remaining 20 years of its design life, as operational efficiencies and reduced vehicle miles traveled persist beyond the conservative analytical horizon of 30 years. Therefore, the proposed project would not



result in any additional net emissions of GHGs and would result in a negative net GHG emissions total of 22,435 MTCO₂e using a conservative analytical framework.

Sincerely,
Rincon Consultants, Inc.

A handwritten signature in blue ink, appearing to read "H. Dubois", written over a light blue rectangular background.

Heather M. Dubois
Senior Air Quality Specialist

Attachments

- Attachment 1 Assumptions and Emissions Estimates
- Attachment 2 CalEEMod Output

Attachment 1

Assumptions and Emissions Estimates

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

CalEEMod Inputs that are not modeling defaults:

Project Location	County Alameda
Location	Seawall Drive and University Avenue
Climate Zone	5
Urbanization	Urban
Construction Year	2027
Operational Year (Buildout)	2028
Air District	BAAQMD
Air Basin	SFBAAB
Utility Company	

Construction Assumptions

Greenhouse Gas Pollutant Intensity Factors - 2028 Forecasted Factors

CO ₂ (lb/MWh)	CH ₄ (lb/MWh)	N ₂ O (lb/MWh)
203.983	0.033	0.004

Construction Data

Proposed Use	Units	Square Feet	Acres
Restrooms		140	0.003
Parking Lot	442	173,264	3.98
Repaved Roads ¹		400,000	9.18

Notes

¹ Based on Google Earth Estimates

Land Use¹

Land Use	Subtype	Unit	Size	Acres	Total SF	Landscape
Recreational	Health Club	1000 sqft	0.140	0.003	140	-
Parking	Parking Lot	spaces	442	3.98	173,264	-
Parking	Other Asphalt Area	1000 sqft	400.000	9.18	400,000	-
Total				13.16		

Notes

¹ Health Club used as a proxy for restrooms

Construction Assumptions

Pier and Water-Based Construction

Construction Activity ¹	Start Date	End Date	Work Days
Demolition	4/1/2027	4/1/2027	1
Dredging	4/1/2027	4/1/2027	1
Pile Installation	4/1/2027	4/1/2027	1
Deck, Float, Gangway Construction	4/1/2027	4/1/2027	1
Architectural Coating	4/1/2027	4/1/2027	1
Amenities	4/1/2027	4/1/2027	1

Notes

¹ Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description

Construction Activity	Equipment	Quantity	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	2	8	74.3	
	Compressors	2	8	142	
	Crushing/Processing Equipment	2	8	540	
	Generators	4	8	12	
	Pumps	4	8	49	
	Skid Steer Loaders	2	8	74.3	
	Welders	2	8	400	
Dredging	Vibratory Hammer	1	8	765	
	Compressors	2	8	142	
	Generators	2	8	12	
	Pumps	2	8	49	
Pile Installation	Welders	1	8	400	
	Compressors	2	8	142	
	Generators	2	8	12	
	Pumps	2	8	49	
	Welders	1	8	400	
	Vibratory Hammer	1	8	765	
	Impact Hammer	1	8	75	
Deck, Float, Gangway Construction	Aerial Lifts	2	8	82	
	Concrete Truck	13 twice a month	8	500	
	Concrete/Industrial Saws	2	8	74.3	
	Cranes	1	8	290	
	Forklifts	1	8	164	
	Generators	2	8	12	
	Pumps	2	8	49	
	Rough Terrain Forklifts	1	8	114	
	Welders	1	8	400	
	Compressors	2	8	142	
Amenities	Aerial Lifts	2	8	82	
	Compressors	2	8	142	
	Cranes	1	8	290	
	Forklifts	1	8	164	
	Generators	2	8	12	
	Pressure Washers	1	8	13	
	Rough Terrain Forklifts	1	8	114	
Welders	2	8	400		

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

Land-Based Construction

Construction Activity ¹	Start Date	End Date	Work Days
Demolition	4/1/2027	4/1/2027	1
Site Preparation	4/1/2027	4/1/2027	1
Grading	4/1/2027	4/1/2027	1
Building Construction	4/1/2027	4/1/2027	1
Paving	4/1/2027	4/1/2027	1
Architectural Coating	4/1/2027	4/1/2027	1
Landscaping	4/1/2027	4/1/2027	1
Amenities	4/1/2027	4/1/2027	1

Notes

¹ Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description

Construction Activity	Equipment	Quantity	Hours Per Day	Horsepower	Load Factor
Demolition	Backhoes	2	8	148	
	Compressors	2	8	142	
	Excavators	1	8	275	
	Generators	2	8	12	
	Loaders, Rubber Tired	1	8	249	
	Rough Terrain Forklifts	1	8	96	
	Signal Boards	3	8	30	
	Skid Steer Loaders	1	8	74.3	
	Sweepers/Scrubbers	1	8	74	
	Water Truck	2	8	300	
	Site Preparation	Aerial Lifts	2	8	46
Backhoes		2	8	148	
Compressors		2	8	142	
Excavators		1	8	275	
Generators		2	8	12	
Loaders, Rubber Tired		1	8	249	
Rough Terrain Forklifts		1	8	96	
Signal Boards		3	8	30	
Skid Steer Loaders		1	8	74.3	
Sweepers/Scrubbers		1	8	74	
Water Truck		2	8	300	
Grading	Backhoes	2	8	148	
	Compactors	2	8	405	
	Compressors	2	8	142	
	Dozers	1	8	130	
	Excavators	1	8	275	
	Generators	2	8	12	
	Graders	2	8	250	
	Loaders, Rubber Tired	1	8	249	
	Signal Boards	3	8	30	
	Skid Steer Loaders	1	8	74.3	
	Water Truck	2	8	300	
Building Construction	Backhoes	2	8	148	
	Cranes	1	8	290	
	Generators	2	8	12	
	Rough Terrain Forklifts	1	8	96	
	Trenchers	1	8	76	
	Welders	1	8	46	
	Water Truck	1	8	300	
Paving	Concrete/Industrial Saws	1	8	74.3	
	Compactors	2	8	405	
	Compressors	2	8	142	
	Graders	1	8	250	
	Loaders, Rubber Tired	1	8	249	
	Pavers	2	8	230	
	Rollers	2	8	137	
	Signal Boards	3	8	30	
	Surfacing Equipment	2	8	350	
	Sweepers/Scrubbers	2	8	74	
Architectural Coating	Water Truck	1	8	300	
	Compressors	2	8	142	
Landscaping	Backhoes	2	8	148	
	Compressors	2	8	142	
	Cranes	1	8	290	
	Generators	2	8	12	
	Loaders, Rubber Tired	1	8	249	
	Rough Terrain Forklifts	1	8	96	
	Signal Boards	3	8	30	
	Skid Steer Loaders	1	8	74.3	
	Sweepers/Scrubbers	1	8	74	
	Water Truck	1	8	300	
Amenities	Aerial Lifts	2	8	46	
	Backhoes	1	8	148	
	Cement and Mortar Mixers	1	8	500	
	Concrete/Industrial Saws	1	8	74.3	
	Compactors	1	8	405	
	Compressors	2	8	142	
	Cranes	1	8	290	
	Generators	2	8	12	
	Pressure Washers	1	8	14	
	Rough Terrain Forklifts	1	8	96	
	Sweepers/Scrubbers	1	8	74	
	Welders	1	8	46	
	Water Truck	1	8	300	

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

Construction Offroad Equipment - Demolition and Soil Movement Volumes

Construction Activity ¹	Start Date	End Date	Work Days
University Avenue Demolition	4/1/2027	4/28/2027	20
Seawall Drive Demolition	4/1/2027	5/12/2027	30
Parking Lot Demolition	4/1/2027	5/12/2027	30
Bay Trail Demolition	4/1/2027	5/12/2027	30
Plaza Demolition	4/1/2027	4/14/2027	10
Pier Demolition	4/1/2027	6/9/2027	50
University Avenue Grading	4/1/2027	4/14/2027	10
Seawall Drive Grading	4/1/2027	4/20/2027	14
Parking Lot Grading	4/1/2027	4/20/2027	14
Bay Trail Grading	4/1/2027	4/20/2027	14
Plaza Grading	4/1/2027	4/21/2027	15
Pier Grading	4/1/2027	4/21/2027	15

Dust from Material Movement

Phase	Material Imported (CY)	Material Exported (CY)
University Avenue Soil Movement	300	300
Seawall Drive Soil Movement	600	200
Parking Lot Soil Movement	9,700	9,000
Bay Trail Soil Movement	600	500
Plaza and Pier Entrance Soil Movement	1,000	0
Pier and Breaker Water Soil Movement	0	0
Total	12,200	10,000

	Frequency	PM10 % Reduction	PM2.5 % Reduction
Water Exposed Area	2	61%	61%

Demolition

	Asphalt Demolition (CY)	Concrete Demolition (CY)	Timber Demolition (CY)	Total Amount (tons) ¹
University Avenue	1,300	400	0	1,190
Seawall Drive	400	0	0	280
Parking Lot	3,800	100	0	2,730
Bay Trail	500	10	0	357
Plaza and Pier Entrance	200	10	0	147
Pier and Breaker Water	0	5,000	2,220	3,500
Total				8,204

	Frequency	PM10 % Reduction	PM2.5 % Reduction
Water Demolished Area	2	36%	36%

Onroad Fugitive Dust

Control Strategy	PM2.5 % Reduction	PM10 % Reduction
Water Unpaved Roads Twice Daily	55%	55%
Limit Vehicle Speeds on Unpaved Roads to 25 mph	44%	44%
Sweep Paved Roads Once per Month	9%	9%

Architectural Coatings Uses CalEEMod Defaults

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

For Concrete/Timber Demo – Debris will be barged to Pier 96 in SF. Lat/Long: 37.74342, -122.3710. Then they will be trucked to a landfill.

For Dredging – 400,000 CY will be barged to Alcatraz Disposal Site or Montezuma Site.

Parking lot

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	8,322	9,686	9,700
2	New Asphalt	959	1,151	1,200
3	New Concrete	314	376	400
4	Export Fill	7,434	8,921	9,000
5	Asphalt Demo	3,111	3,733	3,800
6	Concrete Demo	35	43	100

Bay Trail

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	486	583	600
2	New Asphalt	230	276	300
3	New Concrete	1	1	10
4	Export Fill	402	483	500
5	Asphalt Demo	398	478	500
6	Concrete Demo	7	9	10

University Avenue

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	187	225	300
2	New Asphalt	1,528	1,834	1,900
3	New Concrete	599	719	800
4	Export Fill	187	225	300
5	Asphalt Demo	1,071	1,285	1,300
6	Concrete Demo	300	360	400

Seawall Drive

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	494	593	600
2	New Asphalt	310	372	400
3	New Concrete	1	1	10
4	Export Fill	134	161	200
5	Asphalt Demo	310	372	400
6	Concrete Demo	0	0	0

Plaza and Pier Entrance

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	803	964	1,000
2	New Asphalt	107	128	200
3	New Concrete	100	121	200
4	Export Fill	0	0	0
5	Asphalt Demo	117	140	200
6	Concrete Demo	6	7	10

Pier and Breaker Water

	Description	CY	CY + 20%	CY Rounded
1	New Concrete	1,930	2,316	2,400
2	New Concrete Piles	1,934	2,321	2,400
3	Concrete Demo (Lower boundary)	1,562	1,875	1,900
3.1	Concrete Demo (Upper boundary)	2,508	3,010	3,100
4	Timber Demo (lower boundary)	684	820	900
4.1	Timber Demo (upper boundary)	1,098	1,317	1,320

Total Quantities

	Description	CY	CY + 20%	CY Rounded
1	Import Fill/Crushed Rock	10,193	12,232	15,500
2	New Asphalt	3,134	3,760	4,000
3	New Concrete	4,880	5,856	6,000
4	Export Fill	8,157	9,789	10,000
5	Asphalt Demo	3,632	4,358	4,500
6	Concrete Demo (Lower boundary)	1,562	1,875	2,000
6.1	Concrete Demo (Upper boundary)	2,508	3,010	3,000
7	Timber Demo (lower boundary)	684	820	1,000
7.1	Timber Demo (upper boundary)	1,908	1,317	1,500

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

Pavement Volume to Weight Conversion

Component	Asphalt Demolition Volume	Concrete Demolition Volume	Timber Demolition Volume	Weight of Crushed Concrete and Asphalt (tons/cubic yard)	Weight of Wood Debris (tons/cubic yard)	Tons of Demolished Material
University Avenue	1,300	400	0	0.7	0.0845	1,190
Seawall Drive	400	0	0	0.7	0.0845	280
Parking Lot	3,800	100	0	0.7	0.0845	2,730
Bay Trail	500	10	0	0.7	0.0845	357
Plaza and Pier Entrance	200	10	0	0.7	0.0845	147
Pier and Breaker Water	0	5,000	2,220	0.7	0.0845	3,500
Total	6,200	5,520	2,220			8,204

Notes

- 1 County of Contra Costa. Volume to Weight Conversion Table for Construction and Demolition Debris. <https://www.contracosta.ca.gov/DocumentCenter/View/49316/Volume-to-Weight-Conversion-Table?bidId=>
- 2 April 2022. CAPCOA. CalEEMod User Guide Version 2022.1. https://www.caleemod.com/documents/user-guide/CalEEMod_User_Guide_v2022.1.pdf

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

CalEEMod Inputs that are not modeling defaults:

Project Location	County Alameda
Location	Seawall Drive and University Avenue
Climate Zone	5
Urbanization	Urban
Construction Year	2027
Operational Year (Buildout)	2028
Air District	BAAQMD
Air Basin	SFBAAB
Utility Company	

Construction Assumptions

Greenhouse Gas Pollutant Intensity Factors - 2028 Forecasted Factors

CO ₂ (lb/MWh)	CH ₄ (lb/MWh)	N ₂ O (lb/MWh)
203.983	0.033	0.004

Construction Data

Proposed Use	Units	Square Feet	Acres
Restrooms		140	0.003
Parking Lot	442	173,264	3.98
Repaved Roads ¹		400,000	9.18

Notes

¹ Based on Google Earth Estimates

Land Use¹

Land Use	Subtype	Unit	Size	Acres	Total SF	Landscape
Recreational	Health Club	1000 sqft	0.140	0.003	140	-
Parking	Parking Lot	spaces	442	3.98	173,264	-
Parking	Other Asphalt Area	1000 sqft	400.000	9.18	400,000	-
Total				13.16		

Notes

¹ Health Club used as a proxy for restrooms

Operational Assumptions

Trips and VMT

Mobile Sources

Vehicle Trips:

- 1,127 Project Tirps
- 8 Miles per project trip
- 25 miles per Existing Trip

Source: Kittleson December 2025

Vehicle Emissions:

- Uses CalEEMod Defaults
- Vehicle Fleet Mix:** Uses CalEEMod Defaults
- Road Dust:** Uses CalEEMod Defaults

Area Sources

Hearths:

No wood burning devices, assumes all CalEEMod default gas fireplaces are electric

Consumer Products:

N/A

Architectural Coating:

Uses CalEEMod Defaults

Landscape Equipment:

Uses CalEEMod Defaults

Energy Use

All Electric Development

CalEEMod Default Energy

	Total Annual Consumption		Subject to Title 24 Standards		Not Subject to Title 24	
	Electricity (kWh/year)	Natural Gas (kBtu/year)	Electricity (kWh/year)	Natural Gas (kBtu/year)	Electricity (kWh/year)	Natural Gas (kBtu/year)
Natural Gas Consumption						
Health Club	1,527	6,130	675	2,592	852	3,538
Parking Lot	151,795	0	151,795	0	0	0

Natural Gas Conversion to Electricity

Natural Gas Consumption	Total Estimated Natural Gas Usage (kBtu)	Equivalent Electricity Usage (MWh) ¹	Equivalent Electricity Usage (kWh)	CalEEMod Default Electricity (kWh)	Total Electricity Consumption (kWh/Year)
Subject to T24	2,592	0.76	759.73	675.29	1,435.02
Not Subject to T24	3,538	1.04	1,037.01	852.13	1,889.14

Notes

¹ 1 MWh = 3414.42595 kBtu

**Berkeley Water Transportation Pier Ferry Project
General Assumptions**

Electric Ferry Energy Consumption

Maximum Net Electrical Demand (MW) ¹	Secondary Service Electricity Demand (MW)	Total Electricity Usage (kW)	Hours of Operation Per Day	Days of Operation Per Year	Total Electricity Demand (kWh)
4	0.4	4,400.00	12	365	19,272,000

Notes

¹ Assumes maximum power capacity of 4 MW based on E-Ferry prototype

Cordis. 2020. E-ferry – prototype and full-scale demonstration of next generation 100% electrically powered ferry for passengers and vehicles. <https://cordis.europa.eu/project/id/636027>

	Total Annual Consumption		Subject to Title 24 Standards		Not Subject to Title 24	
	Electricity (kWh/year)	Natural Gas (kBTU/year)	Electricity (kWh/year)	Natural Gas (kBTU/year)	Electricity (kWh/year)	Natural Gas (kBTU/year)
Natural Gas Consumption						
Health Club	19,276,852	0	19,274,110	0	2,741	0
Parking Lot	151,795	0	151,795	0	0	0

19,428,646

Water/Wastewater

Water: Uses CalEEMod Defaults

Wastewater: Uses CalEEMod Defaults

Solid Waste Uses CalEEMod Defaults

Off-Road Equipment

Stationary Sources

Vegetation

Berkeley Water Transportation Pier Ferry Project
General Assumptions

Fleet Mix Adjustment

Trips 1080

	HHD%	LDA%	LDT1%	LDT2%	LHD1%	LHD2%	MCY%	MDV%	MH%	MHD%	OBUS%	SBUS%	UBUS%	Total
Default Fleet Mix	1.405416522	51.92217231	3.944555297	22.90968746	2.46694386	0.603951607	2.241620794	12.64783889	0.2040694	1.439694036	0.078256102	0.046241301	0.089551799	100%
Trips	15	561	43	247	27	7	24	137	2	16	1	0	1	1080

	HHD%	LDA%	LDT1%	LDT2%	LHD1%	LHD2%	MCY%	MDV%	MH%	MHD%	OBUS%	SBUS%	UBUS%	Total
Fleet Mix Without Medium and Heavy Duty Vehicles (Excluding Buses) ¹	0	51.92217231	3.944555297	22.90968746	0	0	2.241620794	0	0	0	0.078256102	0.046241301	0.089551799	81%
Fleet Mix Percentage of Adjusted Total	0	63.91830552	4.855907976	28.20275688	0	0	2.759526352	0	0	0	0.096336444	0.056924922	0.110241907	100%
Trips	0	690	52	305	0	0	30	0	0	0	1	1	1	1080

