Attachment A

FINAL

Initial Study/Mitigated Negative Declaration

# Eaton Wash Stormwater Capture Project

**JUNE 2026**

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# Acronyms and Abbreviations

| Acronym/Abbreviation | Definition |
|---|---|
| AB | Assembly Bill |
| APE | area of potential effects |
| AQMP | air quality management plan |
| BMP | best management practice |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| CAL FIRE | California Department of Forestry and Fire Protection |
| Caltrans | California Department of Transportation |
| CAP | Climate Action Plan |
| CARB | California Air Resources Board |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| $CH_4$ | methane |
| CHRIS | California Historical Resources Information System |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | carbon dioxide equivalent |
| CRHR | California Register of Historic Resources |
| dBA | A-weighted decibel |
| DPM | diesel particulate matter |
| EWMP | Enhanced Watershed Management Program |
| GHG | greenhouse gas |
| GWP | global warming potential |
| HFC | hydrofluorocarbon |
| ips | inches per second |
| IS | initial study |
| LACM VP | Los Angeles County Museum Vertebrate Paleontology |
| LA County | Los Angeles County |
| LCI | Governor's Office of Land Use and Climate Innovation |
| $L_{eq}$ | energy equivalent sound level |
| $L_{eq}(h)$ | energy equivalent sound level measured over a 1-hour period |
| LST | localized significance threshold |
| Metro | Los Angeles County Metropolitan Transportation Authority |
| MM | Mitigation Measure |
| MND | mitigated negative declaration |
| MS4 | Municipal Separate Storm Sewer System |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |

| Acronym/Abbreviation | Definition |
|---|---|
| $NF_3$ | nitrogen trifluoride |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | oxides of nitrogen |
| NRHP | National Register of Historic Places |
| $O_3$ | ozone |
| PFC | perfluorocarbon |
| $PM_{10}$ | particulate matter with an aerodynamic diameter equal to or less than 10 microns |
| $PM_{2.5}$ | particulate matter with an aerodynamic diameter equal to or less than 2.5 microns |
| PMC | Pasadena Municipal Code |
| ppm | parts per million by volume |
| PPV | peak particle velocity |
| PRC | California Public Resources Code |
| RTP/SCS | Regional Transportation Plan/Sustainable Communities Strategy |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCCIC | South Central Coastal Information Center |
| SCE | Southern California Edison |
| $SF_6$ | sulfur hexafluoride |
| $SO_2$ | sulfur dioxide |
| SRA | source-receptor area |
| SWPPP | stormwater pollution prevention plan |
| SWRCB | State Water Resources Control Board |
| TAC | toxic air contaminant |
| TAP | Transportation Action Plan |
| TCR | tribal cultural resource |
| ULAR | Upper Los Angeles River |
| VMT | vehicle miles traveled |
| VOC | volatile organic compound |

# 1 Introduction

The City of Pasadena (City) has prepared this mitigated negative declaration (MND) to assess and disclose the potential impacts on the environment of the Eaton Wash Stormwater Capture Project (project) pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Section 21000 et seq). This section of the MND provides information on project background and incorporates text and information from the Preliminary Design Report prepared for the project in April 2025 (Craftwater 2025).

## 1.1 Project Background and Overview

The City is a member of the Upper Los Angeles River (ULAR) Watershed Management Group, which also includes the Cities of Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Canada Flintridge, Montebello, Monterey Park, Rosemead, San Gabriel, South El Monte, South Pasadena, San Marino, and Temple City. The ULAR Watershed Management Group is a partnership with the City of Los Angeles, County of Los Angeles, and Los Angeles County (LA County) Flood Control District formed to help accomplish the region's water quality goals and comply with the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R4-2021-0105). The ULAR Watershed Management Area comprises 613 square miles and more than 50 miles of the mainstream Los Angeles River from its headwaters to just above the estuary, including Aliso Canyon Creek, Bell Creek, Bull Creek, Tujunga Wash, Burbank Western Channel, Arroyo Seco, Rio Hondo, and Compton Creek (Council for Watershed Health 2023; ULAR Watershed Management Group 2015). The ULAR Watershed Management Area accounts for approximately 58% of the total Los Angeles River Watershed area.

The ULAR Watershed Management Group prepared the ULAR Enhanced Watershed Management Program (EWMP) in 2015 and it was approved in 2016. The objective of the EWMP is to identify a network of control measures, also known as best management practices (BMPs), that will achieve required stormwater pollutant reductions while also providing multiple benefits to the community and leveraging sustainable green infrastructure practices (ULAR Watershed Management Group 2015). The MS4 Permit sets effluent and receiving water limitations for municipal drainage systems in Los Angeles County and requires permittees to establish plans to meet specific total maximum daily load requirements for discharge of pollutants in their respective receiving waters. The City of Pasadena and ULAR Watershed Management Group have identified the proposed project as a critical project contributing to the compliance goals as set in the ULAR EWMP. Additionally, a 2022 Watershed Assessment identified an Eaton Wash project site as a high-priority location to help the City achieve its pollutant load reduction compliance in the ULAR and Rio Hondo Watersheds. The City prepared a Safe, Clean Water Program Feasibility Study application that secured $2.3 million in design funds to re-envision open spaces along the Eaton Wash Channel and create multi-benefit opportunities to address critical City resiliency goals. The project builds upon the Feasibility Study.

The City identified a vacant City-owned property south of Del Mar Boulevard, west of the western termini of Thorndale Road and Grayburn Road, and abutting the Eaton Wash Channel, that could accommodate development of stormwater treatment infrastructure to help meet the MS4 Permit obligations by reducing pollutants discharged into the Rio Hondo River. Figure 1, Project Location, and Figure 2, Project Site, show the general and specific location of the project site, which is primarily located within the City of Pasadena, with a small portion of the project site falling within unincorporated Los Angeles County land. The property had been used in the past as a community garden and educational nature center but has not been used for those purposes since 1995. The City initiated design of the project, relying on funding from the Safe Clean Water Program (Measure W), in Fiscal Year 2023–24, and developed plans for building an underground infiltration reservoir for treating and temporarily storing flows

from the Eaton Wash Channel. Locating the project on a vacant, unused parcel also provided the City an opportunity to plan passive recreational and educational spaces for the community, continuing the legacy of the site's historical uses. The project site's proximity to Eaton Blanche Park to the west offers a chance to connect the planned facility to the developed public recreational facilities with a proposed pedestrian bridge, enhancing its connectivity and usefulness to the community. The City implemented a public outreach campaign to gather feedback from the public on the proposed project and the type of facilities that would be most desirable to its citizens, neighbors, and park users. The current design of the stormwater capture infrastructure is shown on Figure 3, Project Stormwater Capture and Treatment System, and Figure 4, Conceptual Site Plan, shows the current design of the community and park amenities proposed at the site.

# 2 Project Description

The project description in this chapter incorporates text and information from the Preliminary Design Report prepared for the project in April 2025 (Craftwater 2025).

## 2.1 Project Location and Environmental Setting

The majority of the project site is in the southeastern portion of the City, near the boundary with unincorporated Los Angeles County (County) land, with a small portion of the project site falling within unincorporated Los Angeles County land as shown on Figure 2. The site includes a channelized segment of the Eaton Wash Channel, which flows north to south from the San Gabriel Mountains north of the site to the Rio Hondo River approximately 5 miles southeast of the site, and the north segment of the Thorndale sidewalk adjacent to Willard Elementary School. The primary location for the proposed facilities is a City-owned property east of the channel, which is vacant and disturbed. Most of the project site is flat, with the western side sloping down toward the concrete channel. The project site sits approximately 25 feet above the invert of the concrete Eaton Wash Channel, with an approximately 17-foot-high, steep embankment slope separating the channel access road at the top of the channel wall from the project site elevation. The property features scattered trees and shrubs, debris from prior vegetation-removal efforts, and remnants of former uses such as wooden railings and planter boxes, a concrete foundation, chain-link perimeter fencing, and a wooden sign. The southeastern portion of the project site is on Southern California Edison (SCE) owned property within SCE overhead electrical transmission right-of-way that features two steel towers. The land within the SCE right-of-way is currently leased to a commercial nursery and is used to grow and store container plants. The Eaton Wash Channel is maintained by the LA County Flood Control District, who has a 100-foot-wide easement around the channel and maintenance roads on both sides of the channel. West of the channel, the project site includes a portion of the City-owned Eaton Blanche Park, featuring mature trees along the edge of the channel and a grass field that abuts the park's playground, walking paths, and picnic areas to the northwest. This western portion of the site is mostly flat, then slopes down toward the Eaton Wash Channel. Farther northwest in the park are tennis courts, a basketball court, benches and picnic tables, shade structures, and a restroom building. Both sides of the project site are mostly flat but slope down toward the concrete channel. The project site totals approximately 3.91 acres.

The site is in a developed part of the City that primarily features single-family residences and institutional uses. To the north, Exer Urgent Care clinic (urgent care clinic) abuts the site followed by East Del Bar Boulevard and Ability First. The urgent care clinic facility is within the City-owned parcel and Exer Urgent Care leases the land for their use. To the northeast of the site, the site abuts the SCE easement area, followed by the Boys & Girls Club of Pasadena – Slavik Branch (Boys & Girls Club), Willard Elementary School, Madre Street, CALRegional Pasadena adult education center, and a church. To the east, the site abuts single family residences. To the south, the site abuts the SCE easement area, followed by single family residences. To the west, the site abuts the Eaton Wash Channel, followed by Eaton Blanche Park and single family residences. Regional access to the site is from Interstate (I) 210, which is approximately 0.4 miles to the north. Direct access to the eastern part of site is from Thorndale Road and Grayburn Road, each of which dead-ends at existing gates leading to the City property and the SCE right-of-way, along with a maintenance road along the Eaton Wash Channel's eastern bank that connects to East Del Mar Boulevard. Access to the western part of the project site is from Oneida Street, La Presa Drive, and Millicent Way, with a small parking lot connected to Millicent Way. The portion of the project site within the City is designated as Open Space and Institutional in the City's General Plan Land Use Diagram (City of Pasadena

2025a) and is zoned as Open Space and Public, Semi-Public in the City's Zoning Map (City of Pasadena 2025b). The project site within unincorporated LA County is designated as Public and Semi-Public in the County's Land Use Policy (County of Los Angeles 2014) and is zoned as R-1 Single Family Residence in the County's Zoning Map (County of Los Angeles 2025).

## 2.2 Project Characteristics

The project entails constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park. The project is currently in the design phase, and the City has developed certain design and engineering assumptions for purposes of defining the project for informational purposes and conducting environmental impact review pursuant to CEQA. Actual details of the project may end up varying from the information provided below.

### 2.2.1 Stormwater Capture System

The stormwater capture and treatment facility would intercept stormwater and dry-weather flow from the Eaton Wash Channel and divert it into a subterranean concrete basin. The project's stormwater capture features are shown on Figure 3 and described below.