Notes

1 Assumes that fleet mix will be mainly passenger vehicles and buses

Emissions - Tier 2 Equipment

Equipment	Grams per day per equipment type				Grams per day				
	HP	LF	Hours/day	ROG	NOx	PM10	CO	Sox	CO2
Barge Crane	936	0.31	11	702	16,214	287	3,316	0	1,685,507
Excavator Barge	275	0.31	11	141	2,832	103	1,088	0	495,208
Flat Deck Barges	0	0.31	11	0	0	0	0	0	0
Tugboats	950	0.33	11	759	17,518	310	3,583	0	1,821,087
Crew Boats	700	0.26	11	440	9,530	180	2,322	0	1,057,218
Skiff	30	0.27	11	20	453	8	93	0	47,052
Dump Scow	90	0.33	11	59	1,313	56	608	0	203,550

	#	Grams per day				lbs per day				Days	lbs/subphase				MT/phase							
		ROG	NOx	PM10	CO	Sox	CO2	ROG	NOx		PM10	CO	Sox	CO2	ROG	CO2						
Demolition																						
Barge Crane	1	702	16,214	287	3,316	0	1,685,507	1.55	35.75	0.63	7.31	0.00	3,715.91	77.40	1787.30	31.66	30.40	365.55	0.00	185795.39	82.94437	
Excavator Barge	1	141	2,832	103	1,088	0	495,208	0.31	6.24	0.23	2.40	0.00	1,091.75	15.51	312.18	11.37	10.92	119.88	0.00	54587.32	24.36934	
Flat Deck Barges	3	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	2	1,517	35,037	621	7,166	0	3,642,174	3.35	77.24	1.37	15.80	0.00	8,029.62	167.26	3862.14	68.42	65.69	789.91	0.00	401480.95	179.2326	
Crew Boats	1	440	9,530	180	2,322	0	1,057,218	0.97	21.01	0.40	5.12	0.00	2,330.77	48.55	1050.45	19.86	19.07	255.93	0.00	116538.33	52.02604	
Skiff	2	39	905	16	185	0	94,104	0.09	2.00	0.04	0.41	0.00	207.46	4.32	99.79	1.77	1.70	20.41	0.00	10373.19	4.630889	
Dump Scow	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Dredging																						
Barge Crane	1	702	16,214	287	3,316	0	1,685,507	1.55	35.75	0.63	7.31	0.00	3,715.91	128.49	2966.92	52.56	50.46	606.81	0.00	308420.35	137.6877	
Excavator Barge	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Flat Deck Barges	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	2	1,517	35,037	621	7,166	0	3,642,174	3.35	77.24	1.37	15.80	0.00	8,029.62	277.65	6411.16	113.58	109.04	1311.25	0.00	666458.37	297.5261	
Crew Boats	1	440	9,530	180	2,322	0	1,057,218	0.97	21.01	0.40	5.12	0.00	2,330.77	80.59	1743.75	32.97	31.65	424.85	0.00	193453.63	86.36323	
Skiff	2	39	905	16	185	0	94,104	0.09	2.00	0.04	0.41	0.00	207.46	7.17	165.65	2.93	2.82	33.88	0.00	17219.50	7.687276	
Dump Scow	3	176	3,940	167	1,824	0	610,650	0.39	8.69	0.37	4.02	0.00	1,346.25	32.28	720.96	30.49	29.27	333.82	0.00	111739.06	49.88351	
Pile Installation																						
Barge Crane	1	702	16,214	287	3,316	0	1,685,507	1.55	35.75	0.63	7.31	0.00	3,715.91	75.85	1751.56	31.03	29.79	358.24	0.00	182079.49	81.28548	
Excavator Barge	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Flat Deck Barges	3	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	2	1,517	35,037	621	7,166	0	3,642,174	3.35	77.24	1.37	15.80	0.00	8,029.62	163.91	3784.90	67.06	64.37	774.11	0.00	393451.33	175.6479	
Crew Boats	1	440	9,530	180	2,322	0	1,057,218	0.97	21.01	0.40	5.12	0.00	2,330.77	47.58	1029.44	19.46	18.69	250.81	0.00	114207.56	50.98552	
Skiff	2	39	905	16	185	0	94,104	0.09	2.00	0.04	0.41	0.00	207.46	4.24	97.79	1.73	1.66	20.00	0.00	10165.73	4.538271	
Dump Scow	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Deck Construction																						
Barge Crane	1	702	16,214	287	3,316	0	1,685,507	1.55	35.75	0.63	7.31	0.00	3,715.91	185.77	4289.53	76.00	72.96	877.32	0.00	445908.95	199.0665	
Excavator Barge	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Flat Deck Barges	3	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	2	1,517	35,037	621	7,166	0	3,642,174	3.35	77.24	1.37	15.80	0.00	8,029.62	401.42	9269.14	164.22	157.65	1895.79	0.00	963554.28	430.1582	
Crew Boats	1	440	9,530	180	2,322	0	1,057,218	0.97	21.01	0.40	5.12	0.00	2,330.77	116.52	2521.08	47.67	45.76	614.24	0.00	279691.99	124.8625	
Skiff	2	39	905	16	185	0	94,104	0.09	2.00	0.04	0.41	0.00	207.46	10.37	239.49	4.24	4.07	48.98	0.00	24895.66	11.11413	
Dump Scow	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Float, Gangway Construction																						
Barge Crane	1	702	16,214	287	3,316	0	1,685,507	1.55	35.75	0.63	7.31	0.00	3,715.91	356.05	8221.59	145.66	139.83	1681.53	0.00	854658.81	381.5441	
Excavator Barge	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Flat Deck Barges	3	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	2	1,517	35,037	621	7,166	0	3,642,174	3.35	77.24	1.37	15.80	0.00	8,029.62	769.39	1765.85	314.75	302.16	3633.59	0.00	1846812.36	824.4698	
Crew Boats	1	440	9,530	180	2,322	0	1,057,218	0.97	21.01	0.40	5.12	0.00	2,330.77	223.33	4832.07	91.36	87.71	1177.29	0.00	536076.32	239.3198	
Skiff	2	39	905	16	185	0	94,104	0.09	2.00	0.04	0.41	0.00	207.46	19.88	459.02	8.13	7.81	93.88	0.00	47716.68	21.30209	
Dump Scow	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Amenities																						
Barge Crane	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Excavator Barge	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Flat Deck Barges	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Tugboats	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Crew Boats	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Skiff	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Dump Scow	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

312 days/year					
Average lbs/day					
ROG	NOx	PM10	PM2.5	CO	Sox

0.248086	5.728536	0.10149	0.09743	1.171638	0
0.049697	1.000561	0.036444	0.034987	0.384233	0
0	0	0	0	0	0
0.536084	12.37866	0.219307	0.210535	2.531764	0
0.15561	3.366826	0.063658	0.061112	0.820298	0
0.013851	0.319831	0.005666	0.00544	0.065414	0
0	0	0	0	0	0
0.411823	9.509369	0.168473	0.161734	1.944918	0
0	0	0	0	0	0
0	0	0	0	0	0
0.889899	20.54857	0.36405	0.349488	4.202729	0
0.258312	5.588931	0.105673	0.101446	1.361694	0
0.022993	0.53092	0.009406	0.00903	0.108587	0
0.103467	2.310757	0.097719	0.09381	1.069944	0
0.243124	5.613965	0.09946	0.095482	1.148205	0
0	0	0	0	0	0
0	0				

**Berkeley Water Transportation Pier Ferry Project
Emission Factors for Water Craft**

Tier 2

g/bhp HP	Main Engines ¹		
	ROG	NOx	PM10
0-24	0.21	4.57	0.19
24-49	0.21	4.57	0.19
50-99	0.18	4.02	0.17
100-174	0.22	4.76	0.09
175-799	0.22	4.76	0.09
>800	0.22	5.08	0.09

g/bhp HP	Auxiliary Engines ²		
	ROG	NOx	PM10
0-24	0.21	4.57	0.19
24-49	0.21	4.57	0.19
50-99	0.18	4.02	0.17
100-174	0.15	3.02	0.11
175-799	0.15	3.02	0.11
>800	0.22	5.08	0.09

Load Factor ³	Main		Auxiliary	
Barge Crane	-		0.31	
Excavator Barge	-		0.31	
Flat Deck Barges	-		0.31	
Tugboats		0.33	0.37	
Crew Boats		0.26	0.4	
Skiff		0.27	0.4	
Dump Scow		0.33	0.32	

Sources:

- 1 California Air Resources Board. *Appendix D. Tables for Emissions Reductions.* Table D-24b
- 2 California Air Resources Board. *Appendix D. Tables for Emissions Reductions.* Table D-25b
- 3 California Air Resources Board. *Appendix D. Tables for Emissions Reductions.* Table D-26b
- 4 https://ww2.arb.ca.gov/sites/default/files/2024-08/appendix_d_tables_for_emission_reductions.pdf

Berkeley Water Transportation Pier Ferry Project
Model Output: Off-Road Web Query (v1.1.2) Emissions Inventory

Model Output: Off-Road Web Query (v1.1.2) Emissions Inventory

Region Type: County

365 days per year

Region: Alameda

Calendar Year: 2025

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: Off-Road Web Query Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Y	Vehicle Category	Model Yea	Horsepow	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activity_hpy	Total_Population	Horsepower_Hours_hpy
Alameda	2025	Commercial Harbor Craft - AE - Crew/Supply	Aggregate	50	Diesel	5.15057E-05	6.23219E-05	7.41682E-05	0.000287238	0.000938338	0.151988	3.14508E-05	3.0067E-05	0	0	5146.021718	7573.835249	3.606673046	80774.95446
Alameda	2025	Commercial Harbor Craft - AE - Crew/Supply	Aggregate	600	Diesel	1.54217E-05	1.86602E-05	2.22072E-05	0.000160108	0.000416226	0.079091	7.09458E-06	6.78241E-06	0	0	2677.878628	359.6976854	3.606673046	49728.20756
Alameda	2025	Commercial Harbor Craft - AE - Dredge	Aggregate	600	Diesel	0.000223524	0.000270464	0.000321875	0.001537973	0.004602776	0.781692	0.000168713	0.000161289	0	0	26466.52967	1964.663628	1	490144.2782
Alameda	2025	Commercial Harbor Craft - AE - Tugboat-Push/Tow	Aggregate	300	Diesel	0.00029835	0.000361003	0.000429624	0.001293557	0.005972686	0.587412	0.000206701	0.000197606	0	0	19888.60736	5607.82647	3.083333333	369331.4506
Alameda	2025	Commercial Harbor Craft - AE - Work Boat	Aggregate	50	Diesel	3.65625E-05	4.42406E-05	5.265E-05	0.000194809	0.000623205	0.064614	2.58057E-05	2.46702E-05	0	0	2187.702666	2196.405758	3.068022728	34654.89116

Vehicle Category	Horsepower Bin	Tons per year												
		HC	ROG	TOG	Co	NOx	CO2	PM10	PM2.5	Sox	NH3	Horsepower_Hours_hpy		
Commercial Harbor Craft - AE - Crew/Supply	50	0.018799585	0.022747497	0.027071402	0.104842007	0.342493456	55.47576	0.011479545	0.010974445	0	0	80774.95446		
Commercial Harbor Craft - AE - Crew/Supply	600	0.005628912	0.006810983	0.008105633	0.038729438	0.15192255	28.86839	0.00258952	0.002475581	0	0	49728.20756		
Commercial Harbor Craft - AE - Dredge	600	0.081586354	0.098719488	0.117484349	0.56136019	1.680013157	285.3177	0.06158015	0.058870624	0	0	490144.2782		
Commercial Harbor Craft - AE - Tugboat-Push/Tow	300	0.10889775	0.131766277	0.15681276	0.472148266	2.180030303	214.4056	0.075445875	0.072126257	0	0	369331.4506		
Commercial Harbor Craft - AE - Work Boat	50	0.013345315	0.016147832	0.019217254	0.071105263	0.227469916	23.58413	0.009419069	0.00900463	0	0	34654.89116		

Vehicle Category	Horsepower Bin	Tons/HPh												
		HC	ROG	TOG	Co	NOx	CO2	PM10	PM2.5	Sox	NH3	Horsepower_Hours_hpy		
Commercial Harbor Craft - AE - Crew/Supply	50	2.3274E-07	2.81616E-07	3.35146E-07	1.29795E-06	4.24009E-06	0.000687	1.42118E-07	1.35864E-07	0	0	0.956		
Commercial Harbor Craft - AE - Crew/Supply	600	1.13194E-07	1.36964E-07	1.62999E-07	7.78822E-07	3.05506E-06	0.000581	5.20735E-08	4.97822E-08	0	0	0.956		
Commercial Harbor Craft - AE - Dredge	600	1.66454E-07	2.01409E-07	2.39693E-07	1.1453E-06	3.42759E-06	0.000582	1.25637E-07	1.20109E-07	0	0	0.956		
Commercial Harbor Craft - AE - Tugboat-Push/Tow	300	2.94851E-07	3.5677E-07	4.24585E-07	1.27839E-06	5.90264E-06	0.000581	2.04277E-07	1.95289E-07	0	0	0.956		
Commercial Harbor Craft - AE - Work Boat	50	3.85092E-07	4.65961E-07	5.54532E-07	2.05181E-06	6.56386E-06	0.000681	2.71796E-07	2.59837E-07	0	0	0.956		

Vehicle Category	Horsepower Bin	grams/hph												
		HC	ROG	TOG	Co	NOx	CO2	PM10	PM2.5	Sox	NH3	Horsepower_Hours_hpy		
Commercial Harbor Craft - AE - Crew/Supply	50	0.211138421	0.25547749	0.304039326	1.177482173	3.846549201	623.0491	0.128926949	0.123254163	0	0	0.956		
Commercial Harbor Craft - AE - Crew/Supply	600	0.102687452	0.124251817	0.147869931	0.70653572	2.771501849	526.642	0.04724025	0.045161679	0	0	0.956		
Commercial Harbor Craft - AE - Dredge	600	0.151004303	0.182715207	0.217446196	1.038994884	3.109456474	528.0809	0.113975772	0.108960838	0	0	0.956		
Commercial Harbor Craft - AE - Tugboat-Push/Tow	300	0.267484333	0.323656043	0.38517744	1.159732543	5.354784222	526.642	0.185316865	0.177162923	0	0	0.956		
Commercial Harbor Craft - AE - Work Boat	50	0.349349433	0.422712814	0.503063183	1.861371004	5.954635251	617.378	0.246569398	0.235720344	0	0	0.956		

**Berkeley Water Transportation Pier Ferry Project
Emissions associated with EV Charging Use**

Cars

Estimated 2028 GHG Emissions Reductions to replace gasoline vehicles with Electric Vehicles

Project Electricity Emission Factor ¹	0.09 MTCO ₂ e/MWh
Electric Vehicle Fuel Economy ²	0.25 kWh/mile
Gasoline CO ₂ e Emissions while Running ³	1453 gr/mile
Annual VMT Reduction per charging Station ⁴	91,250 miles/charging station/year
Number of Chargers ⁵	21.5 dual port charging stations (1/2 number of spaces)
Annual VMT Reduction All Stations (based on Charge)	1,961,875 miles/year

Conversion Factors:

2204.62 lb/MT
1.00E-06 MT/gram
0.001 MWh to KWh
28.3 miles/gallon - gasoline
203.983 lb/MWh CO ₂

Increase in Electricity from Charging Stations

MT CO ₂ e	# Stations
45.83	21.5
2.131628 per station	
21.5	2028
21.5	2045
0 stations per year	

Estimated Benefit from Installing Electric Vehicle Charging Stations.

GHG Emissions of Gasoline vehicles	2,850 MTCO ₂ e/yr
GHG Emissions of Electric Vehicles	45 MTCO ₂ e/yr
Net Reduction in Emissions	2,805 MTCO ₂ e/yr
	490 MWh/yr
	490,468.75 kWh/year
	69,324 gallons/year

30 year Average
1,598 MTCO ₂ e/yr 17 years
392 MTCO ₂ e/yr 13 years
32258.75 MTCO ₂ e 30 years
1075.292 MTCO ₂ e/year

MT CO ₂ e	Stations	Year
45.83	21.5	2028
46.90	21.5	2029
46.90	21.5	2030
46.90	21.5	2031
46.90	21.5	2032
46.90	21.5	2033
46.90	21.5	2034
46.90	21.5	2035
46.90	21.5	2036

Estimated 2045 GHG Emissions Reductions to replace gasoline vehicles with Electric Vehicles

Project Electricity Emission Factor ¹	0.00 MTCO ₂ e/MWh
Electric Vehicle Fuel Economy ²	0.25 kWh/mile
Gasoline CO ₂ e Emissions while Running ³	200 gr/mile
Annual VMT Reduction per charging Station ⁴	91,250 miles/charging station/year
Number of Chargers ⁵	21.5 dual port charging stations (1/2 number of spaces)
Annual VMT Reduction All Stations (based on Charge)	1,961,875 miles/year

46.90	21.5	2037
46.90	21.5	2038
46.90	21.5	2039
46.90	21.5	2040
46.90	21.5	2041
46.90	21.5	2042
46.90	21.5	2043
46.90	21.5	2044
46.90	21.5	2045
609.65	69	13 years

Estimated Benefit from Installing Electric Vehicle Charging Stations.

GHG Emissions of Gasoline vehicles	392 MTCO ₂ e/yr
GHG Emissions of Electric Vehicles	0 MTCO ₂ e/yr
Net Reduction in Emissions	392 MTCO ₂ e/yr
	490 MWh/yr
	490,468.75 kWh/year
	69,324 gallons/year

1452.70
48.42348

Emissions from Electrical use for charging Stations	45.83 MTCO ₂ e/yr	2028
Average Annual Emissions from Electrical usage 2028 - 2045	46.84 MTCO ₂ e/yr	
Average Annual Emissions from electricity usage over 30 years	48.42 MTCO ₂ e/yr	
Average Annual GHG Reduction between 2028 and 2045	1,552 MTCO ₂ e/yr	Includes reduction from Electrical Use
Average Annual GHG Reduction over 30 years operation	1,027 MTCO ₂ e/yr	Includes Reduction from Electrical Use
	30,806	

Notes:

¹ CO₂e intensity factor of 203.983 lbs/MWh from CalEEMod for 2028 PG&E forecasted

² National Renewable Energy Laboratory (NREL). 2018. California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025 (Table C.1). Available at: <https://www.nrel.gov/docs/fy18osti/70893.pdf>.

³ Obtained emission factor from CalEEMod, for 2028 and 2040

⁴Annual VMT reduction estimated based on an estimate of ten hours of charge time for a Level 2 charging station that charges at a rate of 25 driving range per hour.

⁵Number of charging stations based on Project Design

- Project would have 425-475 overall proposed parking spaces. Of which 20% (85-95) spaces would be V capable and in addition another 10% (43-48) would have Chargers installed, for a total of 128 - 143 spaces with some EV infrastructure/charging ability in 2028. This analysis uses 43 spaces as a conservative estimate of emissions.

**Berkeley Water Transportation Pier Ferry Project
Emissions associated with EV Charging Use**

Cars

Estimated 2028 GHG Emissions Reductions to replace gasoline vehicles with Electric Vehicles

Project Electricity Emission Factor ¹	0.09 MTCO ₂ e/MWh
Electric Vehicle Fuel Economy ²	0.25 kWh/mile
Gasoline CO ₂ e Emissions while Running ³	1453 gr/mile
Annual VMT Reduction per charging Station ⁴	91,250 miles/charging station/year
Number of Chargers ⁵	21.5 dual port charging stations (1/2 number of spaces)
Annual VMT Reduction All Stations (based on Charge)	1,961,875 miles/year

Conversion Factors:

2204.62 lb/MT
1.00E-06 MT/gram
0.001 MWh to KWh
28.3 miles/gallon - gasoline
203.983 lb/MWh CO ₂

Increase in Electricity from Charging Stations

MT CO ₂ e	# Stations
45.83	21.5
2.131628	per station
21.5	2028
21.5	2045
0	stations per year

Estimated Benefit from Installing Electric Vehicle Charging Stations.

GHG Emissions of Gasoline vehicles	2,850 MTCO ₂ e/yr
GHG Emissions of Electric Vehicles	45 MTCO ₂ e/yr
Net Reduction in Emissions	2,805 MTCO ₂ e/yr
	490 MWh/yr
	490,468.75 kWh/year
	69,324 gallons/year

30 year Average

1,598 MTCO ₂ e/yr	17 years
392 MTCO ₂ e/yr	13 years
32258.75 MTCO ₂ e	30 years
1075.292 MTCO ₂ e/year	

MT CO ₂ e	Stations	Year
45.83	21.5	2028
46.90	21.5	2029
46.90	21.5	2030
46.90	21.5	2031
46.90	21.5	2032
46.90	21.5	2033
46.90	21.5	2034
46.90	21.5	2035
46.90	21.5	2036
46.90	21.5	2037
46.90	21.5	2038
46.90	21.5	2039
46.90	21.5	2040
46.90	21.5	2041
46.90	21.5	2042
46.90	21.5	2043
46.90	21.5	2044
46.90	21.5	2045
609.65	69	13 years
1452.70		
48.42348		

Estimated 2045 GHG Emissions Reductions to replace gasoline vehicles with Electric Vehicles

Project Electricity Emission Factor ¹	0.00 MTCO ₂ e/MWh
Electric Vehicle Fuel Economy ²	0.25 kWh/mile
Gasoline CO ₂ e Emissions while Running ³	200 gr/mile
Annual VMT Reduction per charging Station ⁴	91,250 miles/charging station/year
Number of Chargers ⁵	21.5 dual port charging stations (1/2 number of spaces)
Annual VMT Reduction All Stations (based on Charge)	1,961,875 miles/year

Estimated Benefit from Installing Electric Vehicle Charging Stations.

GHG Emissions of Gasoline vehicles	392 MTCO ₂ e/yr
GHG Emissions of Electric Vehicles	0 MTCO ₂ e/yr
Net Reduction in Emissions	392 MTCO ₂ e/yr
	490 MWh/yr
	490,468.75 kWh/year
	69,324 gallons/year

Emissions from Electrical use for charging Stations 45.83 MTCO₂e/yr 2028

Average Annual Emissions from Electrical usage 2028 - 2045 46.84 MTCO₂e/yr

Average Annual Emissions from electricity usage over 30 years 48.42 MTCO₂e/yr

Average Annual GHG Reduction between 2028 and 2045 1,552 MTCO₂e/yr Includes reduction from Electrical Use

Average Annual GHG Reduction over 30 years operation 1,027 MTCO₂e/yr Includes Reduction from Electrical Use
30,806

Notes:

¹ CO₂e intensity factor of 203.983 lbs/MWh from CalEEMod for 2028 PG&E forecasted

² National Renewable Energy Laboratory (NREL). 2018. California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025 (Table C.1). Available at: <https://www.nrel.gov/docs/fy18osti/70893.pdf>.

³ Obtained emission factor from CalEEMod, for 2028 and 2040

⁴ Annual VMT reduction estimated based on an estimate of ten hours of charge time for a Level 2 charging station that charges at a rate of 25 driving range per hour.

⁵ Number of charging stations based on Project Design

- Project would have 425-475 overall proposed parking spaces. Of which 20% (85-95) spaces would be V capable and in addition another 10% (43-48) would have Chargers installed, for a total of 128 - 143 spaces with some EV infrastructure/charging ability in 2028. This analysis uses 43 spaces as a conservative estimate of emissions.

Attachment 2

CalEEMod Output

Berkeley WTPF Project - Operations Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.4. Operations Emissions Compared Against Thresholds
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- 4. Operations Emissions Details
 - 4.1. Mobile Emissions by Land Use
 - 4.1.1. Unmitigated
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 - 4.2.1. Electricity Emissions By Land Use - Unmitigated
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4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

8.1. Justifications

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

8.5.1.2. Fleet Mix

8.5.3. Energy Usage

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Berkeley WTPF Project - Operations
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90000
Precipitation (days)	17.0000
Location	37.865556962073796, -122.31152823274923
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.37

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Health Club	0.14000	1000sqft	0.00321	140.000	0.00000	0.00000	—	—
Parking Lot	442.000	Space	3.97800	0.00000	0.00000	0.00000	—	—

Other Asphalt Surfaces	400.000	1000sqft	9.18274	0.00000	0.00000	0.00000	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.74206	3.49784	1.35967	26.6334	0.05602	0.02607	6.27509	6.30116	0.02402	1.58346	1.60748	0.44594	16,530.7	16,531.1	2.06314	0.37367	17.0388	16,711.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.65548	3.39485	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	0.44594	16,122.8	16,123.3	2.10327	0.40116	0.44237	16,295.8
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.59387	3.34103	1.57336	24.6272	0.05234	0.02606	6.20557	6.23163	0.02401	1.56608	1.59009	0.44594	16,157.8	16,158.2	2.08628	0.39043	7.35753	16,334.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.65588	0.60974	0.28714	4.49446	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	0.07383	2,675.10	2,675.18	0.34541	0.06464	1.21812	2,704.29

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Berkeley WTPF Project - Operations Detailed Report, 1/16/2026

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Area	0.09326	0.09318	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	3.74206	3.49784	1.35967	26.6334	0.05602	0.02607	6.27509	6.30116	0.02402	1.58346	1.60748	0.44594	16,530.7	16,531.1	2.06314	0.37367	17.0388	16,711.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Area	0.09218	0.09218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	3.65548	3.39485	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	0.44594	16,122.8	16,123.3	2.10327	0.40116	0.44237	16,295.8
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.50116	3.24836	1.57333	24.6242	0.05234	0.02606	6.20557	6.23162	0.02401	1.56608	1.59009	—	5,299.88	5,299.88	0.28510	0.17747	7.35686	5,367.25
Area	0.09271	0.09267	0.00003	0.00300	< 0.000005	0.00001	—	0.00001	< 0.000005	—	< 0.000005	—	0.01235	0.01235	< 0.000005	< 0.000005	—	0.01239
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067

Total	3.59387	3.34103	1.57336	24.6272	0.05234	0.02606	6.20557	6.23163	0.02401	1.56608	1.59009	0.44594	16,157.8	16,158.2	2.08628	0.39043	7.35753	16,334.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609
Area	0.01692	0.01691	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	1,797.64	1,797.64	0.29082	0.03525	—	1,815.42
Water	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628
Waste	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011
Total	0.65588	0.60974	0.28714	4.49446	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	0.07383	2,675.10	2,675.18	0.34541	0.06464	1.21812	2,704.29

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Area	0.09326	0.09318	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	3.74206	3.49784	1.35967	26.6334	0.05602	0.02607	6.27509	6.30116	0.02402	1.58346	1.60748	0.44594	16,530.7	16,531.1	2.06314	0.37367	17.0388	16,711.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Area	0.09218	0.09218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	3.65548	3.39485	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	0.44594	16,122.8	16,123.3	2.10327	0.40116	0.44237	16,295.8
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.50116	3.24836	1.57333	24.6242	0.05234	0.02606	6.20557	6.23162	0.02401	1.56608	1.59009	—	5,299.88	5,299.88	0.28510	0.17747	7.35686	5,367.25
Area	0.09271	0.09267	0.00003	0.00300	< 0.000005	0.00001	—	0.00001	< 0.000005	—	< 0.000005	—	0.01235	0.01235	< 0.000005	< 0.000005	—	0.01239
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Waste	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	3.59387	3.34103	1.57336	24.6272	0.05234	0.02606	6.20557	6.23163	0.02401	1.56608	1.59009	0.44594	16,157.8	16,158.2	2.08628	0.39043	7.35753	16,334.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609
Area	0.01692	0.01691	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	1,797.64	1,797.64	0.29082	0.03525	—	1,815.42
Water	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628
Waste	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011
Total	0.65588	0.60974	0.28714	4.49446	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	0.07383	2,675.10	2,675.18	0.34541	0.06464	1.21812	2,704.29

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Total	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609
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4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.64880	3.40466	1.35962	26.6273	0.05602	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,672.76	5,672.76	0.26196	0.16071	17.0381	5,744.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.56331	3.30267	1.71336	25.7030	0.05199	0.02606	6.27509	6.30115	0.02401	1.58346	1.60747	—	5,264.94	5,264.94	0.30209	0.18820	0.44169	5,329.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.63896	0.59283	0.28713	4.49391	0.00955	0.00476	1.13252	1.13727	0.00438	0.28581	0.29019	—	877.455	877.455	0.04720	0.02938	1.21801	888.609	

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	10,773.0	10,773.0	1.74284	0.21125	—	10,879.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	84.8316	84.8316	0.01372	0.00166	—	85.6705
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	10,773.0	10,773.0	1.74284	0.21125	—	10,879.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	84.8316	84.8316	0.01372	0.00166	—	85.6705
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Health Club	—	—	—	—	—	—	—	—	—	—	—	—	1,783.60	1,783.60	0.28855	0.03498	—	1,801.23
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.0448	14.0448	0.00227	0.00028	—	14.1837
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,797.64	1,797.64	0.29082	0.03525	—	1,815.42

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	10,773.0	10,773.0	1.74284	0.21125	—	10,879.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	84.8316	84.8316	0.01372	0.00166	—	85.6705
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	10,773.0	10,773.0	1.74284	0.21125	—	10,879.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	84.8316	84.8316	0.01372	0.00166	—	85.6705
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Total	—	—	—	—	—	—	—	—	—	—	—	—	10,857.8	10,857.8	1.75656	0.21292	—	10,965.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	1,783.60	1,783.60	0.28855	0.03498	—	1,801.23
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.0448	14.0448	0.00227	0.00028	—	14.1837
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,797.64	1,797.64	0.29082	0.03525	—	1,815.42

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04808	0.04808	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04409	0.04409	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.00108	0.00100	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Total	0.09326	0.09318	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04808	0.04808	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04409	0.04409	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.09218	0.09218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00878	0.00878	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00805	0.00805	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00010	0.00009	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205
Total	0.01692	0.01691	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04808	0.04808	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04409	0.04409	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00108	0.00100	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Total	0.09326	0.09318	0.00005	0.00609	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.02504	0.02504	< 0.000005	< 0.000005	—	0.02513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04808	0.04808	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04409	0.04409	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.09218	0.09218	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00878	0.00878	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.00805	0.00805	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00010	0.00009	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205
Total	0.01692	0.01691	< 0.000005	0.00055	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	—	0.00204	0.00204	< 0.000005	< 0.000005	—	0.00205

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.01587	0.02997	0.04583	0.00163	0.00004	—	0.09832
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.00263	0.00496	0.00759	0.00027	0.00001	—	0.01628

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.43007	0.00000	0.43007	0.04298	0.00000	—	1.50468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	0.07120	0.00000	0.07120	0.00712	0.00000	—	0.24912

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067	
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067	
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00067	0.00067	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011	

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00011	0.00011
-------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---------	---------

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Health Club	1,126.69	1,126.69	1,126.69	411,241	9,013.50	9,013.50	9,013.50	3,289,926
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Health Club	1,126.69	1,126.69	1,126.69	411,241	9,013.50	9,013.50	9,013.50	3,289,926
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Health Club	Wood Fireplaces	0	0
Health Club	Gas Fireplaces	0	0
Health Club	Propane Fireplaces	0	0
Health Club	Electric Fireplaces	0	0
Health Club	No Fireplaces	0	0
Health Club	Conventional Wood Stoves	0	0
Health Club	Catalytic Wood Stoves	0	0
Health Club	Non-Catalytic Wood Stoves	0	0
Health Club	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0

Parking Lot	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0.00000	0.00000	210.000	70.0000	34,396.9

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Health Club	19,276,851	203.983	0.0330	0.0040	0.00000
Parking Lot	151,795	203.983	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	203.983	0.0330	0.0040	0.00000

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Health Club	19,276,851	203.983	0.0330	0.0040	0.00000
Parking Lot	151,795	203.983	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	203.983	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Health Club	8,280.04	0.00000
Parking Lot	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Health Club	8,280.04	0.00000
Parking Lot	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Health Club	0.79800	0.00000
Parking Lot	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Health Club	0.79800	0.00000
Parking Lot	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Health Club	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Health Club	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000

Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.10000	annual days of extreme heat
Extreme Precipitation	7.50000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	—
AQ-PM	—
AQ-DPM	—
Drinking Water	—
Lead Risk Housing	—
Pesticides	—
Toxic Releases	—
Traffic	—
Effect Indicators	—
CleanUp Sites	—
Groundwater	—
Haz Waste Facilities/Generators	—
Impaired Water Bodies	—
Solid Waste	—

Sensitive Population	—
Asthma	—
Cardio-vascular	—
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.14962146
Employed	54.83125882
Median HI	49.50596689
Education	—
Bachelor's or higher	87.48877197
High school enrollment	100
Preschool enrollment	89.32375209
Transportation	—
Auto Access	21.89144104
Active commuting	95.983575
Social	—
2-parent households	21.35249583
Voting	58.28307455

Neighborhood	—
Alcohol availability	33.79956371
Park access	81.35506224
Retail density	94.80302836
Supermarket access	85.8462723
Tree canopy	44.66829206
Housing	—
Homeownership	12.81919672
Housing habitability	45.96432696
Low-inc homeowner severe housing cost burden	53.31707943
Low-inc renter severe housing cost burden	74.69523932
Uncrowded housing	34.89028615
Health Outcomes	—
Insured adults	76.54305146
Arthritis	26.6
Asthma ER Admissions	14.1
High Blood Pressure	32.4
Cancer (excluding skin)	40.8
Asthma	21.6
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	47.0
Life Expectancy at Birth	57.1
Cognitively Disabled	6.9
Physically Disabled	30.9
Heart Attack ER Admissions	62.3
Mental Health Not Good	44.5
Chronic Kidney Disease	55.3

Obesity	34.3
Pedestrian Injuries	99.9
Physical Health Not Good	45.1
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	47.6
No Leisure Time for Physical Activity	59.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	33.2
Children	0.4
Elderly	77.9
English Speaking	98.1
Foreign-born	21.5
Outdoor Workers	83.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.5
Traffic Density	94.5
Traffic Access	68.4
Other Indices	—
Hardship	61.1
Other Decision Support	—
2016 Voting	47.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	76.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description. Added Architectural Coating activity to account for emissions from painting
Construction: Off-Road Equipment	based on data provided by client
Construction: Architectural Coatings	based on land use data for restrooms and parking area
Operations: Vehicle Data	1,127 trips per day based on data provided by client. VMT of 8 miles based on Kittlson
Operations: Fleet Mix	Assumes that fleet mix will be mainly passenger vehicles and buses
Operations: Energy Use	All Electric project. Electric Ferry energy consumption based on a total of 4.4MW with 12 hours of operation and 365 days per year. See energy calculations in assumptions worksheet.