#### Stormwater Diversion Infrastructure and Pretreatment Devices

A diversion structure would be installed in the bottom of the Eaton Wash Channel to collect flows and send water into a 20-inch-diameter ductile iron diversion pipeline that would be installed via trench. Diverted water would flow through the diversion pipeline, through a trash trap, and then be pumped to a pretreatment filter unit to remove debris, sediments, and solids present in the runoff. The pump and pretreatment unit would be installed in underground vaults with hatches for personnel access. The pretreatment device would be a hydrodynamic separator, which directs water through a screen to filter out large debris and into a cylindrical separation chamber where water swirls and forces particles out of the runoff, settling them in an isolated sump. Hydrocarbons float to the top of the water surface and are prevented from being transported downstream.

The project would divert flows from a concrete channel that would otherwise continue downstream to existing engineered recharge infrastructure and, therefore, does not support downstream habitat. The volume of flow captured by the project represents a negligible percentage of the total flow regularly available for capture in the Eaton Wash Channel on an annual basis. The City of Pasadena does not intend to claim any additional "right" to the water that is diverted from the channel. This is consistent with the Raymond Basin Management Board guidance described in their letter of support dated July 30, 2025.

#### Storage Reservoir and Infiltration Gallery

After pretreatment, water would flow into the underground storage reservoir installed beneath the vacant City property. The underground storage reservoir would have a capacity of 3.4 acre-feet and would have an area of approximately 0.59 acres, according to preliminary design information. Existing vegetation and remnant hardscape features would be removed from the reservoir area and earthen material would be excavated, removed, and hauled off site for reuse or disposal. The underground reservoir would be formed as a series of precast cells made of

reinforced, high-strength concrete, creating the infiltration gallery, that would be hauled to the site on flatbed trucks, lowered into place by a crane, and grouted together to form a single chamber. The reservoir would feature two personnel access points with stairs leading down from a hatch.

The reservoir would be designed to facilitate infiltration of captured stormwater, allowing water to seep into the underlying aquifer and providing natural filtration through the soil. To reduce the size of the reservoir and maximize treatment capacity, the system would not be designed to handle all captured storm flows solely through infiltration; during periods of heavy flow, some water would be pumped out of the reservoir and filtered again for discharge back into the Eaton Wash Channel.

### Discharge System and Treatment

During smaller storm events, stormwater collected by the system is anticipated to infiltrate into the soils beneath the storage reservoir and infiltration gallery.

During larger storm events that fill up the reservoir, water would flow into a flow-control structure with a valve to regulate flow into an outlet pipe and through a post-treatment filter system. The filter would provide additional pollutant removal prior to discharging water back into the outlet pipe flowing into the Eaton Wash Channel. Two manholes would be installed along the outlet pipe. A flap gate would be installed at the outlet point to the channel, preventing water from entering the outlet system.

## 2.2.2 Park Improvements

The proposed park would feature nature-based recreational and educational elements at a site that once housed similar uses as part of the previous Earthside Nature Center (Earthside). The elements being considered rely upon site context, history, stakeholder and public input, and overall City needs. The location of this space, adjacent to the Eaton Wash Channel, provides an opportunity to re-create plant communities typically found near waterways, highlight other native plant communities, and create tailored gardens that support education and wildlife.

In addition to the extensive underground stormwater capture and infiltration system, filtered stormwater would be brought to the surface of the proposed park for interpretive water features and further filtration. At the Welcome Plaza, water bubbles would surface in a ring of river rocks creating a stormwater spring, meant to resemble a natural spring. An educational kiosk with interpretive signs at the Welcome Plaza would explain the stormwater capture system and detail different types of natural riparian ecosystems that can be found currently and historically in the watershed. The stormwater spring would overflow into a series of culverts before discharging into the stormwater creek, meant to resemble a natural creek, and stormwater basin. The stormwater basin would be surrounded by riparian planting and interpretive signage.

The design team has been looking, and will continue to look, to the community for their input on desired amenities to be added to the proposed site design. From the initial conceptual design, the team sought to incorporate features in the park such as new trees, native plantings, passive recreation features, walking paths, outdoor classrooms, community gardens, a pedestrian bridge to connect to Eaton Blanche Park, and gathering areas with park seating. Four community outreach meetings have taken place since the initial design was presented, and certain design elements have been changed and added as a result of the community's input. The new project site's surface improvement design includes community and pollinator gardens, an aboveground water feature, a dog park, a riparian garden, gathering areas, an outdoor classroom, and a pedestrian bridge connecting Eaton Blanche Park to the proposed project site. The surface improvements are further described below.

### Welcome Plaza

At the area of confluence of visitors arriving via pedestrian bridge from Eaton Blanche Park and from on-site parking, a paved pedestrian plaza would be developed. As visitors approach the new park from the bridge, the stormwater spring and an educational kiosk with interpretive signage would serve as a focal point. The paving of the plaza would have a pattern of scorelines and materials that represent the concept narrative of watersheds and solar systems, through pattern-making that resembles both planetary orbits and ripples in a body of water. Shade would be provided by trees and/or a shade structure integrated into the kiosk. The plaza surface would be separated from the adjacent parking and maintenance driveway by a raised curb, except for where the central access road leaves the main parking area via a rolled curb controlled by removable bollards. In-ground mounted site furnishings, a drinking fountain, and bike racks would be provided.

### Outdoor Classrooms

The project would include educational features intended to be used in partnership with nearby institutions such as Willard Elementary, the Boys & Girls Club, and CIS Academy, where student groups can use the space as an outdoor classroom and learn about the site's environmental benefits. A dedicated instruction area would be included next to the surface stormwater storage. This would consist of a decomposed granite (DG) outdoor "room" shaded by riparian trees or a permanent shade structure. Seating would be provided by a series of stone slabs arranged around a central low slab for instructional materials. Space for wheelchair and companion seating would be provided.

### Educational Signage

Interpretive signage would help future visitors understand the history, context, and plant communities present on the site. Educational signage is proposed at the community garden, the entry kiosk, on the bridge, and in each gathering area. Sign materials are expected to be a mix of printed aluminum and laser-etched steel, depending on the location. Additional interpretive elements may be added throughout the project site in forms other than signage, such as sandblasting into concrete or boulders, or as sculptural elements.

### Community and Educational Learning Gardens

A community garden and an educational learning garden with raised beds are proposed within the project site. The community garden would be located near the northern entrance to the site and the educational learned garden would be located within the SCE easement area. The community garden near the northern site entrance would be open to use by the public and made available for the site's educational programming. The educational learning garden within the easement is anticipated to be maintained through a partnership with GroWorks, a community garden program to help students experience the outdoors and learn how food is grown. If beds are not allocated for community use, or if GroWorks no longer maintains the space, beds can be converted to native plant and/or wildflower showcases. A lockable storage shed is provided near the community garden in the northern area of the project site.

### Gathering Spaces

At least two small gathering spaces would be included in the park, connected by accessible DG pathways. The spaces would include seating for 10 or fewer visitors, in the form of boulders, site furniture, and/or picnic tables. Shade would be provided by trees and/or shade structures that reference the historic structure of Earthside.

### Dog Park

A fenced-in dog park, approximately 6,700 square feet in area, is proposed for the south end of the project site and would be accessed through a double gate to prevent off-leash dogs from easily escaping the enclosure. The dog park surface is anticipated to be DG stabilized with soil binder. Existing fallen logs could be retained as climbing features for dogs while preserving a natural aesthetic.

The dog park would be graded towards a centerline that directs surface flows to a protected drainage inlet. The inlet would convey runoff out of the dog park and into an adjacent biofiltration basin to treat any runoff. The biofiltration basin includes a 6-inch perforated PVC underdrain, which discharges flows to the subsurface infiltration gallery. From there, flows would mix with other project inflows prior to either infiltrating into the ground or being conveyed through the post-treatment filter and ultimately discharged to the channel.

## 2.2.3 Eaton Wash Channel Pedestrian Bridge

As currently designed, the pedestrian bridge is proposed to be a 160-foot-long, single-span, pre-fabricated structure that will span Eaton Wash and connect the new features east of Eaton Wash to Eaton Blanche Park. The bridge is anticipated to feature a 10-foot-wide reinforced concrete deck with vertical picket guardrails and pipe handrails made of weathering steel. A gate will be installed on the Eaton Blanche Park side of the bridge to allow the City to prevent access when the park is not open.

Due to the approximately 19-foot depth of undocumented fill beneath the bridge landings, each abutment will require deep foundations, consisting of four cast-in-place concrete drilled shafts per abutment, anticipated to be 30 feet long and 24 inches in diameter.

## 2.2.4 Parking and Access

A small parking lot would be provided at the north end of the site, accessed through a new, lockable vehicular gate at the southeast corner of the urgent care clinic parking lot. Nine new parking spaces would be provided, including one that is Americans with Disabilities (ADA) accessible. The parking lot would be laid out to also serve as a maintenance driveway and turn-around for maintenance trucks servicing the access hatches to the underground stormwater capture system. The parking lot would be paved with a combination of permeable pavers and open-cell pavers to allow infiltration of stormwater. Any remaining surface runoff would enter the site's surface water features and eventually the subsurface infiltration gallery. Short-term bike parking would be provided on site adjacent to the Welcome Plaza.

On the SCE easement, Thorndale Road would be extended from where it dead-ends to provide vehicular and pedestrian access to the eastern portion of the project site. The vehicular access road extending from Thorndale Road would be for maintenance vehicles only and would be gravel. The pedestrian access extending from Thorndale Road would intersect with the pedestrian path leading to the western portion of the site or continue to amenities in the eastern portion of the site, such as a gathering area or community garden. Additionally, the sidewalk along Thorndale Road, adjacent to Willard Elementary School, would be improved and would connect to the pedestrian path extending from Thorndale Road to allow for pedestrian access from nearby schools and the Boys & Girls Club to the project site.

A 12-foot-wide proposed road would connect the parking lot at the north end of the project site to a vehicular gate at the south end of the site, providing maintenance access to stormwater capture system hatches and fire truck

circulation. An 8-foot-wide vehicular DG lane travels down the center of the road, with 2-foot shoulders of drivable open-cell pavers on each side. The pavers would be seeded with wildflowers and planted with durable species that can withstand light foot traffic. Gates would be provided at all access points to the future park site, including at the Eaton Blanche Park side of the pedestrian bridge.