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Health Club	Weekday Trip Rate	size/day	32.9300	8,047.76
Health Club	Saturday Trip Rate	size/day	20.8700	8,047.76
Health Club	Sunday Trip Rate	size/day	26.7300	8,047.76
Health Club	Non-Res H-W Trip Length	miles	12.7348	8.00000
Health Club	Non-Res W-O Trip Length	miles	8.00914	8.00000
Health Club	Non-Res O-O Trip Length	miles	4.59421	8.00000

8.5.1.2. Fleet Mix

Land Use	Season	Model Parameter	Units	Default Value	New Value
Health Club	A	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	A	Passenger Cars	%	52%	64%
Health Club	A	Light-Duty Trucks 1	%	4%	5%
Health Club	A	Light-Duty Trucks 2	%	23%	28%
Health Club	A	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	A	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	A	Motorcycles	%	2%	3%
Health Club	A	Medium-Duty Trucks	%	13%	0%
Health Club	A	Motor Homes	%	< 0.5%	0%
Health Club	A	Medium-Heavy-Duty Trucks	%	1%	0%
Health Club	A	Other Buses	%	< 0.5%	< 0.5%
Health Club	A	School Buses	%	< 0.5%	< 0.5%
Health Club	A	Urban Buses	%	< 0.5%	< 0.5%
Health Club	S	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	S	Passenger Cars	%	52%	64%

Health Club	S	Light-Duty Trucks 1	%	4%	5%
Health Club	S	Light-Duty Trucks 2	%	23%	28%
Health Club	S	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	S	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	S	Motorcycles	%	2%	3%
Health Club	S	Medium-Duty Trucks	%	13%	0%
Health Club	S	Motor Homes	%	< 0.5%	0%
Health Club	S	Medium-Heavy-Duty Trucks	%	1%	0%
Health Club	S	Other Buses	%	< 0.5%	< 0.5%
Health Club	S	School Buses	%	< 0.5%	< 0.5%
Health Club	S	Urban Buses	%	< 0.5%	< 0.5%
Health Club	W	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	W	Passenger Cars	%	52%	64%
Health Club	W	Light-Duty Trucks 1	%	4%	5%
Health Club	W	Light-Duty Trucks 2	%	23%	28%
Health Club	W	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	W	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	W	Motorcycles	%	2%	3%
Health Club	W	Medium-Duty Trucks	%	13%	0%
Health Club	W	Motor Homes	%	< 0.5%	0%
Health Club	W	Medium-Heavy-Duty Trucks	%	1%	0%
Health Club	W	Other Buses	%	< 0.5%	< 0.5%
Health Club	W	School Buses	%	< 0.5%	< 0.5%
Health Club	W	Urban Buses	%	< 0.5%	< 0.5%

8.5.3. Energy Usage

Land Use	Model Parameter	Units	Default Value	New Value
Health Club	Electricity	kWh/yr	1,527.42	19,276,851

Health Club	Electricity (Subject to Title 24)	kWh/yr	675.291	19,274,110
Health Club	Electricity (Not Subject to Title 24)	kWh/yr	852.129	2,741.00
Health Club	Natural Gas	kBTU/yr	6,130.47	0.00000
Health Club	Natural Gas (Subject to Title 24)	kBTU/yr	2,592.19	0.00000
Health Club	Natural Gas (Not Subject to Title 24)	kBTU/yr	3,538.28	0.00000

Berkeley WTPF Project - Demo and Soil Haul Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Berkeley WTPF Project - Demo and Soil Haul
Construction Start Date	4/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90000
Precipitation (days)	17.0000
Location	37.865556962073796, -122.31152823274923
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.37

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Health Club	0.14000	1000sqft	0.00321	140.000	0.00000	0.00000	—	—
Parking Lot	442.000	Space	3.97800	0.00000	0.00000	0.00000	—	—

Other Asphalt Surfaces	400.000	1000sqft	9.18274	0.00000	0.00000	0.00000	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.34383	0.34431	21.4138	8.80550	0.12301	0.36330	8.66512	9.02843	0.24576	1.91109	2.15685	—	17,826.1	17,826.1	0.97410	2.86430	36.1259	18,740.1
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06545	0.01588	1.10450	0.43643	0.00615	0.01789	0.57074	0.58863	0.01202	0.11624	0.12826	—	892.310	892.310	0.04876	0.14351	0.78080	937.078
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01194	0.00290	0.20157	0.07965	0.00112	0.00326	0.10416	0.10742	0.00219	0.02121	0.02341	—	147.732	147.732	0.00807	0.02376	0.12927	155.144

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.34383	0.34431	21.4138	8.80550	0.12301	0.36330	8.66512	9.02843	0.24576	1.91109	2.15685	—	17,826.1	17,826.1	0.97410	2.86430	36.1259	18,740.1

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06545	0.01588	1.10450	0.43643	0.00615	0.01789	0.57074	0.58863	0.01202	0.11624	0.12826	—	892.310	892.310	0.04876	0.14351	0.78080	937.078
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01194	0.00290	0.20157	0.07965	0.00112	0.00326	0.10416	0.10742	0.00219	0.02121	0.02341	—	147.732	147.732	0.00807	0.02376	0.12927	155.144

3. Construction Emissions Details

3.1. University Avenue Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.86096	0.86096	—	0.13037	0.13037	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.04718	0.04718	—	0.00714	0.00714	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Demoliti	—	—	—	—	—	—	0.00861	0.00861	—	0.00130	0.00130	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.07260	0.01675	1.18814	0.47992	0.00690	0.01971	0.27625	0.29596	0.01314	0.07563	0.08877	—	1,003.18	1,003.18	0.05486	0.16162	2.03867	1,054.75
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00394	0.00090	0.06755	0.02642	0.00038	0.00108	0.01501	0.01609	0.00072	0.00411	0.00483	—	54.9816	54.9816	0.00301	0.00886	0.04818	57.7439
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00072	0.00016	0.01233	0.00482	0.00007	0.00020	0.00274	0.00294	0.00013	0.00075	0.00088	—	9.10282	9.10282	0.00050	0.00147	0.00798	9.56016

3.3. Seawall Drive Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Demolition	—	—	—	—	—	—	0.13505	0.13505	—	0.02045	0.02045	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.01110	0.01110	—	0.00168	0.00168	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00203	0.00203	—	0.00031	0.00031	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01137	0.00262	0.18606	0.07516	0.00108	0.00309	0.04326	0.04635	0.00206	0.01184	0.01390	—	157.098	157.098	0.00859	0.02531	0.31925	165.174
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00093	0.00021	0.01587	0.00621	0.00009	0.00025	0.00353	0.00378	0.00017	0.00097	0.00114	—	12.9151	12.9151	0.00071	0.00208	0.01132	13.5640
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00017	0.00004	0.00290	0.00113	0.00002	0.00005	0.00064	0.00069	0.00003	0.00018	0.00021	—	2.13825	2.13825	0.00012	0.00034	0.00187	2.24567	

3.5. Parking Lot Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	1.31677	1.31677	—	0.19940	0.19940	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.10823	0.10823	—	0.01639	0.01639	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.01975	0.01975	—	0.00299	0.00299	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.11092	0.02560	1.81544	0.73330	0.01054	0.03012	0.42209	0.45221	0.02008	0.11556	0.13564	—	1,532.83	1,532.83	0.08382	0.24694	3.11501	1,611.63	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00903	0.00206	0.15482	0.06056	0.00087	0.00248	0.03440	0.03688	0.00165	0.00943	0.01108	—	126.015	126.015	0.00689	0.02030	0.11043	132.346	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00165	0.00038	0.02826	0.01105	0.00016	0.00045	0.00628	0.00673	0.00030	0.00172	0.00202	—	20.8632	20.8632	0.00114	0.00336	0.01828	21.9114	

3.7. Bay Trail Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e	
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.17219	0.17219	—	0.02607	0.02607	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Demoliti	—	—	—	—	—	—	0.01415	0.01415	—	0.00214	0.00214	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demoliti on	—	—	—	—	—	—	0.00258	0.00258	—	0.00039	0.00039	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01462	0.00337	0.23922	0.09663	0.00139	0.00397	0.05562	0.05959	0.00265	0.01523	0.01787	—	201.983	201.983	0.01105	0.03254	0.41047	212.367
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00119	0.00027	0.02040	0.00798	0.00011	0.00033	0.00453	0.00486	0.00022	0.00124	0.00146	—	16.6052	16.6052	0.00091	0.00267	0.01455	17.4394
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00022	0.00005	0.00372	0.00146	0.00002	0.00006	0.00083	0.00089	0.00004	0.00023	0.00027	—	2.74917	2.74917	0.00015	0.00044	0.00241	2.88730

3.9. Plaza Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.21271	0.21271	—	0.03221	0.03221	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00583	0.00583	—	0.00088	0.00088	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00106	0.00106	—	0.00016	0.00016	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01803	0.00416	0.29504	0.11918	0.00171	0.00489	0.06860	0.07349	0.00326	0.01878	0.02204	—	249.112	249.112	0.01362	0.04013	0.50625	261.919
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00049	0.00011	0.00839	0.00328	0.00005	0.00013	0.00186	0.00200	0.00009	0.00051	0.00060	—	6.82657	6.82657	0.00037	0.00110	0.00598	7.16954	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00009	0.00002	0.00153	0.00060	0.00001	0.00002	0.00034	0.00036	0.00002	0.00009	0.00011	—	1.13022	1.13022	0.00006	0.00018	0.00099	1.18700	

3.11. Pier Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	1.01290	1.01290	—	0.15338	0.15338	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.13875	0.13875	—	0.02101	0.02101	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02532	0.02532	—	0.00383	0.00383	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.08526	0.01968	1.39547	0.56367	0.00810	0.02315	0.32445	0.34760	0.01543	0.08883	0.10426	—	1,178.23	1,178.23	0.06443	0.18982	2.39441	1,238.80	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01157	0.00264	0.19835	0.07758	0.00111	0.00317	0.04408	0.04725	0.00211	0.01208	0.01419	—	161.439	161.439	0.00883	0.02600	0.14148	169.550	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00211	0.00048	0.03620	0.01416	0.00020	0.00058	0.00804	0.00862	0.00039	0.00220	0.00259	—	26.7281	26.7281	0.00146	0.00431	0.02342	28.0709	

3.13. University Avenue Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Berkeley WTPF Project - Demo and Soil Haul Detailed Report, 1/16/2026

Off-Road Equipment	0.05740	0.04744	0.35948	0.30110	0.00077	0.01405	—	0.01405	0.01292	—	0.01292	—	49.3135	49.3135	0.00200	0.00040	—	49.4827
Dust From Material Movement	—	—	—	—	—	—	0.00220	0.00220	—	0.00033	0.00033	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00157	0.00130	0.00985	0.00825	0.00002	0.00038	—	0.00038	0.00035	—	0.00035	—	1.35105	1.35105	0.00005	0.00001	—	1.35569
Dust From Material Movement	—	—	—	—	—	—	0.00006	0.00006	—	0.00001	0.00001	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00029	0.00024	0.00180	0.00151	< 0.000005	0.00007	—	0.00007	0.00006	—	0.00006	—	0.22368	0.22368	0.00001	< 0.000005	—	0.22445
Dust From Material Movement	—	—	—	—	—	—	0.00001	0.00001	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03654	0.00843	0.59806	0.24157	0.00347	0.00992	0.13905	0.14897	0.00661	0.03807	0.04468	—	504.957	504.957	0.02761	0.08135	1.02617	530.916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00099	0.00023	0.01700	0.00665	0.00010	0.00027	0.00378	0.00405	0.00018	0.00104	0.00122	—	13.8376	13.8376	0.00076	0.00223	0.01213	14.5329
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00018	0.00004	0.00310	0.00121	0.00002	0.00005	0.00069	0.00074	0.00003	0.00019	0.00022	—	2.29098	2.29098	0.00013	0.00037	0.00201	2.40608

3.15. Seawall Drive Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00209	0.00209	—	0.00032	0.00032	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00008	0.00008	—	0.00001	0.00001	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00001	0.00001	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03480	0.00803	0.56958	0.23007	0.00331	0.00945	0.13243	0.14188	0.00630	0.03626	0.04256	—	480.912	480.912	0.02630	0.07748	0.97731	505.635	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00132	0.00030	0.02267	0.00887	0.00013	0.00036	0.00504	0.00540	0.00024	0.00138	0.00162	—	18.4502	18.4502	0.00101	0.00297	0.01617	19.3771	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00024	0.00006	0.00414	0.00162	0.00002	0.00007	0.00092	0.00099	0.00004	0.00025	0.00030	—	3.05464	3.05464	0.00017	0.00049	0.00268	3.20811	

3.17. Parking Lot Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.04974	0.04974	—	0.00753	0.00753	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00191	0.00191	—	0.00029	0.00029	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00035	0.00035	—	0.00005	0.00005	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.81366	0.18777	13.3168	5.37899	0.07732	0.22090	3.09618	3.31708	0.14727	0.84768	0.99495	—	11,243.7	11,243.7	0.61485	1.81141	22.8495	11,821.7	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03093	0.00706	0.52999	0.20731	0.00297	0.00847	0.11777	0.12624	0.00565	0.03227	0.03792	—	431.365	431.365	0.02358	0.06948	0.37803	453.038	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00564	0.00129	0.09672	0.03783	0.00054	0.00155	0.02149	0.02304	0.00103	0.00589	0.00692	—	71.4175	71.4175	0.00390	0.01150	0.06259	75.0055	

3.19. Bay Trail Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Dust From Material Movement	—	—	—	—	—	—	0.00288	0.00288	—	0.00044	0.00044	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00011	0.00011	—	0.00002	0.00002	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00002	0.00002	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.04803	0.01108	0.78602	0.31749	0.00456	0.01304	0.18275	0.19579	0.00869	0.05003	0.05873	—	663.658	663.658	0.03629	0.10692	1.34869	697.776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00183	0.00042	0.03128	0.01224	0.00018	0.00050	0.00695	0.00745	0.00033	0.00190	0.00224	—	25.4613	25.4613	0.00139	0.00410	0.02231	26.7405	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00033	0.00008	0.00571	0.00223	0.00003	0.00009	0.00127	0.00136	0.00006	0.00035	0.00041	—	4.21540	4.21540	0.00023	0.00068	0.00369	4.42719	

3.21. Plaza Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00244	0.00244	—	0.00037	0.00037	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00010	0.00010	—	0.00002	0.00002	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Dust From Material Movement	—	—	—	—	—	—	0.00002	0.00002	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.04060	0.00937	0.66451	0.26841	0.00386	0.01102	0.15450	0.16552	0.00735	0.04230	0.04965	—	561.064	561.064	0.03068	0.09039	1.14019	589.907
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00165	0.00038	0.02834	0.01108	0.00016	0.00045	0.00630	0.00675	0.00030	0.00173	0.00203	—	23.0627	23.0627	0.00126	0.00371	0.02021	24.2214
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00030	0.00007	0.00517	0.00202	0.00003	0.00008	0.00115	0.00123	0.00006	0.00031	0.00037	—	3.81830	3.81830	0.00021	0.00062	0.00335	4.01013

3.23. Pier Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
University Avenue Demolition	Demolition	4/1/2027	4/28/2027	5.00000	20.0000	—
Seawall Drive Demolition	Demolition	4/1/2027	5/12/2027	5.00000	30.0000	—

Parking Lot Demolition	Demolition	4/1/2027	5/12/2027	5.00000	30.0000	—
Bay Trail Demolition	Demolition	4/1/2027	5/12/2027	5.00000	30.0000	—
Plaza Demolition	Demolition	4/1/2027	4/14/2027	5.00000	10.00000	—
Pier Demolition	Demolition	4/1/2027	6/9/2027	5.00000	50.0000	—
University Avenue Grading	Grading	4/1/2027	4/14/2027	5.00000	10.00000	—
Seawall Drive Grading	Grading	4/1/2027	4/20/2027	5.00000	14.0000	—
Parking Lot Grading	Grading	4/1/2027	4/20/2027	5.00000	14.0000	—
Bay Trail Grading	Grading	4/1/2027	4/20/2027	5.00000	14.0000	—
Plaza Grading	Grading	4/1/2027	4/21/2027	5.00000	15.0000	—
Pier Grading	Grading	4/1/2027	4/21/2027	5.00000	15.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
University Avenue Grading	Signal Boards	Diesel	Average	1.000000	8.00000	6.00000	0.82000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
University Avenue Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
University Avenue Demolition	Vendor	—	8.40000	HHDT,MHDT
University Avenue Demolition	Hauling	14.9000	20.0000	HHDT
University Avenue Demolition	Onsite truck	—	—	HHDT
Seawall Drive Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Seawall Drive Demolition	Vendor	—	8.40000	HHDT,MHDT

Seawall Drive Demolition	Hauling	2.33333	20.0000	HHDT
Seawall Drive Demolition	Onsite truck	—	—	HHDT
Parking Lot Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Parking Lot Demolition	Vendor	—	8.40000	HHDT,MHDT
Parking Lot Demolition	Hauling	22.7667	20.0000	HHDT
Parking Lot Demolition	Onsite truck	—	—	HHDT
Bay Trail Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Bay Trail Demolition	Vendor	—	8.40000	HHDT,MHDT
Bay Trail Demolition	Hauling	3.00000	20.0000	HHDT
Bay Trail Demolition	Onsite truck	—	—	HHDT
Plaza Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Plaza Demolition	Vendor	—	8.40000	HHDT,MHDT
Plaza Demolition	Hauling	3.70000	20.0000	HHDT
Plaza Demolition	Onsite truck	—	—	HHDT
Pier Demolition	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Pier Demolition	Vendor	—	8.40000	HHDT,MHDT
Pier Demolition	Hauling	17.5000	20.0000	HHDT
Pier Demolition	Onsite truck	—	—	HHDT
University Avenue Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
University Avenue Grading	Vendor	—	8.40000	HHDT,MHDT
University Avenue Grading	Hauling	7.50000	20.0000	HHDT
University Avenue Grading	Onsite truck	—	—	HHDT
Seawall Drive Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Seawall Drive Grading	Vendor	—	8.40000	HHDT,MHDT
Seawall Drive Grading	Hauling	7.14286	20.0000	HHDT
Seawall Drive Grading	Onsite truck	—	—	HHDT
Parking Lot Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Parking Lot Grading	Vendor	—	8.40000	HHDT,MHDT

Parking Lot Grading	Hauling	167.000	20.0000	HHDT
Parking Lot Grading	Onsite truck	—	—	HHDT
Bay Trail Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Bay Trail Grading	Vendor	—	8.40000	HHDT,MHDT
Bay Trail Grading	Hauling	9.85714	20.0000	HHDT
Bay Trail Grading	Onsite truck	—	—	HHDT
Plaza Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Plaza Grading	Vendor	—	8.40000	HHDT,MHDT
Plaza Grading	Hauling	8.33333	20.0000	HHDT
Plaza Grading	Onsite truck	—	—	HHDT
Pier Grading	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Pier Grading	Vendor	—	8.40000	HHDT,MHDT
Pier Grading	Hauling	0.00000	20.0000	HHDT
Pier Grading	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
University Avenue Demolition	0.00000	0.00000	0.00000	1,190.00	0.00000
Seawall Drive Demolition	0.00000	0.00000	0.00000	280.000	0.00000
Parking Lot Demolition	0.00000	0.00000	0.00000	2,730.00	0.00000
Bay Trail Demolition	0.00000	0.00000	0.00000	357.000	0.00000
Plaza Demolition	0.00000	0.00000	0.00000	147.000	0.00000
Pier Demolition	0.00000	0.00000	0.00000	3,500.00	0.00000
University Avenue Grading	300.000	300.000	0.00000	0.00000	0.00000
Seawall Drive Grading	600.000	200.000	0.00000	0.00000	0.00000
Parking Lot Grading	10,000.00	9,000.00	0.00000	0.00000	0.00000
Bay Trail Grading	600.000	500.000	0.00000	0.00000	0.00000
Plaza Grading	1,000.000	0.00000	0.00000	0.00000	0.00000
Pier Grading	0.00000	0.00000	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.10000	annual days of extreme heat
Extreme Precipitation	7.50000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	—
AQ-PM	—
AQ-DPM	—
Drinking Water	—
Lead Risk Housing	—
Pesticides	—
Toxic Releases	—
Traffic	—
Effect Indicators	—
CleanUp Sites	—
Groundwater	—
Haz Waste Facilities/Generators	—
Impaired Water Bodies	—
Solid Waste	—

Sensitive Population	—
Asthma	—
Cardio-vascular	—
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.14962146
Employed	54.83125882
Median HI	49.50596689
Education	—
Bachelor's or higher	87.48877197
High school enrollment	100
Preschool enrollment	89.32375209
Transportation	—
Auto Access	21.89144104
Active commuting	95.983575
Social	—
2-parent households	21.35249583
Voting	58.28307455

Neighborhood	—
Alcohol availability	33.79956371
Park access	81.35506224
Retail density	94.80302836
Supermarket access	85.8462723
Tree canopy	44.66829206
Housing	—
Homeownership	12.81919672
Housing habitability	45.96432696
Low-inc homeowner severe housing cost burden	53.31707943
Low-inc renter severe housing cost burden	74.69523932
Uncrowded housing	34.89028615
Health Outcomes	—
Insured adults	76.54305146
Arthritis	26.6
Asthma ER Admissions	14.1
High Blood Pressure	32.4
Cancer (excluding skin)	40.8
Asthma	21.6
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	47.0
Life Expectancy at Birth	57.1
Cognitively Disabled	6.9
Physically Disabled	30.9
Heart Attack ER Admissions	62.3
Mental Health Not Good	44.5
Chronic Kidney Disease	55.3

Obesity	34.3
Pedestrian Injuries	99.9
Physical Health Not Good	45.1
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	47.6
No Leisure Time for Physical Activity	59.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	33.2
Children	0.4
Elderly	77.9
English Speaking	98.1
Foreign-born	21.5
Outdoor Workers	83.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.5
Traffic Density	94.5
Traffic Access	68.4
Other Indices	—
Hardship	61.1
Other Decision Support	—
2016 Voting	47.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	76.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	accounts for demolition and grading durations only
Construction: Off-Road Equipment	model considers only demolition and soil movement
Construction: Trips and VMT	only hauling trips

8.4. Construction

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
University Avenue Grading	Worker	One-Way Trips per Day	2.50000	0.00000

Berkeley WTPF Project - Land Construction Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Berkeley WTPF Project - Land Construction
Construction Start Date	4/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90000
Precipitation (days)	17.0000
Location	37.865556962073796, -122.31152823274923
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.37

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Health Club	0.14000	1000sqft	0.00321	140.000	0.00000	0.00000	—	—
Parking Lot	442.000	Space	3.97800	0.00000	0.00000	0.00000	—	—

Other Asphalt Surfaces	400.000	1000sqft	9.18274	0.00000	0.00000	0.00000	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	242.778	234.864	295.163	347.849	0.77949	10.3809	5.11904	15.4999	9.55038	1.86195	11.4123	—	72,375.3	72,375.3	2.88230	0.65395	7.34959	72,649.6
Mit.	207.074	206.605	240.053	398.594	0.46361	3.56629	5.11904	8.68532	3.36128	1.86195	5.22323	—	50,167.4	50,167.4	1.98145	0.47378	7.34959	50,365.4
% Reduced	15%	12%	19%	-15%	41%	66%	—	44%	65%	—	54%	—	31%	31%	31%	28%	—	31%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.66507	0.64337	0.80890	0.94961	0.00214	0.02844	0.01396	0.04240	0.02617	0.00509	0.03125	—	197.897	197.897	0.00793	0.00179	0.00870	198.638
Mit.	0.56725	0.56595	0.65791	1.08864	0.00127	0.00977	0.01396	0.02373	0.00921	0.00509	0.01429	—	137.053	137.053	0.00546	0.00130	0.00870	137.585
% Reduced	15%	12%	19%	-15%	—	66%	—	44%	65%	—	54%	—	31%	31%	31%	—	—	31%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12137	0.11741	0.14762	0.17330	0.00039	0.00519	0.00255	0.00774	0.00478	0.00093	0.00570	—	32.7641	32.7641	0.00131	0.00030	0.00144	32.8867
Mit.	0.10352	0.10329	0.12007	0.19868	0.00023	0.00178	0.00255	0.00433	0.00168	0.00093	0.00261	—	22.6907	22.6907	0.00090	0.00021	0.00144	22.7788

% Reduced	15%	12%	19%	-15%	41%	66%	—	44%	65%	—	54%	—	31%	31%	31%	28%	—	31%
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2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	242.778	234.864	295.163	347.849	0.77949	10.3809	5.11904	15.4999	9.55038	1.86195	11.4123	—	72,375.3	72,375.3	2.88230	0.65395	7.34959	72,649.6
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.66507	0.64337	0.80890	0.94961	0.00214	0.02844	0.01396	0.04240	0.02617	0.00509	0.03125	—	197.897	197.897	0.00793	0.00179	0.00870	198.638
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.12137	0.11741	0.14762	0.17330	0.00039	0.00519	0.00255	0.00774	0.00478	0.00093	0.00570	—	32.7641	32.7641	0.00131	0.00030	0.00144	32.8867

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	207.074	206.605	240.053	398.594	0.46361	3.56629	5.11904	8.68532	3.36128	1.86195	5.22323	—	50,167.4	50,167.4	1.98145	0.47378	7.34959	50,365.4
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.56725	0.56595	0.65791	1.08864	0.00127	0.00977	0.01396	0.02373	0.00921	0.00509	0.01429	—	137.053	137.053	0.00546	0.00130	0.00870	137.585

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.10352	0.10329	0.12007	0.19868	0.00023	0.00178	0.00255	0.00433	0.00168	0.00093	0.00261	—	22.6907	22.6907	0.00090	0.00021	0.00144	22.7788

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.56246	3.80338	28.0499	38.4565	0.08386	0.93931	—	0.93931	0.86416	—	0.86416	—	8,151.12	8,151.12	0.33064	0.06613	—	8,179.09
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01250	0.01042	0.07685	0.10536	0.00023	0.00257	—	0.00257	0.00237	—	0.00237	—	22.3318	22.3318	0.00091	0.00018	—	22.4085
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.00228	0.00190	0.01402	0.01923	0.00004	0.00047	—	0.00047	0.00043	—	0.00043	—	3.69729	3.69729	0.00015	0.00003	—	3.70998
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12734	0.11438	0.07452	1.35090	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	—	333.527	333.527	0.00529	0.01296	1.13017	338.652
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00034	0.00030	0.00024	0.00318	0.00000	0.00000	0.00090	0.00090	0.00000	0.00021	0.00021	—	0.85353	0.85353	0.00002	0.00004	0.00134	0.86594
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00006	0.00005	0.00004	0.00058	0.00000	0.00000	0.00016	0.00016	0.00000	0.00004	0.00004	—	0.14131	0.14131	< 0.000005	0.00001	0.00022	0.14337
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Demolition (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26622	1.23088	30.6269	48.1517	0.06620	0.46695	—	0.46695	0.43878	—	0.43878	—	6,784.72	6,784.72	0.27522	0.05504	—	6,808.00	
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.00347	0.00337	0.08391	0.13192	0.00018	0.00128	—	0.00128	0.00120	—	0.00120	—	18.5883	18.5883	0.00075	0.00015	—	18.6521	
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.00063	0.00062	0.01531	0.02408	0.00003	0.00023	—	0.00023	0.00022	—	0.00022	—	3.07750	3.07750	0.00012	0.00002	—	3.08806	
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Worker	0.12734	0.11438	0.07452	1.35090	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	—	333.527	333.527	0.00529	0.01296	1.13017	338.652
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00034	0.00030	0.00024	0.00318	0.00000	0.00000	0.00090	0.00090	0.00000	0.00021	0.00021	—	0.85353	0.85353	0.00002	0.00004	0.00134	0.86594
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00006	0.00005	0.00004	0.00058	0.00000	0.00000	0.00016	0.00016	0.00000	0.00004	0.00004	—	0.14131	0.14131	< 0.000005	0.00001	0.00022	0.14337
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80822	3.16961	25.6133	35.2612	0.06694	0.81218	—	0.81218	0.74720	—	0.74720	—	6,319.06	6,319.06	0.25633	0.05127	—	6,340.75
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01043	0.00868	0.07017	0.09661	0.00018	0.00223	—	0.00223	0.00205	—	0.00205	—	17.3125	17.3125	0.00070	0.00014	—	17.3719	
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.00190	0.00158	0.01281	0.01763	0.00003	0.00041	—	0.00041	0.00037	—	0.00037	—	2.86628	2.86628	0.00012	0.00002	—	2.87612	
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.12734	0.11438	0.07452	1.35090	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	—	333.527	333.527	0.00529	0.01296	1.13017	338.652	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00034	0.00030	0.00024	0.00318	0.00000	0.00000	0.00090	0.00090	0.00000	0.00021	0.00021	—	0.85353	0.85353	0.00002	0.00004	0.00134	0.86594
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00006	0.00005	0.00004	0.00058	0.00000	0.00000	0.00016	0.00016	0.00000	0.00004	0.00004	—	0.14131	0.14131	< 0.000005	0.00001	0.00022	0.14337
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Site Preparation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07022	1.03488	27.7282	39.7588	0.04928	0.49213	—	0.49213	0.45893	—	0.45893	—	4,952.66	4,952.66	0.20090	0.04018	—	4,969.66
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00293	0.00284	0.07597	0.10893	0.00014	0.00135	—	0.00135	0.00126	—	0.00126	—	13.5689	13.5689	0.00055	0.00011	—	13.6155	
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.00054	0.00052	0.01386	0.01988	0.00002	0.00025	—	0.00025	0.00023	—	0.00023	—	2.24649	2.24649	0.00009	0.00002	—	2.25420	
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.12734	0.11438	0.07452	1.35090	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	—	333.527	333.527	0.00529	0.01296	1.13017	338.652	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.00034	0.00030	0.00024	0.00318	0.00000	0.00000	0.00090	0.00090	0.00000	0.00021	0.00021	—	0.85353	0.85353	0.00002	0.00004	0.00134	0.86594	

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00006	0.00005	0.00004	0.00058	0.00000	0.00000	0.00016	0.00016	0.00000	0.00004	0.00004	—	0.14131	0.14131	< 0.000005	0.00001	0.00022	0.14337	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.85335	8.19299	62.1502	65.1418	0.15698	2.32041	—	2.32041	2.13477	—	2.13477	—	13,677.2	13,677.2	0.55481	0.11096	—	13,724.1
Dust From Material Movement	—	—	—	—	—	—	2.96901	2.96901	—	1.35798	1.35798	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02700	0.02245	0.17027	0.17847	0.00043	0.00636	—	0.00636	0.00585	—	0.00585	—	37.4717	37.4717	0.00152	0.00030	—	37.6003

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Dust From Material Movement	—	—	—	—	—	—	0.00813	0.00813	—	0.00372	0.00372	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00493	0.00410	0.03108	0.03257	0.00008	0.00116	—	0.00116	0.00107	—	0.00107	—	6.20387	6.20387	0.00025	0.00005	—	6.22516
Dust From Material Movement	—	—	—	—	—	—	0.00148	0.00148	—	0.00068	0.00068	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15917	0.14297	0.09315	1.68863	0.00000	0.00000	0.41332	0.41332	0.00000	0.09688	0.09688	—	416.909	416.909	0.00661	0.01620	1.41272	423.315
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00042	0.00037	0.00030	0.00397	0.00000	0.00000	0.00112	0.00112	0.00000	0.00026	0.00026	—	1.06692	1.06692	0.00002	0.00004	0.00167	1.08242
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00008	0.00007	0.00005	0.00073	0.00000	0.00000	0.00020	0.00020	0.00000	0.00005	0.00005	—	0.17664	0.17664	< 0.000005	0.00001	0.00028	0.17921

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e	
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87093	1.83558	43.7311	74.4114	0.08499	0.56693	—	0.56693	0.53876	—	0.53876	—	8,819.61	8,819.61	0.35776	0.07155	—	8,849.88	
Dust From Material Movement	—	—	—	—	—	—	2.96901	2.96901	—	1.35798	1.35798	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00513	0.00503	0.11981	0.20387	0.00023	0.00155	—	0.00155	0.00148	—	0.00148	—	24.1633	24.1633	0.00098	0.00020	—	24.2462	
Dust From Material Movement	—	—	—	—	—	—	0.00813	0.00813	—	0.00372	0.00372	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00094	0.00092	0.02187	0.03721	0.00004	0.00028	—	0.00028	0.00027	—	0.00027	—	4.00051	4.00051	0.00016	0.00003	—	4.01424
Dust From Material Movement	—	—	—	—	—	—	0.00148	0.00148	—	0.00068	0.00068	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15917	0.14297	0.09315	1.68863	0.00000	0.00000	0.41332	0.41332	0.00000	0.09688	0.09688	—	416.909	416.909	0.00661	0.01620	1.41272	423.315
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00042	0.00037	0.00030	0.00397	0.00000	0.00000	0.00112	0.00112	0.00000	0.00026	0.00026	—	1.06692	1.06692	0.00002	0.00004	0.00167	1.08242
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00008	0.00007	0.00005	0.00073	0.00000	0.00000	0.00020	0.00020	0.00000	0.00005	0.00005	—	0.17664	0.17664	< 0.000005	0.00001	0.00028	0.17921
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.95796	1.63976	13.2204	17.6211	0.03818	0.54840	—	0.54840	0.50453	—	0.50453	—	3,959.72	3,959.72	0.16062	0.03212	—	3,973.31
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00536	0.00449	0.03622	0.04828	0.00010	0.00150	—	0.00150	0.00138	—	0.00138	—	10.8486	10.8486	0.00044	0.00009	—	10.8858
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00098	0.00082	0.00661	0.00881	0.00002	0.00027	—	0.00027	0.00025	—	0.00025	—	1.79610	1.79610	0.00007	0.00001	—	1.80227
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00019	0.00017	0.00011	0.00199	0.00000	0.00000	0.00049	0.00049	0.00000	0.00011	0.00011	—	0.49028	0.49028	0.00001	0.00002	0.00166	0.49782

Vendor	0.00004	0.00002	0.00069	0.00030	< 0.000005	0.00001	0.00016	0.00017	0.00001	0.00004	0.00005	—	0.58888	0.58888	0.00002	0.00009	0.00147	0.61750
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00125	0.00125	< 0.000005	< 0.000005	< 0.000005	0.00127
Vendor	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	—	0.00161	0.00161	< 0.000005	< 0.000005	< 0.000005	0.00169
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00021	0.00021	< 0.000005	< 0.000005	< 0.000005	0.00021
Vendor	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	—	0.00027	0.00027	< 0.000005	< 0.000005	< 0.000005	0.00028
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.94530	0.86357	15.4749	23.5349	0.03818	0.30664	—	0.30664	0.28714	—	0.28714	—	3,959.72	3,959.72	0.16062	0.03212	—	3,973.31
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00259	0.00237	0.04240	0.06448	0.00010	0.00084	—	0.00084	0.00079	—	0.00079	—	10.8486	10.8486	0.00044	0.00009	—	10.8858
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00047	0.00043	0.00774	0.01177	0.00002	0.00015	—	0.00015	0.00014	—	0.00014	—	1.79610	1.79610	0.00007	0.00001	—	1.80227
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00019	0.00017	0.00011	0.00199	0.00000	0.00000	0.00049	0.00049	0.00000	0.00011	0.00011	—	0.49028	0.49028	0.00001	0.00002	0.00166	0.49782
Vendor	0.00004	0.00002	0.00069	0.00030	< 0.000005	0.00001	0.00016	0.00017	0.00001	0.00004	0.00005	—	0.58888	0.58888	0.00002	0.00009	0.00147	0.61750
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00125	0.00125	< 0.000005	< 0.000005	< 0.000005	0.00127
Vendor	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	—	0.00161	0.00161	< 0.000005	< 0.000005	< 0.000005	0.00169