### 2.2.5 Site Cleanup and Slope Stabilization

Site cleanup activities would include removal of trash, trees, and existing features such as the concrete pad, embankment, terrace garden walls, wooden stairs and railing, and utility connections. A majority of the trees that would be removed are invasive species (see Section 3.4[e] for further discussion of tree removal). The construction contractor would provide proper slope stabilization for all areas of sloped embankment that are not being excavated or influenced by construction. Slope stabilization east of the Eaton Wash channel would include reconstruction of new fill slope, slope reconstruction with engineered compacted fill reinforced with geogrids, removal and recompaction of existing undocumented fill and loose alluvial soils from the slope face beneath areas where retaining walls and invasive trees are removed, and removal of invasive trees. All slope stability work limits would be defined within the contract documents.

### 2.2.6 Temporary Construction Access, Staging, and Closures

Construction access would be coordinated with the urgent care facility, or with SCE (for use of their easement), or with LA County Flood Control District (for use of their channel maintenance road). Construction equipment, vehicles, and material would be staged and stored overnight on the project site with adequate site security. Construction staging for the underground storage reservoir modules would be located off site at the City-owned Kinneloa Yard located west of South Kinneloa Avenue at the intersection of South Kinneloa Avenue and Brandon Street or at a City-owned property south of the Vina Vieja Dog Park, east of the Eaton Wash Channel near the intersection of Avocado Avenue and Alameda Street (see Figure 1). The off site construction staging area located at Kinneloa Yard would be accessed via South Kinneloa Avenue and delivery trucks would travel to the project site via South Kinneloa Avenue and East Del Mar Boulevard. The off site construction staging area located at the property south of the Vina Vieja Dog Park would be accessed via Avocado Avenue and delivery trucks would travel to the project site via Avocado Avenue, Alameda Street, Sierra Madre Villa Avenue / Madre Street, and East Del Mar Boulevard. The modules would remain on staged delivery truck beds until they are ready to be installed.

Most of Eaton Blanche Park is expected to remain open to the public during construction. The portion of the park proposed for the pedestrian bridge landing and access connections would be closed during construction of those features. Large deliveries of construction materials to the park, such as delivery of pre-fabricated bridge segments, may require short-term closure of the park in the grassy area near the proposed pedestrian bridge landing, for safety purposes. The project site and the area surrounding the project site, east of Eaton Blanche Park across the Eaton Wash Channel, are closed to the public and would remain closed to the public during construction.

## 2.3 Construction Phasing and Schedule

Table 1 presents the anticipated construction phasing, equipment usage, and duration assumed for the project for purposes of the environmental impact analysis in this MND. These assumptions were developed in consultation with the project design engineers for consideration in Section 3.3, Air Quality; Section 3.6, Energy; Section 3.8, Greenhouse Gas Emissions; and Section 3.13, Noise. The total duration of project construction is anticipated to be approximately 22 months, with some phases overlapping. Typical construction work hours

would be Monday through Friday, 7:00 a.m. to 7:00 p.m. Night work is not anticipated. Construction is anticipated to begin in July 2027.

**Table 1. Anticipated Construction Phasing and Equipment**

| Construction Phase | Anticipated Equipment | Estimated Duration |
|---|---|---|
| Demolition of project site structures/open space area | Rubber-tired dozers | 3 weeks |
| | Graders | |
| | Skid steer loaders | |
| | Haul trucks | |
| Site preparation, clearing, and grubbing | Rubber-tired dozers | 3 weeks |
| | Tractors/loaders/backhoes | |
| | Generator sets | |
| | Haul trucks | |
| Reservoir excavation | Rubber-tired dozer | 6 weeks |
| | Tractors/loaders/backhoes | |
| | Skid steer loaders | |
| | Haul trucks | |
| Reservoir construction | Cranes | 10 weeks |
| | Rubber-tired dozers | |
| | Skid steer loaders | |
| Installation of pipe, diversion structure, actuated valve, trash trap, pre-treatment unit, and pump | Cranes | 9 weeks |
| | Trenchers | |
| | Skid steer loaders | |
| | Haul trucks | |
| Installation of outlet line, flow control structure, and cartridge filter treatment unit | Rubber-tired dozer | 9 weeks |
| | Skid steer loaders | |
| | Tractors/loaders/backhoes | |
| Pedestrian bridge construction | Tractors/loaders/backhoes | 9 weeks |
| | Cranes | |
| Project site improvements; installation of park space and walking path, bioswale planting/landscaping, installation of pavers, and other site improvements | Graders | 19 weeks |
| | Skid steer loaders | |
| | Pavers | |
| | Paving equipment | |
| | Rollers | |
| | Cement and mortar mixers | |
| | Air compressors | |
| | Aerial lifts | |

## 2.4 Project Operation

The park would be open from 7:00 a.m. to 8:00 p.m., seven days a week. The park facilities would be fenced in and gated with the gates closing every night. Visitors to the park would be from the local community or existing park users from Eaton Blanche Park.

Once construction is complete, project operation is anticipated to entail routine maintenance performed by the City or the City's contractors at the stormwater capture facility and other park features. Routine maintenance and operations would require up to three workers. Reservoir maintenance would entail removal of debris and pollutant constituents from the treatment devices, pump testing and calibration, and cleaning the storage reservoir. Maintenance to park components would entail tree trimming, landscape and garden care, walkway and pavement maintenance, furnishing and amenity cleaning, irrigation and drainage system services, and general repairs to lighting, signage, fencing, and other site elements as needed.

## 2.5 City of Pasadena Permits and Approvals

The City of Pasadena is the CEQA lead agency, with the Pasadena City Council holding primary responsibility for adopting this MND and approving the construction contract. Other City of Pasadena departments that would approve the project include Public Works; Planning; Parks, Recreation, and Community Services; and Water and Power. The project would also require the issuance of a grading and building permit by the City for the proposed site grading, plan review of structures, and ADA and fire code compliance

## 2.6 Other Required Permits and Approvals

Other project approvals from public agencies and SCE would include the following:

- Major Modification Permit and Discharge Permit issued by the LA County Flood Control District
- Access Easement issued by SCE
- Clean Water Act Section 404 Permit and Rivers and Harbors Act Section 408 Permit issued by the U.S. Army Corps of Engineers
- Clean Water Act Section 401 Water Quality Certification by the Regional Water Quality Control Board (RWCQB)
- Streambed Alteration Agreement by CDFW
- Approval of a stormwater pollution prevention plan (SWPPP) in compliance with the Construction General Permit, issued by the State Water Resources Control Board (SWRCB).

# 3 Initial Study Checklist

1. **Project title:**

   Eaton Wash Stormwater Capture Project

2. **Lead agency name and address:**

   City of Pasadena
   100 North Garfield Avenue
   Pasadena, California 91101

3. **Contact person and phone number:**

   Dawn Petschauer, M.S., Stormwater Program Administrator
   Public Works Department
   100 North Garfield Avenue
   Pasadena, California 91101

4. **Project location:**

   The project site is located in the southeastern portion of the City of Pasadena, along Eaton Wash Channel near the western termini of Thorndale and Grayburn Roads. The project's improvements are primarily located along the east side of the Eaton Wash Channel, with a pedestrian bridge that crosses the Channel and pedestrian pathway improvements on the west side of the Channel within Eaton Blanche Park. The project also includes sidewalk improvements along the north segment of Thorndale Road.

   The project is primarily located within the City of Pasadena (Los Angeles County, California), with a portion of the site extending into unincorporated Los Angeles County land. See Figure 1, Project Location, and Figure 2, Project Site.

5. **Project sponsor's name and address:**

   City of Pasadena
   100 North Garfield Avenue
   Pasadena, California 91101

6. **General plan designation:**

   **Pasadena:** Open Space and Institutional
   **Los Angeles County:** Public and Semi-Public

7. **Zoning:**

   **Pasadena:** Open Space and Public, Semi Public
   **Los Angeles County:** R-1 Single Family Residence

8. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   Refer to Chapter 2, Project Description.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

   Refer to Section 2.1, Project Location and Environmental Setting.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

    LA County Flood Control District; U.S. Army Corps of Engineers; SWRCB; RWQCB; CDFW

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    Refer to Section 3.18, Tribal Cultural Resources, in this MND.

## Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Energy |
| ☐ Geology and Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards and Hazardous Materials |
| ☐ Hydrology and Water Quality | ☐ Land Use and Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population and Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Tribal Cultural Resources |
| ☐ Utilities and Service Systems | ☐ Wildfire | ☐ Mandatory Findings of Significance |

## Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

| | |
|---|---|
| April 3, 2026 | Brent Maue (Apr 7, 2026 08:43:45 PDT) 04/07/2026 |
| Prepared By — Date | Reviewed By — Date |
| Alex Hardy | Brent Maue |
| Printed Name | Printed Name |

Negative Declaration/Mitigated Negative Declaration adopted on: _____

Adoption attested to by: _____
Signature — Date

_____
Printed Name

## Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance

# 3.1 Aesthetics

| | | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| **I.** | **AESTHETICS** – Except as provided in Public Resources Code Section 21099, would the project**:** | | | | |
| a) | Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b) | Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) | In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from [a] publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☐ | ☒ |
| d) | Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project have a substantial adverse effect on a scenic vista?***

Less-Than-Significant Impact. Scenic vistas generally refer to views of expansive open space areas or other natural features, such as mountains, undeveloped hillsides, large natural water bodies, or coastlines. Certain urban settings or features, such as a striking or renowned skyline, may also represent a scenic vista. Scenic vistas, as assessed under CEQA, are generally those that are accessible from public vantage points, such as public roadways and parks.

The City's General Plan Open Space and Conservation Element, which provides guidance and policies for the management of the City's natural resources, does not specifically list or identify any designated scenic vistas or specific scenic resources in the City. However, locations in the City offer distant views of the San Gabriel Mountains, which provide scenic value to residents and visitors (City of Pasadena 2012). The project site is in a developed part of the City that primarily features single-family residences and institutional uses. Institutional uses include an urgent care clinic abutting the site to the north, and to the northeast of the site, the Boys & Girls Club, Willard Elementary School, CALRegional Pasadena adult education center, and a church. Eaton Blanche Park and public streets and sidewalks in the vicinity of the project site offer views of the San Gabriel Mountains that are typically obscured by the presence of mature trees and buildings in the foreground. There are no unobstructed scenic vistas of the mountains within the area surrounding the project site. Various trails in the mountains and foothills miles north of the site offer expansive scenic vistas of the city below. Eaton Blanche Park and the rest of the project site would be

limited to distant elements in those views and are not key focal points from those public vantagepoints, as the site would blend in with the rest of its developed surroundings.

Project construction would result in temporary visual changes to the park, including the presence of excavated areas and staging of construction equipment. Off site construction staging areas would also be visible from residences located adjacent to the proposed staging areas. Visible construction features would not obstruct scenic vistas. Operation of the project would alter views compared to pre-construction conditions; however, the project's stormwater infrastructure would mostly be located underground and would not be visible to the public during project operation. Other project components would include passive park uses, a dog park, and a community garden that are intended in part as improvements to the visual environment, as described in Section 2.2.2, Park Improvements, of this IS/MND. The pedestrian bridge would be visible from portions of Eaton Blanche Park and from the street and sidewalk of Del Mar Boulevard looking south down Eaton Wash; however, the pedestrian bridge would be designed as an aesthetically pleasing component of the park, and would be partially shielded from off-site views by the existing trees along Eaton Wash. The proposed changes would not be a focal point of distant views of the area from public trails in the mountains and foothills to the north. Because the project would not obstruct or negatively affect scenic vistas, impacts would be less than significant.