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00021	0.00021	< 0.000005	< 0.000005	< 0.000005	0.00021	
Vendor	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	—	0.00027	0.00027	< 0.000005	< 0.000005	< 0.000005	0.00028	
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.19852	7.63933	59.1515	63.6763	0.16138	2.08281	—	2.08281	1.91618	—	1.91618	—	14,023.8	14,023.8	0.56887	0.11377	—	14,071.9
Paving	34.4811	34.4811	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02520	0.02093	0.16206	0.17446	0.00044	0.00571	—	0.00571	0.00525	—	0.00525	—	38.4213	38.4213	0.00156	0.00031	—	38.5532
Paving	0.09447	0.09447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00460	0.00382	0.02958	0.03184	0.00008	0.00104	—	0.00104	0.00096	—	0.00096	—	6.36109	6.36109	0.00026	0.00005	—	6.38292
Paving	0.01724	0.01724	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14326	0.12867	0.08383	1.51977	0.00000	0.00000	0.37199	0.37199	0.00000	0.08719	0.08719	—	375.218	375.218	0.00595	0.01458	1.27144	380.984
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00038	0.00034	0.00027	0.00358	0.00000	0.00000	0.00101	0.00101	0.00000	0.00024	0.00024	—	0.96022	0.96022	0.00002	0.00004	0.00151	0.97418
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00005	0.00065	0.00000	0.00000	0.00018	0.00018	0.00000	0.00004	0.00004	—	0.15898	0.15898	< 0.000005	0.00001	0.00025	0.16129
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.71574	1.71574	43.3689	75.2871	0.08229	0.56942	—	0.56942	0.54083	—	0.54083	—	8,616.82	8,616.82	0.34954	0.06991	—	8,646.39
Paving	34.4811	34.4811	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00470	0.00470	0.11882	0.20627	0.00023	0.00156	—	0.00156	0.00148	—	0.00148	—	23.6077	23.6077	0.00096	0.00019	—	23.6887
Paving	0.09447	0.09447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00086	0.00086	0.02168	0.03764	0.00004	0.00028	—	0.00028	0.00027	—	0.00027	—	3.90853	3.90853	0.00016	0.00003	—	3.92194
Paving	0.01724	0.01724	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.14326	0.12867	0.08383	1.51977	0.00000	0.00000	0.37199	0.37199	0.00000	0.08719	0.08719	—	375.218	375.218	0.00595	0.01458	1.27144	380.984
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00038	0.00034	0.00027	0.00358	0.00000	0.00000	0.00101	0.00101	0.00000	0.00024	0.00024	—	0.96022	0.96022	0.00002	0.00004	0.00151	0.97418
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00005	0.00065	0.00000	0.00000	0.00018	0.00018	0.00000	0.00004	0.00004	—	0.15898	0.15898	< 0.000005	0.00001	0.00025	0.16129
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40364	1.16003	8.50630	11.5175	0.01766	0.19495	—	0.19495	0.17935	—	0.17935	—	1,366.40	1,366.40	0.05543	0.01109	—	1,371.09
Architectural Coatings	160.936	160.936	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00385	0.00318	0.02330	0.03155	0.00005	0.00053	—	0.00053	0.00049	—	0.00049	—	3.74356	3.74356	0.00015	0.00003	—	3.75641	
Architectural Coatings	0.44092	0.44092	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.00070	0.00058	0.00425	0.00576	0.00001	0.00010	—	0.00010	0.00009	—	0.00009	—	0.61979	0.61979	0.00003	0.00001	—	0.62192	
Architectural Coatings	0.08047	0.08047	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.00004	0.00003	0.00002	0.00040	0.00000	0.00000	0.00010	0.00010	0.00000	0.00002	0.00002	—	0.09806	0.09806	< 0.000005	< 0.000005	0.00033	0.09956	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00025	0.00025	< 0.000005	< 0.000005	< 0.000005	0.00025
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00004	0.00004	< 0.000005	< 0.000005	< 0.000005	0.00004
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.12. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19234	0.19234	5.16919	8.89581	—	0.02404	—	0.02404	0.02404	—	0.02404	—	—	—	—	—	—	—
Architectural Coatings	160.936	160.936	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00053	0.00053	0.01416	0.02437	—	0.00007	—	0.00007	0.00007	—	0.00007	—	—	—	—	—	—	—
Architectural Coatings	0.44092	0.44092	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00010	0.00010	0.00258	0.00445	—	0.00001	—	0.00001	0.00001	—	0.00001	—	—	—	—	—	—	—
Architectural Coatings	0.08047	0.08047	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00004	0.00003	0.00002	0.00040	0.00000	0.00000	0.00010	0.00010	0.00000	0.00002	0.00002	—	0.09806	0.09806	< 0.000005	< 0.000005	0.00033	0.09956
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00025	0.00025	< 0.000005	< 0.000005	< 0.000005	0.00025
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.00000	0.00000	< 0.000005	< 0.000005	0.00000	< 0.000005	< 0.000005	—	0.00004	0.00004	< 0.000005	< 0.000005	< 0.000005	0.00004
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.13. Landscaping (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.75374	4.80440	34.7113	44.5027	0.10666	1.19791	—	1.19791	1.10208	—	1.10208	—	10,619.3	10,619.3	0.43076	0.08615	—	10,655.7
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01576	0.01316	0.09510	0.12193	0.00029	0.00328	—	0.00328	0.00302	—	0.00302	—	29.0939	29.0939	0.00118	0.00024	—	29.1938

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00288	0.00240	0.01736	0.02225	0.00005	0.00060	—	0.00060	0.00055	—	0.00055	—	4.81683	4.81683	0.00020	0.00004	—	4.83336	
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13530	0.12152	0.07917	1.43534	0.00000	0.00000	0.35133	0.35133	0.00000	0.08235	0.08235	—	354.372	354.372	0.00562	0.01377	1.20081	359.818	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00032	0.00025	0.00338	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.90688	0.90688	0.00002	0.00004	0.00142	0.92006	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00005	0.00062	0.00000	0.00000	0.00017	0.00017	0.00000	0.00004	0.00004	—	0.15014	0.15014	< 0.000005	0.00001	0.00024	0.15233	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.14. Landscaping (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07418	1.92079	35.5035	55.2841	0.08899	0.59858	—	0.59858	0.56080	—	0.56080	—	9,252.88	9,252.88	0.37534	0.07507	—	9,284.63
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00568	0.00526	0.09727	0.15146	0.00024	0.00164	—	0.00164	0.00154	—	0.00154	—	25.3504	25.3504	0.00103	0.00021	—	25.4373
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00104	0.00096	0.01775	0.02764	0.00004	0.00030	—	0.00030	0.00028	—	0.00028	—	4.19704	4.19704	0.00017	0.00003	—	4.21144
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13530	0.12152	0.07917	1.43534	0.00000	0.00000	0.35133	0.35133	0.00000	0.08235	0.08235	—	354.372	354.372	0.00562	0.01377	1.20081	359.818
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00032	0.00025	0.00338	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.90688	0.90688	0.00002	0.00004	0.00142	0.92006	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.00007	0.00006	0.00005	0.00062	0.00000	0.00000	0.00017	0.00017	0.00000	0.00004	0.00004	—	0.15014	0.15014	< 0.000005	0.00001	0.00024	0.15233	
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	

3.15. Amenities (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.99548	8.29341	63.2745	62.8878	0.14781	2.28489	—	2.28489	2.10210	—	2.10210	—	12,089.7	12,089.7	0.49041	0.09808	—	12,131.2
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02738	0.02272	0.17335	0.17230	0.00040	0.00626	—	0.00626	0.00576	—	0.00576	—	33.1225	33.1225	0.00134	0.00027	—	33.2361
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00500	0.00415	0.03164	0.03144	0.00007	0.00114	—	0.00114	0.00105	—	0.00105	—	5.48380	5.48380	0.00022	0.00004	—	5.50262
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13530	0.12152	0.07917	1.43534	0.00000	0.00000	0.35133	0.35133	0.00000	0.08235	0.08235	—	354.372	354.372	0.00562	0.01377	1.20081	359.818
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00032	0.00025	0.00338	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.90688	0.90688	0.00002	0.00004	0.00142	0.92006
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00005	0.00062	0.00000	0.00000	0.00017	0.00017	0.00000	0.00004	0.00004	—	0.15014	0.15014	< 0.000005	0.00001	0.00024	0.15233
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.16. Amenities (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.69395	1.65047	37.9657	64.4873	0.05368	0.54158	—	0.54158	0.51199	—	0.51199	—	5,611.87	5,611.87	0.22764	0.04553	—	5,631.13
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00464	0.00452	0.10402	0.17668	0.00015	0.00148	—	0.00148	0.00140	—	0.00140	—	15.3750	15.3750	0.00062	0.00012	—	15.4277
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00085	0.00083	0.01898	0.03224	0.00003	0.00027	—	0.00027	0.00026	—	0.00026	—	2.54550	2.54550	0.00010	0.00002	—	2.55424
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.13530	0.12152	0.07917	1.43534	0.00000	0.00000	0.35133	0.35133	0.00000	0.08235	0.08235	—	354.372	354.372	0.00562	0.01377	1.20081	359.818
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00036	0.00032	0.00025	0.00338	0.00000	0.00000	0.00095	0.00095	0.00000	0.00022	0.00022	—	0.90688	0.90688	0.00002	0.00004	0.00142	0.92006
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00005	0.00062	0.00000	0.00000	0.00017	0.00017	0.00000	0.00004	0.00004	—	0.15014	0.15014	< 0.000005	0.00001	0.00024	0.15233
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	4/1/2027	4/1/2027	5.00000	1.000000	—
Site Preparation	Site Preparation	4/1/2027	4/1/2027	5.00000	1.000000	—
Grading	Grading	4/1/2027	4/1/2027	5.00000	1.000000	—
Building Construction	Building Construction	4/1/2027	4/1/2027	5.00000	1.000000	—
Paving	Paving	4/1/2027	4/1/2027	5.00000	1.000000	—
Architectural Coating	Architectural Coating	4/1/2027	4/1/2027	5.00000	1.000000	—
Landscaping	Trenching	4/1/2027	4/1/2027	5.00000	1.000000	—
Amenities	Trenching	4/1/2027	4/1/2027	5.00000	1.000000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	8.00000	148.000	0.37000
Demolition	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Demolition	Excavators	Diesel	Average	1.000000	8.00000	275.000	0.38000
Demolition	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Demolition	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	249.000	0.36000
Demolition	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000
Demolition	Signal Boards	Diesel	Average	3.00000	8.00000	30.0000	0.82000
Demolition	Skid Steer Loaders	Diesel	Average	1.000000	8.00000	74.3000	0.37000
Demolition	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Demolition	Off-Highway Trucks	Diesel	Average	2.00000	8.00000	300.000	0.38000

Site Preparation	Aerial Lifts	Diesel	Average	2.00000	8.00000	46.0000	0.31000
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	8.00000	148.000	0.37000
Site Preparation	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Site Preparation	Excavators	Diesel	Average	1.000000	8.00000	275.000	0.38000
Site Preparation	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	249.000	0.36000
Site Preparation	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000
Site Preparation	Signal Boards	Diesel	Average	3.00000	8.00000	30.0000	0.82000
Site Preparation	Skid Steer Loaders	Diesel	Average	1.000000	8.00000	74.3000	0.37000
Site Preparation	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	8.00000	148.000	0.37000
Grading	Plate Compactors	Diesel	Average	2.00000	8.00000	405.000	0.43000
Grading	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	130.000	0.40000
Grading	Excavators	Diesel	Average	1.000000	8.00000	275.000	0.38000
Grading	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Grading	Graders	Diesel	Average	2.00000	8.00000	250.000	0.41000
Grading	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	249.000	0.36000
Grading	Signal Boards	Diesel	Average	3.00000	8.00000	30.0000	0.82000
Grading	Skid Steer Loaders	Diesel	Average	1.000000	8.00000	74.3000	0.37000
Grading	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Grading	Off-Highway Trucks	Diesel	Average	2.00000	8.00000	300.000	0.38000
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	8.00000	148.000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	8.00000	290.000	0.29000
Building Construction	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Building Construction	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000

Building Construction	Trenchers	Diesel	Average	1.000000	8.00000	76.0000	0.50000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Building Construction	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	300.000	0.38000
Paving	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	74.3000	0.73000
Paving	Plate Compactors	Diesel	Average	2.00000	8.00000	405.000	0.43000
Paving	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Paving	Graders	Diesel	Average	1.000000	8.00000	250.000	0.41000
Paving	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	249.000	0.36000
Paving	Pavers	Diesel	Average	2.00000	8.00000	230.000	0.42000
Paving	Rollers	Diesel	Average	2.00000	8.00000	137.000	0.38000
Paving	Signal Boards	Diesel	Average	3.00000	8.00000	30.0000	0.82000
Paving	Surfacing Equipment	Diesel	Average	2.00000	8.00000	350.000	0.30000
Paving	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Paving	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	300.000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Landscaping	Tractors/Loaders/Back hoes	Diesel	Average	2.00000	8.00000	148.000	0.37000
Landscaping	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Landscaping	Cranes	Diesel	Average	1.000000	8.00000	290.000	0.29000
Landscaping	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Landscaping	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	249.000	0.36000
Landscaping	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000
Landscaping	Signal Boards	Diesel	Average	3.00000	8.00000	30.0000	0.82000
Landscaping	Skid Steer Loaders	Diesel	Average	1.000000	8.00000	74.3000	0.37000
Landscaping	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Landscaping	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	300.000	0.38000
Landscaping	Off-Highway Trucks	Diesel	Average	2.00000	8.00000	525.000	0.38000
Amenities	Aerial Lifts	Diesel	Average	2.00000	8.00000	46.0000	0.31000

Amenities	Tractors/Loaders/Back	Diesel	Average	1.000000	8.00000	148.000	0.37000
Amenities	Cement and Mortar Mixers	Diesel	Average	1.000000	8.00000	500.000	0.56000
Amenities	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	74.3000	0.73000
Amenities	Plate Compactors	Diesel	Average	1.000000	8.00000	405.000	0.43000
Amenities	Air Compressors	Diesel	Average	2.00000	8.00000	142.000	0.48000
Amenities	Cranes	Diesel	Average	1.000000	8.00000	290.000	0.29000
Amenities	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Amenities	Pressure Washers	Diesel	Average	1.000000	8.00000	14.0000	0.30000
Amenities	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000
Amenities	Sweepers/Scrubbers	Diesel	Average	1.000000	8.00000	74.0000	0.46000
Amenities	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Amenities	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	300.000	0.38000
Amenities	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	525.000	0.38000

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	2.00000	8.00000	148.000	0.37000
Demolition	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Demolition	Excavators	Diesel	Tier 4 Interim	1.000000	8.00000	275.000	0.38000
Demolition	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Demolition	Rubber Tired Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	249.000	0.36000
Demolition	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.000000	8.00000	96.0000	0.40000
Demolition	Signal Boards	Diesel	Tier 4 Interim	3.00000	8.00000	30.0000	0.82000
Demolition	Skid Steer Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.37000
Demolition	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Demolition	Off-Highway Trucks	Diesel	Tier 4 Interim	2.00000	8.00000	300.000	0.38000

Site Preparation	Aerial Lifts	Diesel	Tier 4 Interim	2.00000	8.00000	46.0000	0.31000
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	2.00000	8.00000	148.000	0.37000
Site Preparation	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Site Preparation	Excavators	Diesel	Tier 4 Interim	1.000000	8.00000	275.000	0.38000
Site Preparation	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Site Preparation	Rubber Tired Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	249.000	0.36000
Site Preparation	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.000000	8.00000	96.0000	0.40000
Site Preparation	Signal Boards	Diesel	Tier 4 Interim	3.00000	8.00000	30.0000	0.82000
Site Preparation	Skid Steer Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.37000
Site Preparation	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Grading	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	2.00000	8.00000	148.000	0.37000
Grading	Plate Compactors	Diesel	Tier 4 Interim	2.00000	8.00000	405.000	0.43000
Grading	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.000000	8.00000	130.000	0.40000
Grading	Excavators	Diesel	Tier 4 Interim	1.000000	8.00000	275.000	0.38000
Grading	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Grading	Graders	Diesel	Tier 4 Interim	2.00000	8.00000	250.000	0.41000
Grading	Rubber Tired Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	249.000	0.36000
Grading	Signal Boards	Diesel	Tier 4 Interim	3.00000	8.00000	30.0000	0.82000
Grading	Skid Steer Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.37000
Grading	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Grading	Off-Highway Trucks	Diesel	Tier 4 Interim	2.00000	8.00000	300.000	0.38000
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	2.00000	8.00000	148.000	0.37000
Building Construction	Cranes	Diesel	Tier 4 Interim	1.000000	8.00000	290.000	0.29000
Building Construction	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Building Construction	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.000000	8.00000	96.0000	0.40000

Building Construction	Trenchers	Diesel	Average	1.000000	8.00000	76.0000	0.50000
Building Construction	Welders	Diesel	Tier 4 Interim	1.000000	8.00000	46.0000	0.45000
Building Construction	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	300.000	0.38000
Paving	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.73000
Paving	Plate Compactors	Diesel	Tier 4 Interim	2.00000	8.00000	405.000	0.43000
Paving	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Paving	Graders	Diesel	Tier 4 Interim	1.000000	8.00000	250.000	0.41000
Paving	Rubber Tired Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	249.000	0.36000
Paving	Pavers	Diesel	Tier 4 Interim	2.00000	8.00000	230.000	0.42000
Paving	Rollers	Diesel	Tier 4 Interim	2.00000	8.00000	137.000	0.38000
Paving	Signal Boards	Diesel	Tier 4 Interim	3.00000	8.00000	30.0000	0.82000
Paving	Surfacing Equipment	Diesel	Tier 4 Interim	2.00000	8.00000	350.000	0.30000
Paving	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Paving	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	300.000	0.38000
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Landscaping	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	2.00000	8.00000	148.000	0.37000
Landscaping	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Landscaping	Cranes	Diesel	Tier 4 Interim	1.000000	8.00000	290.000	0.29000
Landscaping	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Landscaping	Rubber Tired Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	249.000	0.36000
Landscaping	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.000000	8.00000	96.0000	0.40000
Landscaping	Signal Boards	Diesel	Tier 4 Interim	3.00000	8.00000	30.0000	0.82000
Landscaping	Skid Steer Loaders	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.37000
Landscaping	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Landscaping	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	300.000	0.38000
Landscaping	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	525.000	0.38000
Landscaping	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	525.000	0.38000

Amenities	Aerial Lifts	Diesel	Tier 4 Interim	2.00000	8.00000	46.0000	0.31000
Amenities	Tractors/Loaders/Back hoes	Diesel	Tier 4 Interim	1.000000	8.00000	148.000	0.37000
Amenities	Cement and Mortar Mixers	Diesel	Tier 4 Interim	1.000000	8.00000	500.000	0.56000
Amenities	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.000000	8.00000	74.3000	0.73000
Amenities	Plate Compactors	Diesel	Tier 4 Interim	1.000000	8.00000	405.000	0.43000
Amenities	Air Compressors	Diesel	Tier 4 Interim	2.00000	8.00000	142.000	0.48000
Amenities	Cranes	Diesel	Tier 4 Interim	1.000000	8.00000	290.000	0.29000
Amenities	Generator Sets	Diesel	Average	2.00000	8.00000	12.0000	0.74000
Amenities	Pressure Washers	Diesel	Average	1.000000	8.00000	14.0000	0.30000
Amenities	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.000000	8.00000	96.0000	0.40000
Amenities	Sweepers/Scrubbers	Diesel	Tier 4 Interim	1.000000	8.00000	74.0000	0.46000
Amenities	Welders	Diesel	Tier 4 Interim	1.000000	8.00000	46.0000	0.45000
Amenities	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	300.000	0.38000
Amenities	Off-Highway Trucks	Diesel	Tier 4 Interim	1.000000	8.00000	525.000	0.38000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40000	HHDT,MHDT
Demolition	Hauling	0.00000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	50.0000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	0.05880	11.7000	LDA,LDT1,LDT2
Building Construction	Vendor	0.02295	8.40000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	45.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	—	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	0.01176	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Landscaping	Worker	42.5000	11.7000	LDA,LDT1,LDT2
Landscaping	Vendor	—	8.40000	HHDT,MHDT
Landscaping	Hauling	0.00000	20.0000	HHDT
Landscaping	Onsite truck	—	—	HHDT
Amenities	Worker	42.5000	11.7000	LDA,LDT1,LDT2
Amenities	Vendor	—	8.40000	HHDT,MHDT
Amenities	Hauling	0.00000	20.0000	HHDT
Amenities	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
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Demolition	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40000	HHDT,MHDT
Demolition	Hauling	0.00000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	50.0000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	0.05880	11.7000	LDA,LDT1,LDT2
Building Construction	Vendor	0.02295	8.40000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	45.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	—	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	0.01176	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Landscaping	Worker	42.5000	11.7000	LDA,LDT1,LDT2
Landscaping	Vendor	—	8.40000	HHDT,MHDT
Landscaping	Hauling	0.00000	20.0000	HHDT
Landscaping	Onsite truck	—	—	HHDT