*b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. There are no designated state scenic highways in the vicinity of the project site. The nearest federal byway is Route 110 (State Route 110/Interstate 110), located approximately 3.5 miles west of the project site (Caltrans 2025). Additionally, the nearest eligible scenic highway is Route 210, located approximately 4 miles northwest of the project site (Caltrans 2025). Due to intervening development and distance, the project site is not visible from either route. Therefore, the project would not substantially damage scenic resources within a state scenic highway and no impact would occur.

*c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

No Impact. Per PRC Section 21071, an "urbanized area" is defined as follows:

> (a) An incorporated city that meets either of the following criteria:
>
> (1) Has a population of at least 100,000 persons. [or]
>
> (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons."

The project site is located in the incorporated City of Pasadena, which has a population of 138,669 persons as of the 2020 census (U.S. Census Bureau 2020); therefore, the project site is considered to be located in an urbanized area.

As discussed in Section 3.1(a), the project site is not visible from any prominent public viewpoints. Temporary visible elements associated with the project include construction equipment, staging activities,

and temporary fencing to be included for safety and security purposes. Visual impacts resulting from construction activities would be temporary, ceasing upon completion of construction.

The project would comply with any applicable zoning or other regulations governing scenic quality. The project site is not subject to overlay zones or other such designations specific to scenic resources or quality. The proposed stormwater capture and treatment facility would be located primarily underground. In addition, the project would include the passive park uses, a dog park, and a community garden described in Section 2.2.2, which would enhance the park's visual quality. Portions of the pedestrian bridge would be visible from Eaton Blanche Park and from Del Mar Boulevard looking south down Eaton Wash; however, the pedestrian bridge would be designed as an aesthetically pleasing component of the site and would be partially shielded from view by the existing trees along Eaton Wash. The project would result in the use of the site as a park and its use would not present elements that are visually incompatible with the existing setting. Implementation of the project would not conflict with the applicable zoning and other regulations governing scenic quality. No impact would occur.

*d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less-Than-Significant Impact. The project site is located in an urban area with existing sources of nighttime lighting from roadways, residences, and institutional uses, including an urgent care clinic abutting the site to the north, and to the northeast of the site, the Boys & Girls Club, Willard Elementary School, CALRegional Pasadena adult education center, and a church. No nighttime work would occur during construction of the project; therefore, construction activities would not result in a new source of nighttime light. Lighting that would be installed as part of the park development would comply with Chapter 17.40.080 of the Pasadena Municipal Code (PMC), which regulates outdoor lighting. The materials that would be used for the project would not be reflective in nature (such as large areas of glass) and would not serve as a new source of glare. Therefore, impacts would be less than significant.

# 3.2 Agriculture and Forestry Resources

| | | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| II. | **AGRICULTURE AND FORESTRY RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | | | | |
| a) | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) | Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) | Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d) | Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) | Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

***a)*** ***Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

No Impact. According to the California Important Farmland Finder database, the project site and its immediate surroundings are classified as "Urban and Built-Up Land" (DOC 2025a). The project would not be located on land classified as Farmland pursuant to the Farmland Mapping and Monitoring Program and would therefore not convert any Farmland to non-agricultural use. No impact would occur.

*b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The project site is zoned Open Space and Public, Semi Public. Surrounding the project site are areas zoned Residential and Institutional (City of Pasadena 2025b). The City does not contain any lands zoned for agricultural use. There are no existing lands under a Williamson Act contract within the City. Therefore, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

*c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

No Impact. The project site and surrounding areas are entirely urbanized and are not zoned for, nor do they contain, any forest land or timberland. Therefore, the project would not conflict with or cause the rezoning or conversion of forest land or timberland. No impact would occur.

*d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact**.** Refer to Section 3.2(c). No impact would occur.

*e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. Refer to Sections 3.2(a)–(d). The project site is located in an urbanized area with no existing agricultural uses, Farmland, or forest lands in the vicinity. The City does not contain any lands zoned for agricultural uses. Therefore, the project would not involve other changes that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

# 3.3 Air Quality

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **III. AIR QUALITY** – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | ☐ | ☐ | ☒ | ☐ |
| c) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☒ | ☐ | ☐ |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

This section is based on technical analysis conducted by Dudek, including quantitative estimates of air pollutant emissions based on assumptions developed in consultation with the project engineers. The modeling assumptions and results of the emissions estimates are provided as Appendix A, Air Quality and Greenhouse Gas Emissions Modeling, to this IS/MND.

***a) Would the project conflict with or obstruct implementation of the applicable air quality plan?***

Less-Than-Significant Impact. The project site is located within the South Coast Air Basin (SCAB) and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD).

Air districts are delegated with the task of adopting an air quality management plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). SCAQMD administers SCAB's AQMP, which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The most recent adopted AQMP for the SCAB is the 2022 AQMP, which was adopted by SCAQMD's Governing Board in December 2022 (SCAQMD 2022).

The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans and thus would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with

the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook. The criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The project will not exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed in Section 3.3(b). Detailed results of this analysis are included in Appendix A. As presented in Section 3.3(b), construction and operation of the project would not generate air pollutant emissions that would exceed SCAQMD's thresholds. Therefore, the project would not result in an increase in the frequency or severity of existing air quality violations. As such, the project would not conflict with Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), "Connect SoCal" (SCAG 2020).[1] This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2022).[2] The SCAG RTP/SCS and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2022 AQMP is generally consistent with local government plans.

As discussed in Chapter 2, Project Description, of this IS/MND, the project site is designated as Open Space and Institutional in the City's Land Use Diagram (City of Pasadena 2025a) and is zoned as Open Space and Public, Semi-Public in the City's Zoning Map (City of Pasadena 2025b). This designation allows for a variety of active and passive recreational land uses while promoting the preservation and maintenance of undeveloped lands and natural areas. The project would primarily involve constructing and operating a stormwater capture, treatment, and infiltration facility, with ancillary park uses, including outdoor educational areas, a community garden, and a dog park; as such, the project would be consistent with the underlying land use designation, and no General Plan Amendment would be required.

1 Although there is a newer version of the SCAG RTP/SCS, adopted in 2024, the demographics from the 2020 RTP/SCS are still applicable for the purposes of the air quality analysis, because those are the ones included and used in the current AQMP.

2 Information necessary to produce the emissions inventory for the SCAB is obtained from SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2020 RTP/SCS are integrated in the 2022 AQMP (SCAQMD 2022).

The Demographics and Growth Forecast within the SCAG RTP/SCS predicts that the City will experience an increase of 13,400 people and an employment increase of 24,000 jobs between 2016 and 2045 (SCAG 2020). The project would not result in a long-term increase to population or employment in the area; therefore, it would not conflict with the growth outlined in the SCAG RTP/SCS. Overall, the proposed project is consistent with the existing land use designation and implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts. Thus, the project would not conflict with Consistency Criterion No. 2.

In summary, based on the considerations presented for the two criteria, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

*b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less-Than-Significant Impact. Air pollution is largely a cumulative impact, and project-level thresholds of significance for criteria pollutants are used to determine whether a project's individual emissions would have a cumulatively considerable contribution to air quality impacts. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

A quantitative analysis was conducted to determine whether the proposed project might result in emissions of criteria air pollutants that may cause exceedances of the NAAQS or CAAQS or cumulatively contribute to existing nonattainment of the NAAQS or CAAQs. Criteria air pollutants include ozone ($O_3$), nitrogen dioxide ($NO_2$), carbon monoxide (CO), sulfur dioxide ($SO_2$), particulate matter with an aerodynamic diameter less than or equal to 10 microns ($PM_{10}$), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated herein include volatile organic compounds (VOCs) and oxides of nitrogen ($NO_x$), which are important because they are precursors to $O_3$, as well as CO, sulfur oxides ($SO_x$), $PM_{10}$, and $PM_{2.5}$.

Regarding NAAQS and CAAQS attainment status,[3] the SCAB is designated as a nonattainment area for the $O_3$ and $PM_{2.5}$ NAAQS and CAAQS, as well as for the $PM_{10}$ CAAQS (CARB 2025).

The proposed project would result in emissions of criteria air pollutants for which the California Air Resources Board (CARB) and U.S. Environmental Protection Agency have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). SCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for $O_3$, which is a nonattainment pollutant, if the project's construction emissions would exceed SCAQMD's VOC or $NO_x$ significance thresholds (shown in Table 2). These emission-based thresholds for $O_3$ precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse $O_3$ impacts to occur) because $O_3$ itself is not emitted directly, and the effects of an individual project's emissions of $O_3$ precursors (VOCs and $NO_x$) on $O_3$ levels

[3] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare are set by the U.S. Environmental Protection Agency and CARB, respectively. Attainment = meets the standards; attainment/ maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards.

in ambient air cannot be determined through air quality models or other quantitative methods. The SCAB is also nonattainment for the $PM_{10}$ CAAQS and the $PM_{2.5}$ CAAQS and NAAQS. Although SCAQMD does have a threshold for lead, the project would not be a source of lead during construction or operation. Therefore, lead was not evaluated herein.

## Table 2. SCAQMD Air Quality Significance Thresholds

| Criteria Pollutants Mass Daily Thresholds | | |
|---|---|---|
| **Pollutant** | **Construction (Pounds per Day)** | **Operation (Pounds per Day)** |
| VOCs | 75 | 55 |
| $NO_x$ | 100 | 55 |
| CO | 550 | 550 |
| $SO_x$ | 150 | 150 |
| $PM_{10}$ | 150 | 150 |
| $PM_{2.5}$ | 55 | 55 |
| Lead[a] | 3 | 3 |
| **Odor Threshold** | | |
| Odor | Project creates an odor nuisance pursuant to SCAQMD Rule 402 | |
| **Ambient Air Quality Standards for Criteria Pollutants[c]** | | |
| $NO_2$ 1-hour average<br>$NO_2$ annual arithmetic mean | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>0.18 ppm (state)<br>0.030 ppm (state) and 0.0534 ppm (federal) | |
| CO 1-hour average<br>CO 8-hour average | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>20 ppm (state) and 35 ppm (federal)<br>9.0 ppm (state/federal) | |
| $PM_{10}$ 24-hour average<br>$PM_{10}$ annual average | 10.4 µg/m³ (construction)[d]<br>2.5 µg/m³ (operation)<br>1.0 µg/m³ | |
| $PM_{2.5}$ 24-hour average | 10.4 µg/m³ (construction)[d]<br>2.5 µg/m³ (operation) | |

**Source:** SCAQMD 2023.
**Notes:** SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; $NO_2$ = nitrogen dioxide; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter.

[a] The phaseout of leaded gasoline started in 1976. Because gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
[b] TACs include carcinogens and noncarcinogens.
[c] Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
[d] Ambient air quality thresholds are based on SCAQMD Rule 403.

### Construction Emissions

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.30 was used to estimate emissions from construction of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions from a variety of land use projects, including recreational development.

The proposed project would be constructed starting in July 2027 over a period lasting approximately 22 months, ending in April 2029.

Construction activities for the proposed project would include demolition of project site structures/open space area, site preparation, reservoir excavation and construction, installation of stormwater capture infrastructure including a pump, erection of a pedestrian bridge, and project site improvements such as installation of pavers and landscaping. These construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings and asphalt pavement application) and off-site sources (e.g., vendor trucks, haul trucks, and worker vehicle trips). Specifically, entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in $PM_{10}$ and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, $NO_x$, CO, $SO_2$, $PM_{10}$, and $PM_{2.5}$. Application of architectural coatings, such as exterior paint and other finishes, and application of asphalt pavement would also produce VOC emissions. Construction emissions can vary substantially from day to day depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions.

Proposed project construction emissions were estimated using a combination of CalEEMod default assumptions and information provided by the project engineer. Haul trucks would be required for material export of material debris. Demolition would result in approximately 135 tons of debris for export, which would require 4 daily one-way haul truck trips. Earthwork and grading would result in approximately 12,510 cubic yards of soil, which would require 38 daily one-way haul truck trips during the reservoir excavation phase. Haul trucks were assumed to travel a one-way distance of 20 miles to the disposal site for material export, consistent with model defaults.

The construction equipment mix and vehicle trips used for estimating the project-generated construction emissions are shown in Table 3. For the analysis, it was assumed that heavy construction equipment would be operating at the site 5 days per week (22 days per month) during proposed project construction.[4]

## Table 3. Construction Scenario Details

| Construction Phase | One-Way Vehicle Trips | | | Equipment | | |
|---|---|---|---|---|---|---|
| | Average Daily Worker Trips | Average Daily Vendor Truck Trips | Average Daily Haul Truck Trips | Equipment Type | Quantity | Usage Hours |
| Demolition of project site structures/open space area | 14 | 4 | 4 | Rubber-tired dozers | 2 | 8 |
| | | | | Skid steer loaders | 1 | 8 |
| | | | | Graders | 2 | 8 |
| Site preparation, clearing, and grubbing | 20 | 4 | 4 | Rubber-tired dozers | 3 | 8 |
| | | | | Generator sets | 1 | 8 |
| | | | | Tractors/loaders/backhoes | 4 | 8 |

[4] As shown in Table 3.3-2, most equipment was assumed to operate for up to 8 hours per day. In reality, it is anticipated that equipment would be used for less than 8 hours a day, when considering mandated worker breaks and that equipment would only be operated when needed; in addition, it is anticipated that the construction areas would be in infill areas and that not every piece of equipment could be in operation at the same time. Therefore, the equipment usage hours are anticipated to be conservative.

## Table 3. Construction Scenario Details

| Construction Phase | One-Way Vehicle Trips | | | Equipment | | |
|---|---|---|---|---|---|---|
| | Average Daily Worker Trips | Average Daily Vendor Truck Trips | Average Daily Haul Truck Trips | Equipment Type | Quantity | Usage Hours |
| Reservoir excavation | 18 | 4 | 38 | Rubber-tired dozers | 2 | 8 |
| | | | | Skid steer loaders | 2 | 8 |
| | | | | Tractors/loaders/backhoes | 3 | 8 |
| Reservoir construction | 14 | 4 | 0 | Cranes | 1 | 8 |
| | | | | Rubber-tired dozers | 2 | 8 |
| | | | | Skid steer loaders | 2 | 8 |
| Installation of pipe, diversion structure, actuated valve, trash trap, pre-treatment unit, and pump | 14 | 4 | 4 | Cranes | 1 | 8 |
| | | | | Trenchers | 2 | 8 |
| | | | | Skid steer loaders | 2 | 8 |
| Installation of outlet line, flow control structure, and cartridge filter treatment unit | 18 | 4 | 0 | Rubber-tired dozers | 2 | 8 |
| | | | | Skid steer loaders | 2 | 8 |
| | | | | Tractors/loaders/backhoes | 3 | 8 |
| Pedestrian bridge construction | 10 | 4 | 0 | Tractors/loaders/backhoes | 3 | 8 |
| | | | | Cranes | 1 | 8 |
| Project site improvements | 18 | 4 | 0 | Graders | 1 | 8 |
| | | | | Skid steer loaders | 1 | 8 |
| | | | | Pavers | 1 | 8 |
| | | | | Paving equipment | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Cement and mortar mixers | 1 | 8 |
| | | | | Air compressors | 1 | 6 |
| | | | | Aerial lifts | 1 | 8 |

**Note**: See Appendix A for additional details.

The project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default values were used for estimating fugitive dust emissions from grading on site. The project would involve the application of architectural coating (e.g., paint and other finishes) for parking lot striping. The contractor is required to procure architectural coatings from a supplier that complies with the requirements of SCAQMD's Rule 1113 (Architectural Coatings). Table 4 presents the estimated maximum daily construction emissions that would be generated during construction of the project. Details of the emission calculations are provided in Appendix A.

**Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions**

| Year | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| | Maximum Daily Emissions (Pounds per Day) | | | | | |
| **Summer[a]** | | | | | | |
| 2027 | 3.23 | 29.28 | 30.19 | 0.05 | 9.24 | 5.14 |
| 2028 | 3.77 | 33.91 | 42.91 | 0.08 | 1.99 | 1.34 |
| **Winter[a]** | | | | | | |
| 2027 | 2.31 | 23.95 | 24.68 | 0.06 | 6.95 | 3.69 |
| 2028 | 2.29 | 20.52 | 20.59 | 0.04 | 1.07 | 0.84 |
| 2029 | 0.94 | 8.15 | 13.20 | 0.02 | 0.55 | 0.33 |
| **Maximum of Summer and Winter Emissions** | **3.77** | **33.77** | **42.86** | **0.08** | **9.20** | **5.13** |
| *SCAQMD Threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:** VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
Emissions include compliance with SCAQMD Rule 403 and SCAQMD Rule 1113.
See Appendix A for complete results.

[a] "Summer" emissions are representative of the conditions that may occur during the $O_3$ season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

As shown in Table 4, the project construction emissions would not exceed SCAQMD's daily thresholds. Therefore, construction impacts associated with criteria air pollutant emissions would be less than significant, and no mitigation measures are required.

### Operational Emissions

Long-term operation of the project would generate minimal criteria air pollutant (including VOC, $NO_x$, $PM_{10}$, and $PM_{2.5}$) emissions, which would occur from mobile sources including vehicular traffic due to visitors and occasional maintenance workers accessing the site, and the use of landscape equipment and occasional striping during ongoing maintenance.

The project would feature passive recreational areas, including outdoor space for education, a community garden, and a small dog park, which would generate a nominal increase in weekday and weekend trips. Additionally, routine operations would include occasional maintenance, which would require up to three staff members to visit the site per maintenance day. As discussed in Section 3.17, Transportation, the ancillary recreational uses, combined with staff trips, would generate less than 110 daily trips,[5] and the project would therefore be presumed to have a less-than-significant impact relating to vehicle miles

[5] This threshold ties directly to the LCI Technical Advisory and notes that CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, as long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area (14 CCR 15301[e][2]). Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single-tenant office building, office park, and business park) generate or attract an additional 110–124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

traveled (VMT). Mobile sources were therefore assumed to have a negligible impact on operational air pollutant emissions.

Other ongoing maintenance would include the occasional re-striping of the small parking areas and the use of offroad combustion equipment for landscaping. Because the scope of maintenance would be limited, given the project's size and passive design, these sources were also assumed to have a negligible impact on operational emissions.

Overall, the project is not anticipated to represent a large source of criteria air pollutant emissions during long-term operation, and emissions were not quantified herein. Operational impacts associated with criteria air pollutant emissions would be less than significant.

### Health Impacts of Criteria Air Pollutants

Construction of the project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds as shown in Table 4. Long-term operations would also not represent a significant source of emissions.

The SCAB is designated as nonattainment for $O_3$ for the NAAQS and CAAQS. Thus, existing $O_3$ levels in the SCAB are at unhealthy levels during certain periods. The health effects associated with $O_3$ generally relate to reduced lung function. Because the project would not involve construction activities that would result in $O_3$ precursor emissions (VOC or $NO_x$) that would exceed the SCAQMD thresholds, the project is not anticipated to substantially contribute to regional $O_3$ concentrations and associated health impacts. Similar to construction, no SCAQMD threshold would be exceeded during operation.

In addition to $O_3$, $NO_x$ emissions contribute to potential exceedances of the NAAQS and CAAQS for $NO_2$ (since $NO_2$ is a constituent of $NO_x$). Exposure to $NO_2$ can cause lung irritation, bronchitis, and pneumonia and can lower resistance to respiratory infections. As demonstrated in Table 4 and discussed above, project construction would exceed the SCAQMD thresholds for $NO_x$ emissions. Thus, the project would not be expected to exceed the $NO_x$ standards or contribute to associated health effects.

CO tends to be a localized impact associated with congested intersections. CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. CO hotspots, as discussed in Section 3.3(c), would have a less-than-significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for $PM_{10}$ under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (EPA 2016). As with $O_3$ and $NO_x$, the project would not generate emissions of $PM_{10}$ or $PM_{2.5}$ that would exceed SCAQMD's thresholds. Accordingly, the project 's $PM_{10}$ and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, as shown in Table 4 and explained above, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

### Cumulative

Due to the cumulative nature of air quality impacts, the threshold for determining if a project significantly contributes to a cumulative impact is based on whether the project exceeds established project-level thresholds. Therefore, a qualitative assessment of the cumulative projects indicates that the project's contribution would not be considerable because the incremental emissions increase from the project would be less than significant.

*c) Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less-Than-Significant Impact with Mitigation Incorporated. In addition to the emission-based thresholds listed in Table 2, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. The LST analysis focuses on construction equipment and includes mobile source emissions within a 0.25-mile radius of the project site to represent localized emissions. For project sites of 5 acres or less, the SCAQMD LST Methodology (2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for $NO_2$, CO, $PM_{10}$, and $PM_{2.5}$) without performing project-specific dispersion modeling. The project would disturb less than 5 acres per day, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for $NO_2$ and CO represent the allowable increase in concentrations above background levels in the vicinity of a project site that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for $PM_{10}$ represents compliance with SCAQMD Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest receptor (any areas where persons can be situated for an hour or longer at a time)

The project site is located in SRA 8 (West San Gabriel Valley). LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The maximum number of acres disturbed on the peak day was estimated using the Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (SCAQMD 2014). During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod, based on the number of acres traversed by the grading equipment.

Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day. For example:

- Crawler tractors, graders, and rubber-tired dozers: 0.5 acres per 8-hour day
- Scrapers: 1 acre per 8-hour day

The LST lookup tables that can be used to determine the maximum allowable daily emissions are provided at increments of 1 acre, 2 acres, and 5 acres. Therefore, the analysis applies the LSTs for a 2-acre disturbance area, which are presented in Table 5.

Per the SCAQMD's Finalized LST Methodology, locations that an individual could remain for 24 hours (i.e., a residence, hospital, convalescent facility, hotel, etc.) should be considered to determine the threshold for $PM_{10}$ and $PM_{2.5}$ (SCAQMD 2009). The closest off-site receptors to the project site's construction activity are residences southeast of the project site. The minimum-recommended distance of 25 meters has been used to determine LST receptor distance for emissions of $NO_x$, CO, $PM_{10}$, and $PM_{2.5}$. Emissions from peak construction represent the most conservative emissions.

The LST threshold values from the SCAQMD lookup tables for SRA 8 (West San Gabriel Valley) are shown in Table 5.

**Table 5. Construction Localized Significance Thresholds for SRA 8 (West San Gabriel Valley)**

| Pollutant | Threshold (Pounds/Day) |
|---|---|
| $NO_2$ | 98 |
| CO | 812 |
| $PM_{10}$ | 6 |
| $PM_{2.5}$ | 4 |

**Source:** SCAQMD 2009.
**Notes:** SRA = Source-Receptor Area; $NO_2$ = nitrogen dioxide; CO = carbon monoxide; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Localized significance thresholds were determined based on the for a 2-acre site at a distance of 25 meters (82 feet) from the nearest receptor.

### Localized Significance Analysis

Construction activities associated with the project would result in temporary sources of on-site fugitive dust and construction equipment emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 8 are presented in Table 6 and compared to the maximum daily on-site construction and operational emissions.

**Table 6. Construction Localized Significance Thresholds Analysis – Unmitigated**

| Construction Year | $NO_x$ | CO | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| | Pounds per Day | | | |
| 2027 | 28.87 | 29.92 | 8.87 | 5.05 |
| 2028 | 33.28 | 40.66 | 1.27 | 1.16 |
| 2029 | 8.01 | 12.50 | 0.29 | 0.26 |

## Table 6. Construction Localized Significance Thresholds Analysis – Unmitigated

| Construction Year | $NO_x$ | CO | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| | Pounds per Day | | | |
| *Maximum* | *33.28* | *40.66* | *8.87* | *5.05* |
| *SCAQMD LST Criteria[a]* | *98* | *812* | *6* | *4* |
| **Threshold exceeded?** | **No** | **No** | **Yes** | **Yes** |

**Notes:** $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $PM_{10}$ = particulate matter with a diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
Emissions include compliance with SCAQMD Rule 403 and SCAQMD Rule 1113.
The total values may not add up exactly due to rounding.
See Appendix A for detailed results.

As shown in Table 6, proposed construction activities would generate emissions in excess of site-specific LSTs for $PM_{10}$ and $PM_{2.5}$ without mitigation, resulting in a potentially significant impact. Mitigation Measure (MM) AQ-1, Fugitive Dust Control During Construction, and MM-AQ-2, Construction Equipment Emissions Reductions, which require site watering and minimum construction equipment emissions standards, would be incorporated into project construction to reduce potentially significant impacts. See "Mitigation Measures" subsection at the end of this section for full text of these mitigation measures.

The maximum daily on-site emissions generated from construction of the proposed project including implementation of MM-AQ-1 and MM-AQ-2 are presented in Table 7 and are compared to the SCAQMD localized significance criteria for SRA 8 to determine whether project-generated on-site emissions would result in potential LST impacts.

## Table 7. Construction Localized Significance Thresholds Analysis – Mitigated

| Construction Year | $NO_x$ | CO | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| | Pounds per Day | | | |
| 2027 | 4.03 | 29.05 | 5.25 | 2.76 |
| 2028 | 8.95 | 44.65 | 0.29 | 0.27 |
| 2029 | 4.18 | 13.14 | 0.11 | 0.10 |
| Maximum | 8.95 | 44.65 | 5.25 | 2.75 |
| *SCAQMD LST Criteria[a]* | *98* | *812* | *6* | *4* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** |

**Notes:** $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $PM_{10}$ = particulate matter with a diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
Emissions reflect application of MM-AQ-1 and MM-AQ-2.
The total values may not add up exactly due to rounding.
See Appendix A for detailed results.

Based on the results shown in Table 7, localized project construction emissions would not exceed the established LST significance thresholds for $PM_{10}$ and $PM_{2.5}$ emissions with implementation of MM-AQ-1 and MM-AQ-2; therefore, the project would result in a less-than-significant impact with mitigation incorporated in regard to localized impact to sensitive receptors during construction.

## CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed "CO hotspots." The transport of CO is extremely limited, because it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

At the time that the SCAQMD Handbook (1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP (SCAQMD 2003)[6] for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From 2002 through 2005, the maximum 8-hour CO concentration was 3.8 parts per million by volume (ppm) at the Sunset Boulevard and Highland Avenue intersection in 2002, and the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue intersection in 2002. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. The project would result in less than 110 average daily trips, and as such, the project would not raise the traffic volumes at intersections in proximity to the project to the 100,000 vehicles per day that could result in a CO hotspot.

Additionally, ambient CO levels are monitored at the 752 South Wilson Avenue, Pasadena, air quality monitoring station, which is approximately 3.2 miles south of the project site. These levels represent ambient air quality in the project area. Ambient CO levels monitored at this representative monitoring station indicate that the highest recorded 1-hour concentration of CO is 10.1 ppm (the state standard is 20 ppm) and highest 8-hour concentration is 5.6 ppm (the state standard is 9 ppm) during the past 3 years of available data (EPA 2025). As discussed above, the highest CO concentrations typically occur during peak traffic hours, so CO impacts calculated under peak traffic conditions represent a worst-case analysis. Given the low level of CO concentrations in the project area, and less than 110 additional daily trips due to project implementation, project-related mobile emissions would not contribute to CO concentrations, and a CO hotspot is not anticipated to occur. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB

[6] SCAQMD's CO hotspot modeling guidance has not changed since 2003.

is steadily decreasing. Based on these considerations, the proposed project would result in no impact to air quality with regard to potential CO hotspots.

### Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced upon either short-term (acute) or long-term (chronic) exposure to a given TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the State Legislature in 1987 to address public concern over the release of TACs into the atmosphere.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Project construction would result in emissions of diesel particulate matter (DPM) from heavy construction equipment and trucks accessing the site. DPM is characterized as a TAC by the State of California. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and is aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants (HAPs), and has adopted appropriate control measures for sources of these TACs. The following measures are required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Under this regulation, idling of heavy-duty diesel construction equipment and trucks during loading and unloading is limited to 5 minutes, and electric auxiliary power units should be used whenever possible.

The Office of Environmental Health Hazard Assessment has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure, but has not identified health effects due to short-term exposure to diesel exhaust. The duration of proposed construction activities would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. After proposed construction is completed, there would be no long-term source of TAC emissions during operation. In addition, the project would not require the extensive operation of heavy-duty diesel construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions, and would not involve extensive use of

diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure. Furthermore, as shown in Table 4, maximum daily particulate matter (i.e., $PM_{10}$ or $PM_{2.5}$) emissions generated by construction equipment operation and truck trips during construction (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be minimal.

The project site is located on an existing infill site, with the closest sensitive receptors (residences) adjacent to the southeast of the site. Emissions during construction would not be concentrated in one area of the site but would be spread over the entirety of the site. Emissions would not be continuous and would cease once construction is complete. Therefore, the project would not expose sensitive receptors to substantial quantities of TACs during construction. Impacts would be less than significant.

No residual TAC emissions and corresponding health risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. CARB has published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities" (CARB 2005). The Air Quality and Land Use Handbook is a guide for siting of new sensitive land uses, and CARB recommends that sensitive receptors not be located downwind of or in proximity to such sources to avoid potential health hazards. The listed facilities or sources include the following: high-traffic freeways and roads, distribution centers, railyards, ports, refineries, chrome plating facilities, dry cleaners, and large gas-dispensing facilities. The project would not include any of the above-listed land uses associated with generation of TAC emissions. Furthermore, it is expected that the operation of the project would not result in any non-permitted direct emissions (e.g., those from a point source such as diesel generators) that could be a TAC source. Therefore, the project would not result in exposure of sensitive receptors in the vicinity of the project site to substantial TAC concentrations due to either construction or operation, and impacts would be less than significant.

In summary, because implementation of the project would not result in exceedances of the SCAQMD evaluation criteria thresholds during construction and operation after the implementation of MM-AQ-1 and MM-AQ-2, the potential health effects associated with criteria air pollutants would be less than significant with mitigation incorporated.

## Mitigation Measures

MM-AQ-1 Fugitive Dust Control During Construction. The City shall require its construction contractor to water exposed soil during construction a minimum of three times per day. The City shall also require its construction contractor to replace ground cover on areas disturbed during construction.

MM-AQ-2 Construction Equipment Emissions Reductions. Prior to the commencement of construction activities for the project, the City shall require its construction contractor to use California Air Resources Board (CARB) certified Tier 4 engines for all diesel-powered equipment pieces that are 75 horsepower or greater throughout all phases of construction.

An exemption from this requirement may be granted under the following two conditions:

(1) The City's construction contractor shall demonstrate that at least three construction fleet owners/operations in Los Angeles were contacted and that those owners/operations confirmed that Tier 4 Final equipment could not be located within Los Angeles County during the desired construction schedule.

(2) The proposed replacement equipment has been evaluated using the California Emissions Estimator Model (CalEEMod) or other industry standard emissions estimation method and documentation has been provided to the City to confirm that the reduction to below significant cancer risk resulting from construction emissions is achieved.

***d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

Less-Than-Significant Impact. Based on available information, the project is not anticipated to result in other emissions that have not been addressed in Sections 3.3(a)–(c). As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speed and direction; and the sensitivity of the receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

SCAQMD considers a project to exceed the threshold for objectionable odors if it creates a nuisance odor, as defined under SCAQMD Rule 402.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and asphalt pavement application. Such odors would disperse rapidly from the project site and would generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). The project would not include any of these land uses or industrial operations associated with odor complaints. The project is not anticipated to generate any odors during long-term operations, and any emitted odors would be short term in nature and would disperse rapidly. Further, as stated above, the project would comply with SCAQMD Rule 402, Nuisance, which prohibits the release of odors which may cause annoyance to a considerable number of persons, as well as other SCAQMD rules related to odor generation. The project would not create any new sources of odor during operation. Therefore, project operations would result in an odor impact that would be less than significant.