Amenities	Worker	42.5000	11.7000	LDA,LDT1,LDT2
Amenities	Vendor	—	8.40000	HHDT,MHDT
Amenities	Hauling	0.00000	20.0000	HHDT
Amenities	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	210.000	70.0000	34,396.9

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	—	0.00000
Site Preparation	—	—	0.00000	0.00000	0.00000
Grading	—	—	1.50000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	13.1607

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Health Club	0.00000	0%
Paving	Parking Lot	3.97800	100%
Paving	Other Asphalt Surfaces	9.18274	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.10000	annual days of extreme heat
Extreme Precipitation	7.50000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	—
AQ-PM	—
AQ-DPM	—
Drinking Water	—
Lead Risk Housing	—
Pesticides	—
Toxic Releases	—
Traffic	—
Effect Indicators	—
CleanUp Sites	—
Groundwater	—
Haz Waste Facilities/Generators	—
Impaired Water Bodies	—
Solid Waste	—

Sensitive Population	—
Asthma	—
Cardio-vascular	—
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.14962146
Employed	54.83125882
Median HI	49.50596689
Education	—
Bachelor's or higher	87.48877197
High school enrollment	100
Preschool enrollment	89.32375209
Transportation	—
Auto Access	21.89144104
Active commuting	95.983575
Social	—
2-parent households	21.35249583
Voting	58.28307455

Neighborhood	—
Alcohol availability	33.79956371
Park access	81.35506224
Retail density	94.80302836
Supermarket access	85.8462723
Tree canopy	44.66829206
Housing	—
Homeownership	12.81919672
Housing habitability	45.96432696
Low-inc homeowner severe housing cost burden	53.31707943
Low-inc renter severe housing cost burden	74.69523932
Uncrowded housing	34.89028615
Health Outcomes	—
Insured adults	76.54305146
Arthritis	26.6
Asthma ER Admissions	14.1
High Blood Pressure	32.4
Cancer (excluding skin)	40.8
Asthma	21.6
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	47.0
Life Expectancy at Birth	57.1
Cognitively Disabled	6.9
Physically Disabled	30.9
Heart Attack ER Admissions	62.3
Mental Health Not Good	44.5
Chronic Kidney Disease	55.3

Obesity	34.3
Pedestrian Injuries	99.9
Physical Health Not Good	45.1
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	47.6
No Leisure Time for Physical Activity	59.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	33.2
Children	0.4
Elderly	77.9
English Speaking	98.1
Foreign-born	21.5
Outdoor Workers	83.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.5
Traffic Density	94.5
Traffic Access	68.4
Other Indices	—
Hardship	61.1
Other Decision Support	—
2016 Voting	47.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	76.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description. Added Architectural Coating activity to account for emissions from painting
Construction: Off-Road Equipment	based on data provided by client
Construction: Architectural Coatings	based on land use data for restrooms and parking area

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	4/29/2027	4/1/2027

Demolition	Demolition	Work Days per Phase	20.0000	1.000000
Site Preparation	Site Preparation	Start Date	4/30/2027	4/1/2027
Site Preparation	Site Preparation	End Date	5/14/2027	4/1/2027
Site Preparation	Site Preparation	Work Days per Phase	10.00000	1.000000
Grading	Grading	Start Date	5/15/2027	4/1/2027
Grading	Grading	End Date	6/26/2027	4/1/2027
Grading	Grading	Work Days per Phase	30.0000	1.000000
Building Construction	Building Construction	Start Date	6/27/2027	4/1/2027
Building Construction	Building Construction	End Date	8/20/2028	4/1/2027
Building Construction	Building Construction	Work Days per Phase	300.000	1.000000
Architectural Coating	Architectural Coating	Start Date	9/19/2028	4/1/2027
Architectural Coating	Architectural Coating	End Date	10/17/2028	4/1/2027
Architectural Coating	Architectural Coating	Work Days per Phase	20.0000	1.000000
Paving	Paving	Start Date	8/21/2028	4/1/2027
Paving	Paving	End Date	9/18/2028	4/1/2027
Paving	Paving	Work Days per Phase	20.0000	1.000000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Landscaping	Signal Boards	Number per Day	30.0000	3.00000

Berkeley WTPF Project - Water Construction Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Berkeley WTPF Project - Water Construction
Construction Start Date	4/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	17.0
Location	37.865556962073796, -122.31152823274923
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Health Club	0.14	1000sqft	< 0.005	140	—	—	—	—
Parking Lot	442	Space	3.98	0.00	—	—	—	—

Other Asphalt Surfaces	400	1000sqft	9.18	0.00	—	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4,329	4,322	235	692	0.57	5.79	1.00	6.79	5.17	0.24	5.41	—	51,574	51,574	2.09	0.47	3.56	51,770
Mit.	4,307	4,305	172	662	0.29	3.61	1.00	4.62	3.25	0.24	3.48	—	29,915	29,915	1.21	0.29	3.56	30,037
% Reduced	1%	< 0.5%	27%	4%	49%	38%	—	32%	37%	—	36%	—	42%	42%	42%	37%	—	42%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.9	11.8	0.64	1.89	< 0.005	0.02	< 0.005	0.02	0.01	< 0.005	0.01	—	141	141	0.01	< 0.005	< 0.005	142
Mit.	11.8	11.8	0.47	1.81	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	81.8	81.8	< 0.005	< 0.005	< 0.005	82.1
% Reduced	1%	< 0.5%	27%	4%	—	38%	—	32%	37%	—	36%	—	42%	42%	42%	—	—	42%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.16	2.16	0.12	0.35	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.4	23.4	< 0.005	< 0.005	< 0.005	23.5
Mit.	2.15	2.15	0.09	0.33	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	< 0.005	13.6

% Reduced	1%	< 0.5%	27%	4%	49%	38%	—	32%	37%	—	36%	—	42%	42%	42%	37%	—	42%
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2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4,329	4,322	235	692	0.57	5.79	1.00	6.79	5.17	0.24	5.41	—	51,574	51,574	2.09	0.47	3.56	51,770
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	11.9	11.8	0.64	1.89	< 0.005	0.02	< 0.005	0.02	0.01	< 0.005	0.01	—	141	141	0.01	< 0.005	< 0.005	142
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.16	2.16	0.12	0.35	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.4	23.4	< 0.005	< 0.005	< 0.005	23.5

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4,307	4,305	172	662	0.29	3.61	1.00	4.62	3.25	0.24	3.48	—	29,915	29,915	1.21	0.29	3.56	30,037
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	11.8	11.8	0.47	1.81	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	81.8	81.8	< 0.005	< 0.005	< 0.005	82.1

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.15	2.15	0.09	0.33	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	< 0.005	13.6

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4,148	4,145	91.7	518	0.26	2.32	—	2.32	1.98	—	1.98	—	24,706	24,706	1.02	0.20	—	24,793
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.4	11.4	0.25	1.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.7	67.7	< 0.005	< 0.005	—	67.9
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.07	2.07	0.05	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.60	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	396	396	0.01	0.02	1.34	402
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.01	1.01	< 0.005	< 0.005	< 0.005	1.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4,141	4,140	74.9	513	0.18	2.06	—	2.06	1.77	—	1.77	—	18,633	18,633	0.78	0.16	—	18,698
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.3	11.3	0.21	1.40	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	51.0	51.0	< 0.005	< 0.005	—	51.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	2.07	0.04	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.45	8.45	< 0.005	< 0.005	—	8.48
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.15	0.14	0.09	1.60	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	396	396	0.01	0.02	1.34	402
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.01	1.01	< 0.005	< 0.005	< 0.005	1.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Dredging (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.81	3.15	25.1	31.5	0.05	0.59	—	0.59	0.54	—	0.54	—	4,076	4,076	0.17	0.03	—	4,090
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	11.2	11.2	< 0.005	< 0.005	—	11.2
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	1.85	1.85	< 0.005	< 0.005	—	1.85
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.59	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	—	146	146	< 0.005	0.01	0.49	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Dredging (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.70	0.67	16.4	23.3	0.01	0.28	—	0.28	0.26	—	0.26	—	905	905	0.04	0.01	—	908
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.48	2.48	< 0.005	< 0.005	—	2.49
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.41	0.41	< 0.005	< 0.005	—	0.41
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.59	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.49	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Pile Installation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e	
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.75	3.94	41.6	39.1	0.08	0.89	—	0.89	0.82	—	0.82	—	7,357	7,357	0.30	0.06	—	7,382	
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.2	20.2	< 0.005	< 0.005	—	20.2	

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.34	3.34	< 0.005	< 0.005	—	3.35
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.76	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	< 0.005	0.01	0.64	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Pile Installation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09	1.05	30.3	40.1	0.04	0.56	—	0.56	0.55	—	0.55	—	4,186	4,186	0.17	0.03	—	4,201
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.90	1.90	< 0.005	< 0.005	—	1.91
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.76	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	188	188	< 0.005	0.01	0.64	190
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Deck, Float, Gangway Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.08	3.39	29.4	37.4	0.07	0.78	—	0.78	0.72	—	0.72	—	5,793	5,793	0.24	0.05	—	5,813
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.9	15.9	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.63	2.63	< 0.005	< 0.005	—	2.64
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

Hauling	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.24	122
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06

3.8. Deck, Float, Gangway Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.92	23.3	33.8	0.03	0.50	—	0.50	0.46	—	0.46	—	2,890	2,890	0.12	0.02	—	2,900
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.92	7.92	< 0.005	< 0.005	—	7.95
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.31	1.31	< 0.005	< 0.005	—	1.32
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	116	116	0.01	0.02	0.24	122
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06

3.9. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.16	8.51	11.5	0.02	0.19	—	0.19	0.18	—	0.18	—	1,366	1,366	0.06	0.01	—	1,371
Architectural Coatings	161	161	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.74	3.74	< 0.005	< 0.005	—	3.76
Architectural Coatings	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.62	0.62	< 0.005	< 0.005	—	0.62

Architectural	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.19	0.19	5.17	8.90	—	0.02	—	0.02	0.02	—	0.02	—	—	—	—	—	—	—
Architectural Coatings	161	161	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	—	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Amenities (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.76	4.78	38.4	50.1	0.09	1.02	—	1.02	0.94	—	0.94	—	7,178	7,178	0.29	0.06	—	7,203
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.26	3.26	< 0.005	< 0.005	—	3.27
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.01	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	250	250	< 0.005	0.01	0.85	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Amenities (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09	1.05	21.8	38.8	0.02	0.19	—	0.19	0.19	—	0.19	—	2,203	2,203	0.09	0.02	—	2,211
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.04	6.04	< 0.005	< 0.005	—	6.06
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.00	1.00	< 0.005	< 0.005	—	1.00

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.01	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	250	250	< 0.005	0.01	0.85	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	4/1/2027	4/1/2027	5.00	1.00	—
Dredging	Site Preparation	4/1/2027	4/1/2027	5.00	1.00	—
Pile Installation	Grading	4/1/2027	4/1/2027	5.00	1.00	—
Deck, Float, Gangway Construction	Building Construction	4/1/2027	4/1/2027	5.00	1.00	—
Architectural Coating	Architectural Coating	4/1/2027	4/1/2027	5.00	1.00	—
Amenities	Trenching	4/1/2027	4/1/2027	5.00	1.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	74.3	0.73
Demolition	Air Compressors	Diesel	Average	2.00	8.00	142	0.48
Demolition	Crushing/Proc. Equipment	Gasoline	Average	2.00	8.00	540	0.85
Demolition	Generator Sets	Diesel	Average	4.00	8.00	12.0	0.74
Demolition	Pumps	Diesel	Average	4.00	8.00	49.0	0.74
Demolition	Skid Steer Loaders	Diesel	Average	2.00	8.00	74.3	0.37
Demolition	Welders	Diesel	Average	2.00	8.00	400	0.45

Demolition	Other Construction Equipment	Diesel	Average	1.00	8.00	765	0.42
Dredging	Air Compressors	Diesel	Average	2.00	8.00	142	0.48
Dredging	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Dredging	Pumps	Diesel	Average	2.00	8.00	49.0	0.74
Dredging	Welders	Diesel	Average	1.00	8.00	400	0.45
Pile Installation	Air Compressors	Diesel	Average	2.00	8.00	142	0.48
Pile Installation	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Pile Installation	Pumps	Diesel	Average	2.00	8.00	49.0	0.74
Pile Installation	Welders	Diesel	Average	1.00	8.00	400	0.45
Pile Installation	Other Construction Equipment	Diesel	Average	1.00	8.00	765	0.42
Pile Installation	Other Construction Equipment	Diesel	Average	1.00	8.00	75.0	0.42
Deck, Float, Gangway Construction	Aerial Lifts	Diesel	Average	2.00	8.00	82.0	0.31
Deck, Float, Gangway Construction	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	74.3	0.73
Deck, Float, Gangway Construction	Cranes	Diesel	Average	1.00	8.00	290	0.29
Deck, Float, Gangway Construction	Forklifts	Diesel	Average	1.00	8.00	164	0.20
Deck, Float, Gangway Construction	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Deck, Float, Gangway Construction	Pumps	Diesel	Average	2.00	8.00	49.0	0.74
Deck, Float, Gangway Construction	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	114	0.40
Deck, Float, Gangway Construction	Welders	Diesel	Average	1.00	8.00	400	0.45
Architectural Coating	Air Compressors	Diesel	Average	2.00	8.00	142	0.48
Amenities	Aerial Lifts	Diesel	Average	2.00	8.00	82.0	0.31

Amenities	Air Compressors	Diesel	Average	2.00	8.00	142	0.48
Amenities	Cranes	Diesel	Average	1.00	8.00	290	0.29
Amenities	Forklifts	Diesel	Average	1.00	8.00	164	0.20
Amenities	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Amenities	Pressure Washers	Diesel	Average	1.00	8.00	13.0	0.30
Amenities	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	114	0.40
Amenities	Welders	Diesel	Average	2.00	8.00	400	0.45

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	8.00	74.3	0.73
Demolition	Air Compressors	Diesel	Tier 4 Interim	2.00	8.00	142	0.48
Demolition	Crushing/Proc. Equipment	Gasoline	Average	2.00	8.00	540	0.85
Demolition	Generator Sets	Diesel	Average	4.00	8.00	12.0	0.74
Demolition	Pumps	Diesel	Tier 4 Interim	4.00	8.00	49.0	0.74
Demolition	Skid Steer Loaders	Diesel	Tier 4 Interim	2.00	8.00	74.3	0.37
Demolition	Welders	Diesel	Tier 4 Interim	2.00	8.00	400	0.45
Demolition	Other Construction Equipment	Diesel	Tier 4 Interim	1.00	8.00	765	0.42
Dredging	Air Compressors	Diesel	Tier 4 Interim	2.00	8.00	142	0.48
Dredging	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Dredging	Pumps	Diesel	Tier 4 Interim	2.00	8.00	49.0	0.74
Dredging	Welders	Diesel	Tier 4 Interim	1.00	8.00	400	0.45
Pile Installation	Air Compressors	Diesel	Tier 4 Interim	2.00	8.00	142	0.48
Pile Installation	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Pile Installation	Pumps	Diesel	Tier 4 Interim	2.00	8.00	49.0	0.74
Pile Installation	Welders	Diesel	Tier 4 Interim	1.00	8.00	400	0.45

Pile Installation	Other Construction Equipment	Diesel	Tier 4 Interim	1.00	8.00	765	0.42
Pile Installation	Other Construction Equipment	Diesel	Tier 4 Interim	1.00	8.00	75.0	0.42
Deck, Float, Gangway Construction	Aerial Lifts	Diesel	Tier 4 Interim	2.00	8.00	82.0	0.31
Deck, Float, Gangway Construction	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	8.00	74.3	0.73
Deck, Float, Gangway Construction	Cranes	Diesel	Tier 4 Interim	1.00	8.00	290	0.29
Deck, Float, Gangway Construction	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	164	0.20
Deck, Float, Gangway Construction	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Deck, Float, Gangway Construction	Pumps	Diesel	Tier 4 Interim	2.00	8.00	49.0	0.74
Deck, Float, Gangway Construction	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.00	8.00	114	0.40
Deck, Float, Gangway Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	400	0.45
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	2.00	8.00	142	0.48
Amenities	Aerial Lifts	Diesel	Tier 4 Interim	2.00	8.00	82.0	0.31
Amenities	Air Compressors	Diesel	Tier 4 Interim	2.00	8.00	142	0.48
Amenities	Cranes	Diesel	Tier 4 Interim	1.00	8.00	290	0.29
Amenities	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	164	0.20
Amenities	Generator Sets	Diesel	Average	2.00	8.00	12.0	0.74
Amenities	Pressure Washers	Diesel	Average	1.00	8.00	13.0	0.30
Amenities	Rough Terrain Forklifts	Diesel	Tier 4 Interim	1.00	8.00	114	0.40
Amenities	Welders	Diesel	Tier 4 Interim	2.00	8.00	400	0.45

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	47.5	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Dredging	—	—	—	—
Dredging	Worker	17.5	11.7	LDA,LDT1,LDT2
Dredging	Vendor	—	8.40	HHDT,MHDT
Dredging	Hauling	0.00	20.0	HHDT
Dredging	Onsite truck	—	—	HHDT
Pile Installation	—	—	—	—
Pile Installation	Worker	22.5	11.7	LDA,LDT1,LDT2
Pile Installation	Vendor	—	8.40	HHDT,MHDT
Pile Installation	Hauling	0.00	20.0	HHDT
Pile Installation	Onsite truck	—	—	HHDT
Deck, Float, Gangway Construction	—	—	—	—
Deck, Float, Gangway Construction	Worker	0.06	11.7	LDA,LDT1,LDT2
Deck, Float, Gangway Construction	Vendor	0.02	8.40	HHDT,MHDT
Deck, Float, Gangway Construction	Hauling	1.73	20.0	HHDT
Deck, Float, Gangway Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.01	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Amenities	—	—	—	—