# 3.4 Biological Resources

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **IV. BIOLOGICAL RESOURCES** – Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☒ | ☐ |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☒ | ☐ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☒ | ☐ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☒ | ☐ | ☐ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

A Biological Resources Assessment and Aquatic Resources Jurisdictional Delineation Report were prepared by Dudek for the proposed project in April 2025 and an Arborist's Report was prepared by Dudek for the proposed project in October 2025. The Biological Resources Assessment is included as Appendix B, the Aquatic Resources Jurisdictional Delineation Report is included as Appendix C, and the Arborist's Report is included as Appendix D of this IS/MND.

## Literature Review

The following data sources were reviewed to assist with the analysis:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database and the California Native Plant Society's Rare Plant Inventory (CDFW 2025a; CNPS 2025a).
- U.S. Department of Agriculture's Natural Resources Conservation Service Web Soil Survey (USDA 2025)
- CDFW Biogeographic Information and Observation System (CDFW 2025b)
- A Manual of California Vegetation, Online Edition (CNPS 2025b)
- CDFW California Natural Community list (CDFW 2025c)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2025d)
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2025e)
- CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2025f)
- Current and historical aerial imagery and topographic maps (Google Earth 2025; NETR 2025)

## Field Visit

Dudek biologists Eilleen Salas and Ryan Stanley performed a field survey on February 11, 2025. Temperatures during the survey were between 58°F and 62°F, under 40% to 90% cloud cover, and wind speeds ranged between 0 and 2 miles per hour. The biological survey included vegetation mapping; the mapping of sensitive biological resources, if present, within the project site; and an evaluation of the potential for special-status species to occur. One vegetation community and three land cover types were identified in the project area during the field visit and are presented in Table 8. Permanent and temporary project impacts in relation to vegetation communities and land cover types within the project site are shown in Figure 3.4-1. Representative photos of vegetation and land covers within the study area (defined as the project site plus a 500-foot-wide buffer, for a total of approximately 58.5 acres) are presented in Appendix B and Appendix C and species lists are presented in Appendix B.

### Table 8. Vegetation Communities and Land Cover Types in the Project Area

| Vegetation Community/ Land Cover Type | Alliance | Association | Acreage Within the Project Site |
|---|---|---|---|
| Coast live oak woodland and forest | *Quercus agrifolia* forest and woodland alliance[a] | *Quercus agrifolia* | 0.46 |
| Urban/developed | N/A | N/A | 0.28 |
| Ornamental plantings | N/A | N/A | 0.17 |
| Disturbed habitat | N/A | N/A | 3.02 |
| | | **Totals**[b] | **3.93** |

**Source:** Appendix B.
**Notes:** N/A = not applicable.
[a] Semi-natural alliances do not have conservation status rankings and are not considered sensitive.
[b] Totals may not sum precisely due to rounding.

***a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Less-Than-Significant Impact with Mitigation Incorporated. No special-status plant or wildlife species were observed during surveys conducted for the project. Database review identified 47 special-status plant species and 40 special-status wildlife species with recorded occurrences in the U.S. Geological Survey's Mt. Wilson California 7.5-minute topographic quadrangle, in which the project is located, and the eight surrounding quadrangles (CDFW 2025a; CNPS 2025a) or that are included in the U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) query (USFWS 2025). For a full list of species identified within the database search, see Attachment C, Species Compendium, to Appendix B of this IS/MND. The productive database results were due to the quadrangle search including extensive undeveloped areas in the mountains and foothills far north of the site, in a vastly different environment than the project site's urban setting. The project site supports one vegetation community, coast live oak woodland and forest, and three land cover types, ornamental plantings, urban/developed land, and disturbed habitat. The project site was deemed to have no value as habitat for endangered, rare, or threatened wildlife species.

No special-status plant species or wildlife were found to have a potential to occur on site (see Appendix B); therefore, any plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the U.S. Fish and Wildlife Service, are not expected to occur due to the lack of suitable habitat.

One sensitive bird species, Cooper's hawk (*Accipiter cooperii*), was determined to have a moderate potential to nest in the large trees adjacent to the Eaton Wash. Cooper's hawk is a CDFW Watch List species and is protected by the federal Migratory Bird Treaty Act. Due to the moderate potential for this special-status species to occur on site, mitigation is warranted to ensure project impacts remain less than significant pursuant to CEQA.

Three bat species, western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus frantzii*), and one invertebrate, Crotch's bumble bee (*Bombus crotchii*), were determined to have a low potential to occur. The bat species are CDFW Species of Special Concern; foraging habitat is present in Eaton Blanche Park and roosting could be supported by large trees, including palms, and the Del Mar Boulevard overpass that spans Eaton Wash. Crotch's bumble bee is a candidate species for protection under the California Endangered Species Act. Suitable floral resources and microhabitat nesting opportunities (i.e., small mammal burrows) for Crotch's bumble bee were not identified in field surveys; however, there are documented occurrences of this species in the nearby vicinity and the species could occur as a transient (Appendix B). Project actions are not expected to have an impact on transitory Crotch's bumble bee.

To verify the anticipated absence of special-status biological resources prior to commencing construction, MM-BIO-1 would require pre-construction surveys, and MM-BIO-2 would require monitoring of vegetation removal and initial ground disturbance to ensure that project actions remain in compliance with state and federal regulations (see "Mitigation Measures" subsection below for full text of MM-BIO-1 and MM-BIO-2). Any potential impacts to special-status biological resources would be less than significant with mitigation incorporated.

### Mitigation Measures

MM-BIO-1 Special-Status Wildlife Species Surveys. Before commencing ground- or vegetation-disturbing activities, the City will perform a pre-construction survey for special-status wildlife species, including Crotch's bumble bee (*Bombus crotchii*), Cooper's hawk (*Accipiter cooperii*), western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus frantzii*) to determine the presence/absence of these species at the site. The survey shall be conducted within 14 days of the start of ground- or vegetation-disturbing activities. A qualified biologist shall walk the entire study area to determine if any special-status avian, mammal, or invertebrate species are observed or detected. The pre-construction surveys shall incorporate appropriate methods and timing as detailed in the approved survey protocol for each target species, to detect these species, including individuals that could be concealed in burrows, beneath leaf litter, in trees, or in loose soil. If any special-status wildlife are observed or detected during the pre-construction surveys, additional measures may be required, in consultation with the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife, such as establishing a buffer around known locations and/or monitoring construction near occupied areas. If Crotch's bumble bee is determined to be present prior to construction, an Incidental Take Permit issued by CDFW would need to be obtained. The City shall prepare and submit a letter report to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife summarizing the methods and results of the surveys.

MM-BIO-2 Monitor Vegetation Clearing. The City will obtain the services of a qualified biologist to observe vegetation removal and monitor for potential conflict with wildlife species. The biologist will prepare daily monitoring logs to document their observations and submit the logs to the City for inclusion in the project's construction files. If conditions are observed that may lead to wildlife conflicts, the biologist will provide guidance to the construction management team as to how best to avoid impacts on the resource.

***b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Less-Than-Significant Impact. The project site supports one vegetation community, coast live oak woodland and forest, and three land cover types, urban/developed land, ornamental plantings, and disturbed habitat (see Table 8). The coast live oak woodland and forest on site was mapped due to the presence of a grouping of coast live oak trees, although the understory has experienced disturbance associated with past and ongoing activity on the site. Coast live oak woodland and forest is not considered a sensitive vegetation community by CDFW (2025c), though coast live oak individuals fall under the City's tree-protection ordinance (see Impact 3.4[e] below for discussion of project conflicts with local policies or ordinances).

As shown in Figure 3.4-1, a small portion of permanent impacts associated with the project would overlap with the coast live oak woodland and forest vegetation community, while most of the coast live oak woodland and forest vegetation community would overlap with the temporary impact area. The project would be required to adhere to the tree protection standards outlined in the City's Tree Protection Ordinance and Tree Protection Guidelines for any impacts to live oak woodland and forest and would implement MM-BIO-4 and MM-BIO-5 (discussed under Impact 3.4[e] below), which requires tree monitoring during construction activities and after completion of construction. The project area does not contain any riparian habitat or other sensitive natural

community identified in local or regional plans, policies, or regulations, or by CDFW or the U.S. Fish and Wildlife Service. Therefore, the project would not have a substantial adverse effect on any riparian habitat or sensitive vegetation community and impacts would be less than significant.

*c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less-Than-Significant Impact. The Eaton Wash channel conveys a non-wetland water of the U.S. and state and is regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act, by the Regional Water Quality Control Board under Section 401 of the Clean Water Act or the California Porter–Cologne Water Quality Control Act, and/or by CDFW under Section 1602 of the California Fish and Game Code (Appendix C). The channel is a concrete-lined flood-control feature that is devoid of habitat.

The Eaton Wash concrete channel, which is adjacent to the project site, collects and conveys relatively permanent water from Eaton Canyon in the San Gabriel Mountains, along with nuisance water and storm runoff from the surrounding urban area. Eaton Wash has a definable ordinary high water mark throughout its length within the study area and contains relatively permanent waters. Based on the jurisdictional delineation performed for the project, the non-wetland waters feature associated with Eaton Wash are assumed to be regulated by the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and CDFW (Appendix C). Approximately 0.03 acres of non-wetland waters are within the project's impact boundaries, which includes the pedestrian bridge over Eaton Wash and the diversion structure at the bottom of Eaton Wash. Although these project features are both calculated as an impact on non-wetland waters based on the project boundaries, the pedestrian bridge would span Eaton Wash, so there would be no physical impact from this project component. The diversion structure would be installed at the bottom of Eaton Wash, resulting in a small impact on the jurisdictional feature. This minimal impact would occur within a channelized feature for the purpose of improving water quality. The project's impact on this feature would be considered a less-than-significant impact pursuant to CEQA. Impacts within Eaton Wash would require permits from all referenced agencies prior to initiating project construction. Permits are likely to identify additional requirements for the City, which would not be considered CEQA mitigation measures.

*d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less-Than-Significant Impact with Mitigation Incorporated. The project area is not located within any designated wildlife corridors or habitat linkages; therefore, impacts on wildlife corridors and habitat connectivity would not occur as a result of the project. However, on-site trees and shrubs provide suitable nesting habitat for bird species protected under the Migratory Bird Treaty Act (16 USC 703–712) and California Fish and Game Code Sections 3503.5, 3503, and 3513. Vegetation trimming or removal associated with the project could cause mortality to young or breeding adults and/or destruction of eggs or active nests if these activities occur during the general nesting season of February 1 through September 30. Implementation of MM-BIO-3 (Compliance with Migratory Bird Treaty Act and California Fish and Game Code), which requires nesting bird avoidance, would reduce potential direct impacts to nesting birds to a less-than-significant level. Refer to the "Mitigation Measures" subsection at the end of this section for the text of MM-BIO-3.