Amenities	Worker	30.0	11.7	LDA,LDT1,LDT2
Amenities	Vendor	—	8.40	HHDT,MHDT
Amenities	Hauling	0.00	20.0	HHDT
Amenities	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	47.5	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Dredging	—	—	—	—
Dredging	Worker	17.5	11.7	LDA,LDT1,LDT2
Dredging	Vendor	—	8.40	HHDT,MHDT
Dredging	Hauling	0.00	20.0	HHDT
Dredging	Onsite truck	—	—	HHDT
Pile Installation	—	—	—	—
Pile Installation	Worker	22.5	11.7	LDA,LDT1,LDT2
Pile Installation	Vendor	—	8.40	HHDT,MHDT
Pile Installation	Hauling	0.00	20.0	HHDT
Pile Installation	Onsite truck	—	—	HHDT
Deck, Float, Gangway Construction	—	—	—	—
Deck, Float, Gangway Construction	Worker	0.06	11.7	LDA,LDT1,LDT2
Deck, Float, Gangway Construction	Vendor	0.02	8.40	HHDT,MHDT
Deck, Float, Gangway Construction	Hauling	1.73	20.0	HHDT
Deck, Float, Gangway Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	0.01	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Amenities	—	—	—	—
Amenities	Worker	30.0	11.7	LDA,LDT1,LDT2
Amenities	Vendor	—	8.40	HHDT,MHDT
Amenities	Hauling	0.00	20.0	HHDT
Amenities	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	210	70.0	34,397

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—

Dredging	—	—	0.00	0.00	—
Pile Installation	—	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Health Club	0.00	0%
Parking Lot	3.98	100%
Other Asphalt Surfaces	9.18	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.10	annual days of extreme heat
Extreme Precipitation	7.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	—
AQ-PM	—
AQ-DPM	—
Drinking Water	—
Lead Risk Housing	—
Pesticides	—
Toxic Releases	—
Traffic	—
Effect Indicators	—
CleanUp Sites	—
Groundwater	—
Haz Waste Facilities/Generators	—

Impaired Water Bodies	—
Solid Waste	—
Sensitive Population	—
Asthma	—
Cardio-vascular	—
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.14962146
Employed	54.83125882
Median HI	49.50596689
Education	—
Bachelor's or higher	87.48877197
High school enrollment	100
Preschool enrollment	89.32375209
Transportation	—
Auto Access	21.89144104
Active commuting	95.983575
Social	—

2-parent households	21.35249583
Voting	58.28307455
Neighborhood	—
Alcohol availability	33.79956371
Park access	81.35506224
Retail density	94.80302836
Supermarket access	85.8462723
Tree canopy	44.66829206
Housing	—
Homeownership	12.81919672
Housing habitability	45.96432696
Low-inc homeowner severe housing cost burden	53.31707943
Low-inc renter severe housing cost burden	74.69523932
Uncrowded housing	34.89028615
Health Outcomes	—
Insured adults	76.54305146
Arthritis	26.6
Asthma ER Admissions	14.1
High Blood Pressure	32.4
Cancer (excluding skin)	40.8
Asthma	21.6
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	47.0
Life Expectancy at Birth	57.1
Cognitively Disabled	6.9
Physically Disabled	30.9
Heart Attack ER Admissions	62.3

Mental Health Not Good	44.5
Chronic Kidney Disease	55.3
Obesity	34.3
Pedestrian Injuries	99.9
Physical Health Not Good	45.1
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	47.6
No Leisure Time for Physical Activity	59.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	33.2
Children	0.4
Elderly	77.9
English Speaking	98.1
Foreign-born	21.5
Outdoor Workers	83.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.5
Traffic Density	94.5
Traffic Access	68.4
Other Indices	—
Hardship	61.1
Other Decision Support	—
2016 Voting	47.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—
Healthy Places Index Score for Project Location (b)	76.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description
Construction: Off-Road Equipment	based on data provided by client
Construction: Trips and VMT	concrete truck 13 times per month during Deck, Float, Gangway Construction
Construction: Architectural Coatings	based on land use data for restrooms and parking area

Berkeley WTPF Project - Existing VMT and EV Charging Emissions Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Berkeley WTPF Project - Existing VMT and EV Charging Emissions
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90000
Precipitation (days)	17.0000
Location	37.865556962073796, -122.31152823274923
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1532
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.37

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Health Club	0.14000	1000sqft	0.00321	140.000	0.00000	0.00000	—	—
Parking Lot	442.000	Space	3.97800	0.00000	0.00000	0.00000	—	—

Other Asphalt Surfaces	400.000	1000sqft	9.18274	0.00000	0.00000	0.00000	—	—
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4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.85299	3.39750	2.02243	54.7736	0.14948	0.03384	19.6171	19.6509	0.03120	4.95091	4.98211	—	15,125.0	15,125.0	0.36899	0.27589	2.44811	15,218.9
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.85299	3.39750	2.02243	54.7736	0.14948	0.03384	19.6171	19.6509	0.03120	4.95091	4.98211	—	15,125.0	15,125.0	0.36899	0.27589	2.44811	15,218.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	3.73292	3.29018	2.54480	46.5319	0.13833	0.03384	19.6171	19.6509	0.03120	4.95091	4.98211	—	13,997.6	13,997.6	0.37544	0.32557	0.06346	14,104.1
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	3.73292	3.29018	2.54480	46.5319	0.13833	0.03384	19.6171	19.6509	0.03120	4.95091	4.98211	—	13,997.6	13,997.6	0.37544	0.32557	0.06346	14,104.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Health Club	0.68060	0.59906	0.42736	8.51864	0.02543	0.00618	3.54047	3.54665	0.00569	0.89363	0.89932	—	2,334.27	2,334.27	0.06160	0.05074	0.17501	2,351.10
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.68060	0.59906	0.42736	8.51864	0.02543	0.00618	3.54047	3.54665	0.00569	0.89363	0.89932	—	2,334.27	2,334.27	0.06160	0.05074	0.17501	2,351.10

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	274.102	274.102	0.04434	0.00538	—	276.813
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	274.102	274.102	0.04434	0.00538	—	276.813
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	274.102	274.102	0.04434	0.00538	—	276.813
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	274.102	274.102	0.04434	0.00538	—	276.813
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	45.3807	45.3807	0.00734	0.00089	—	45.8295
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	45.3807	45.3807	0.00734	0.00089	—	45.8295

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Health Club	1,126.69	1,126.69	1,126.69	411,241	28,167.2	28,167.2	28,167.2	10,281,019
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Health Club	490,469	203.983	0.0330	0.0040	0.00000

Parking Lot	0.00000	203.983	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	203.983	0.0330	0.0040	0.00000

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Uses one workday as a multiplier for construction activity duration provided by applicant. See Construction Duration by Phase worksheet or Project Description. Added Architectural Coating activity to account for emissions from painting
Construction: Off-Road Equipment	based on data provided by client
Construction: Architectural Coatings	based on land use data for restrooms and parking area
Operations: Vehicle Data	1,127 trips per day based on data provided by client. VMT of 25 miles based on Kittlson for current commuter traffic
Operations: Fleet Mix	Assumes that fleet mix will be mainly passenger vehicles and buses
Operations: Architectural Coatings	Vehicle Emissions Only
Operations: Landscape Equipment	Vehicle Emissions Only
Operations: Energy Use	Accounts for increased electrical use from implementation of EV charging Stations.

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Health Club	Weekday Trip Rate	size/day	32.9300	8,047.76
Health Club	Saturday Trip Rate	size/day	20.8700	8,047.76
Health Club	Sunday Trip Rate	size/day	26.7300	8,047.76
Health Club	Non-Res H-W Trip Length	miles	12.7348	25.0000

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Health Club	Non-Res W-O Trip Length	miles	8.00914	25.0000
Health Club	Non-Res O-O Trip Length	miles	4.59421	25.0000

8.5.1.2. Fleet Mix

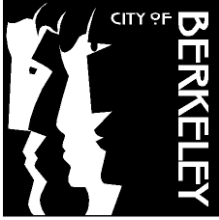
Land Use	Season	Model Parameter	Units	Default Value	New Value
Health Club	A	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	A	Passenger Cars	%	52%	64%
Health Club	A	Light-Duty Trucks 1	%	4%	5%
Health Club	A	Light-Duty Trucks 2	%	23%	28%
Health Club	A	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	A	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	A	Motorcycles	%	2%	3%
Health Club	A	Medium-Duty Trucks	%	13%	0%
Health Club	A	Motor Homes	%	< 0.5%	0%
Health Club	A	Medium-Heavy-Duty Trucks	%	1%	0%
Health Club	A	Other Buses	%	< 0.5%	< 0.5%
Health Club	A	School Buses	%	< 0.5%	< 0.5%
Health Club	A	Urban Buses	%	< 0.5%	< 0.5%
Health Club	S	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	S	Passenger Cars	%	52%	64%
Health Club	S	Light-Duty Trucks 1	%	4%	5%
Health Club	S	Light-Duty Trucks 2	%	23%	28%
Health Club	S	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	S	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	S	Motorcycles	%	2%	3%
Health Club	S	Medium-Duty Trucks	%	13%	0%
Health Club	S	Motor Homes	%	< 0.5%	0%
Health Club	S	Medium-Heavy-Duty Trucks	%	1%	0%

Berkeley WTPF Project - Existing VMT and EV Charging Emissions Custom Report, 1/23/2026

Health Club	S	Other Buses	%	< 0.5%	< 0.5%
Health Club	S	School Buses	%	< 0.5%	< 0.5%
Health Club	S	Urban Buses	%	< 0.5%	< 0.5%
Health Club	W	Heavy-Heavy-Duty Trucks	%	1%	0%
Health Club	W	Passenger Cars	%	52%	64%
Health Club	W	Light-Duty Trucks 1	%	4%	5%
Health Club	W	Light-Duty Trucks 2	%	23%	28%
Health Club	W	Light Heavy-Duty Trucks 1	%	2%	0%
Health Club	W	Light Heavy-Duty Trucks 2	%	1%	0%
Health Club	W	Motorcycles	%	2%	3%
Health Club	W	Medium-Duty Trucks	%	13%	0%
Health Club	W	Motor Homes	%	< 0.5%	0%
Health Club	W	Medium-Heavy-Duty Trucks	%	1%	0%
Health Club	W	Other Buses	%	< 0.5%	< 0.5%
Health Club	W	School Buses	%	< 0.5%	< 0.5%
Health Club	W	Urban Buses	%	< 0.5%	< 0.5%

Attachment E

City of Berkeley's Commitment Letter to LCI



Parks, Recreation, and Waterfront Department

February 11, 2026

Natalie Kuffel
Judicial Streamlining Program Manager
California Governor's Office of Land Use and Climate Innovation
1400 10th Street
Sacramento, California 95814

RE: City of Berkeley's Commitment to Mitigating Environmental Impacts in Disadvantaged Communities for the Berkeley Water Transportation Pier Ferry Project

Dear Ms. Kuffel,

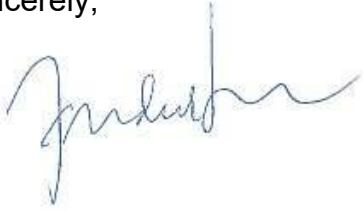
As part of the CEQA Process for the Berkeley Water Transportation Pier Ferry Project (project), the City of Berkeley must adopt feasible mitigation measures to reduce or prevent significant environmental impacts, including those affecting disadvantaged communities. In the event that the Berkeley City Council certifies the Environmental Impact Report (EIR) and approves the project, the City of Berkeley shall implement the mitigation measures identified in the Final EIR in accordance with the Mitigation Monitoring and Reporting Program.

Pursuant to Public Resource Code Section 21189.2(c)(3), the City of Berkeley hereby commits to mitigate significant environmental impacts to disadvantaged communities¹.

Potentially significant impacts that could affect these disadvantaged communities as a result of the project, corresponding mitigation measures, and level of significance after mitigation, are listed in Attachment 1 to this letter. These measures would be implemented within impacted areas and would directly benefit the disadvantaged communities affected.

¹ CalEnviroScreen results indicate that the census tract encompassing the project site does not meet the CalEPA definition of a disadvantaged community (DAC) at the tract level. However, the census tract encompassing the project site, it exhibits elevated scores for several individual pollution-burden indicators and includes populations with recognized vulnerabilities, such as low-income households, minority residents, and live-aboard communities within the Berkeley Marina who may be more sensitive to environmental exposures.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Ferris". The signature is fluid and cursive, with a prominent vertical stroke on the left side.

Scott Ferris, Director
City of Berkeley Parks, Recreation, and Waterfront Department
2180 Milvia Street, 3rd Floor
Berkeley, California 94704

Attachment 1 Summary of Impacts and Mitigation Measures within
Disadvantaged Communities

Attachment 1

Summary of Impacts and Mitigation Measures within Disadvantaged Communities
for the Berkeley Water Transportation Pier Ferry Project

Summary of Potentially Significant Environmental Impacts, Mitigation Measures, and Significance after Mitigation for impacts in Disadvantaged Communities

Berkeley Water Transportation Pier Ferry Project
 Excerpt from Table ES-1 of the Draft EIR

Impact Statement	Mitigation Measure(s)	Residual Impact
Air Quality		
<p>Impact AQ-2. The project would result in a cumulatively considerable net increase of criteria pollutants (specifically NOx) for which the project region is in non-attainment under an applicable federal or state air quality standard, prior to mitigation. With implementation of Mitigation, NOx would be reduced to below regulatory thresholds. Impacts would be less than significant with mitigation.</p>	<p>AQ-1: Implement Construction Emissions Reduction Measures During Construction. Prior to issuance of grading and construction permits, the City or its contractor(s) shall include the following measures on all construction plans, and these measures shall be implemented during construction:</p> <ul style="list-style-type: none"> • All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 final standards. • Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site. • Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used. • The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. <p>In addition, the City shall require the proposed project to comply with the following current Bay Area Air District's basic control measures for reducing construction emissions of PM₁₀² :</p> <ul style="list-style-type: none"> • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. 	<p>Less than Significant with Mitigation</p>
<p>Impact AQ-3. The project would not increase carbon monoxide concentrations such that it would create carbon monoxide hotspots, and construction of the project would not result in emissions of TACs sufficient to exceed applicable health risk criteria with implementation of mitigation. Impacts would be less than significant with mitigation.</p>	<p>Mitigation Measure AQ-1 would apply.</p>	<p>Less than Significant with Mitigation</p>

² Bay Area Air District. 2017. California Environmental Quality Act Air Quality Guidelines, Table 8-2. Available: https://www.baaqmd.gov/-/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed October 2025).

Impact Statement	Mitigation Measure(s)	Residual Impact
Noise		
<p>Impact NOI-1. Operational Impacts: Mobile and stationary operational noise impacts would be less than significant. Construction Impacts: Most project construction noise impacts would be less than significant with mitigation; however, construction noise levels at some nearby sensitive receptors, including for nighttime construction work, would still exceed City thresholds and, thus, overall construction noise impacts would be significant and unavoidable.</p>	<p>NOI-1: Prepare and Implement Construction Noise Management Plan prior to and During Construction. Prior to the start of construction activities, a Construction Noise Management Plan shall be submitted to and approved by the City's Public Works Department. The Construction Noise Management Plan shall include the following:</p> <ul style="list-style-type: none"> • Prior to the initiation of construction activities at the project site, the contractor shall install temporary noise barriers/blankets between the construction boundary and nearby sensitive receptors. The temporary barriers/blankets shall have a minimum height of 12 feet to block the line of sight between operating construction equipment and adjacent sensitive receptors. Barriers shall be constructed with a solid material that has a density of at least one pound per square foot with no gaps from the ground to the top of the barrier and be lined on the construction side with acoustical blanket, curtain, or equivalent absorptive material rated STC 32 or higher. The temporary barriers/blankets shall be installed as follows: <ul style="list-style-type: none"> ○ For landside construction activities occurring near the pier entrance/public plaza, temporary noise barriers/blankets shall be installed around the construction boundaries between the construction work areas and the Skates on the Bay Restaurant and Horseshoe Park located to the north and Shorebird Park located to the east. ○ For construction activities occurring at/near the Seawall Drive parking lot, temporary noise barriers/blankets shall be installed between the construction boundary and Shorebird Park to the north. ○ For construction activities occurring along University Avenue, temporary noise barriers/blankets shall be installed between the construction work areas and the live-aboard boats in the Marina to the north and Shorebird Park and Adventure Playground to the south. • With approval of the project structural engineer, landside pile holes shall be pre-drilled to minimize the number of impacts necessary to seat the pile, where feasible. • Pile driving shall be scheduled to have the least impact on nearby live-aboards or houseboats. • Applicable pile driving noise control devices shall be integrated to the extent feasible to conduct both landside and in-water pile driving. These may include, but are not limited to, shrouding the pile hammer point of impact, by placing resilient padding directly on top of the pile cap, and/or by reducing exhaust noise with a sound-absorbing muffler. • Alternatives to impact hammers, such as oscillating or rotating pile installation systems, shall be used where possible for landside pile driving. • At least 10 days prior to the start of construction activities, a sign shall be posted at the construction site, or other conspicuous location, that includes a telephone number, website and email for project information, and a procedure in which a construction manager shall respond to and investigate noise complaints and take corrective action, if necessary, in a timely manner. • At least 21 days prior to the start of construction activities, businesses and residents (including occupied live-aboard boats) within 500 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the hours when construction would occur, and the overall duration of the construction period. The notification shall include the telephone numbers and email addresses of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise complaint. • If a construction noise complaint is registered and if City code enforcement is not available to make noise measurements, the City shall retain a City-approved noise consultant to conduct noise measurements at the properties that registered the complaint. The noise measurements shall be conducted for a minimum of one hour. The consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible. • Prior to the start of and for the duration of construction, the contractor shall properly maintain and tune all construction equipment in accordance with the manufacturer's recommendations to minimize noise emissions. • Prior to use of any construction equipment, the contractor shall fit all equipment with properly operating mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer. • Material hauling and deliveries shall be coordinated by the construction contractor to reduce the potential of trucks waiting to unload for protracted periods of time. • To the extent feasible, hydraulic equipment shall be used instead of pneumatic impact tools, and electric-powered equipment shall be used instead of diesel-powered equipment. • Stationary noise sources (e.g., generators) shall be located as far from sensitive receptors as practicable, and they shall be muffled and enclosed within temporary sheds, or insulation barriers with a minimum STC rating of 32. • The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only. • Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than five minutes. The construction manager shall be responsible for enforcing this. 	<p>Significant and Unavoidable</p>