Potential short-term indirect impacts to special-status wildlife could result from noise generated by construction activities conducted during the avian breeding season (February 1 through September 30). Construction-related noise has the potential to disrupt reproductive and feeding activities for nesting birds, potentially causing mortality due to the abandonment of an active nest. These indirect impacts would be considered significant, absent mitigation. Implementation of MM-BIO-3 would reduce these potential indirect impacts to nesting birds to a less-than-significant level.

In summary, impacts relative to impeding the use of native wildlife nursery sites would be less than significant with mitigation incorporated.

### Mitigation Measures

MM-BIO-3 Compliance with Migratory Bird Treaty Act and California Fish and Game Code. The proposed project shall be conducted in compliance with all applicable regulations, including the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code regarding migratory birds. Pursuant to the MBTA and California Fish and Game Code, a qualified biologist shall conduct a pre-construction survey for nesting birds and raptors within the project site and a 500-foot-wide buffer no more than 3 days prior to any vegetation disturbance during the general avian breeding season (February 1–September 30). The project shall avoid take of nesting birds protected under the MBTA and California Fish and Game Code by establishing appropriate no-construction buffer zones around any nests identified during the surveys. The buffer should be 150-300 feet for non-raptor nesting birds, 300 feet for highly sensitive species, and 300–500 feet for nesting raptors. Construction can proceed into the buffer when the qualified Biologist has determined that the nest is no longer active. If the biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/ construction work would be allowed to proceed. If the biologist finds an active nest within or immediately adjacent to the vegetation removal area and determines that the nest may be impacted or breeding activities substantially disrupted, the biologist shall delineate an appropriate no-work buffer zone around the nest, depending on the sensitivity of the species, the location of the nest, and the nature of the construction activity, at their discretion. Construction personnel shall be instructed on the sensitivity of nest areas and no-work buffers shall remain in place until the nest is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with flagging or fencing, and construction personnel shall be instructed on the sensitivity of nest areas.

***e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

Less-Than-Significant Impact with Mitigation Incorporated. The City defines tree protection in PMC Chapter 8.52 – City Trees and Tree Protection (City of Pasadena 2010). A tree inventory and assessment of the project site and nearby area was performed pursuant to PMC Chapter 8.52 (Appendix D). The Arborist Report, which was prepared during the preliminary design phase, documented 298 trees in the survey boundary, including 161 that are inside the project limits, and 137 that are outside the project limits. Species on site include native species such as coast live oak and California sycamore, and non-native, invasive species such as tree of heaven and Mexican fan palm. Appendix D provides additional detail on the tree species, distribution, and health of the specimens observed during the survey.

All 298 trees documented in the Arborist Report are considered public trees, as defined by the City, because of their location on City property or within the public right-of-way; therefore, they are considered protected by the PMC. The PMC does not prohibit removal of protected trees but establishes a protocol for City review of requests to remove regulated trees and for identification of avoidance requirements and/or replacement rates. Of the total 298 protected trees surveyed for the Arborist Report, 119 would be removed by the project. A majority of the trees that would be removed are non-native, invasive species. Tree removal would include individuals that are within the site boundaries and need to be cleared to enable construction of project features and provide slope stability and invasive species individuals in and out of the site boundaries that would be removed as part of the City's site improvement efforts.

One hundred seventy-nine trees documented in the Arborist Report would remain in place. This includes 51 existing trees that are within the project's temporary impact boundary but do not require removal to construct the project and would be preserved, and 121 trees in the survey area that would be preserved in place. An additional seven trees would be considered encroached upon pursuant to the PMC due to their proximity of their canopy to site disturbance.

In accordance with PMC Section 8.52, replacement of protected trees would be required based on the discretion of the City Manager, and tree protection measures would be implemented for encroached-upon trees. Additionally, the treatment of trees preserved within impacted areas and any other City-protected trees on the project site that are not designated for removal or encroachment must adhere to the tree protection standards outlined in the City's Tree Protection Ordinance and Tree Protection Guidelines. Implementation of MM-BIO-4 and MM-BIO-5 (see "Mitigation Measures" below) would further reduce impacts to a less-than-significant level. Impacts would therefore be less than significant with mitigation incorporated.

## Mitigation Measures

MM-BIO-4 Tree Monitoring During Construction Activities. A qualified arborist shall be present during initial ground-disturbing activities on the project site to ensure that project activities stay within the demarcated limits. This qualified arborist shall identify the number of City-protected trees that are removed as a result of project construction activities, as well as trees that would be encroached upon. This inventory of trees shall be used to determine an appropriate tree replacement program that shall be, at a minimum, consistent with the City of Pasadena Tree Ordinance (PMC Chapter 8.52) as it relates to tree replacement of protected trees.

MM-BIO-5 Post-Construction Tree Monitoring. All trees that have been substantially root pruned (30% or more of their root zone) during construction within the tree protection zone (a 4-foot radius beyond the dripline for each tree) shall be monitored by an International Society of Arboriculture (ISA) certified arborist for the first 10 years after construction completion. The arborist shall submit an annual report, photograph each tree, and compare tree health and condition to the original, pre-construction baseline to the City. For trees that do not survive the 5-year monitoring period, such trees shall be replaced in accordance with the requirements of PMC Chapter 8.52.

*f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The project site is not within any habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (CDFW 2024). Accordingly, the proposed project would not conflict with the provisions of an adopted conservation plan, and no impact would occur.

# 3.5 Cultural Resources

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **V. CULTURAL RESOURCES** – Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5? | ☐ | ☐ | ☒ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☐ | ☒ | ☐ |

The analysis in this section is based on the Cultural Resources Assessment Report prepared for the project by Dudek in October 2025 and included as Appendix E of this IS/MND. The area of potential effects (APE) for archaeological resources encompasses the federally permitted, 3.91-acre construction footprint in which all ground-disturbing activities will occur. The APE for built environment resources additionally includes the full legal parcel boundaries of properties that may be potentially affected by visual, vibratory, auditory, and atmospheric effects caused by the project.

***a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?***

Less-Than-Significant Impact. Historic-age structures are those that were built more than 45 years ago and therefore have the potential to be considered historical resources pursuant to Section 15064.5 of the CEQA Guidelines. Although some historical resources are also considered archaeological resources, such resources are addressed in Section 3.5(b), as part of the discussion of archaeological resources.

Review of historical topographic maps dating back to 1884 and aerial photographs dating back to 1952 is discussed in Appendix E. These show the historical disturbance the APE has been subject to, including disturbance associated with the channelization of Eaton Wash, building development, demolition, and grading. Additionally, this archival review revealed the presence of historic-era built environment resources located within the APE, which are discussed below.

On April 17, 2024, Dudek conducted a records search of the California Historical Resources Information System (CHRIS) database at the South Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton. The records search results identified a total of 36 previous cultural resources studies that have been conducted within 1 mile of the project site. In addition, two previous cultural resources inventories (LA-9705, LA-10175) overlap with the APE and are described in Table 9.

## Table 9. Previously Conducted Studies Intersecting the APE

| Report ID | Year | Author | Title |
|---|---|---|---|
| LA-9705 | 2007 | Pacific Legacy Inc. | Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California. ARR #05-01-01046. |
| LA-10175 | 2009 | Applied EarthWorks Inc. | Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project. |

**Source:** Appendix E.

Report LA-9704 documents the results of an inventory conducted for the Tehachapi Renewables Transmission Project, which overlaps with 100% of the project site. The report cites 43 prehistoric resources, 48 historic-period archaeological sites, 4 multi-component sites, and 8 isolate finds within the 250- to 500-foot-wide survey corridor. None of the cultural resources identified intersect the current proposed APE.

Report LA-10175 documents the results of an inventory conducted for the Tehachapi Renewables Transmission Project, which also overlaps with 100% of the project site. The report cites 57 prehistoric resources, 73 historic-period archaeological sites, and 5 multi-component sites within the 250- to 500-foot-wide survey corridor. None of the cultural resources identified intersect the current currently proposed APE (Appendix E).

The SCCIC records search results indicate that 62 cultural resources have been previously recorded within 1 mile of the APE (Table 10). Of these, one resource intersects the APE (P-19-190502). The vast majority of the remaining 61 resources are historic-era built environment resources associated with the development of the City of Pasadena during the twentieth century.

## Table 10. Previously Recorded Cultural Resources Within 1 Mile of the APE

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| **Intersects APE** | | | | |
| P-19-190502 | — | Historic | SCE Mesa-Anita-Eaton 66 kV Transmission Line | Recommended ineligible |
| **Outside of APE** | | | | |
| P-19-003682 | CA-LAN-003682/H | Prehistoric, Historic | Suangna Native American Village | Not evaluated |
| P-19-003804 | CA-LAN-003804H | Historic | Las Encinas Hospital | Not evaluated |
| P-19-183162 | — | Historic | Pasadena Motel Grouping | Not evaluated |
| P-19-183164 | — | Historic | Travelodge | Not evaluated |
| P-19-183165 | — | Historic | Swiss Lodge | Not evaluated |
| P-19-183166 | — | Historic | Astro Motel | Not evaluated |
| P-19-183167 | — | Historic | Vagabond Inn | Not evaluated |
| P-19-183168 | — | Historic | Ace Motel | Not evaluated |
| P-19-183181 | — | Historic | United Picture & Frame Co. | Recommended ineligible |

## Table 10. Previously Recorded Cultural Resources Within 1 Mile of the APE

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-183182 | — | Historic | Sierra Madre Blvd. Commercial Grouping | Not evaluated |
| P-19-183185 | — | Historic | Pasadena Fire Station #7 | Not evaluated |
| P-19-183186 | — | Historic | Lamanda Park Commercial Area | Not evaluated |
| P-19-183187 | — | Historic | Proctor Insurance Co. | Not evaluated |
| P-19-183191 | — | Historic | Morton C. Hartzell Methodist Episcopal Church | Not evaluated |
| P-19-183192 | — | Historic | Third Church of Christ Scientist | Not evaluated |
| P-19-183195 | — | Historic | Dudley & White Blacksmiths | Recommended ineligible |
| P-19-183196 | — | Historic | C M Northrup & Son Real Estate | Not evaluated |
| P-19-183198 | — | Historic | Royal Palms Trailer Court | Not evaluated |
| P-19-183199 | — | Historic | California Sewing Machine Co. | Not evaluated |
| P-19-183328 | — | Historic | Pasadena Rubber Stamp Works | Not evaluated |
| P-19-183477 | — | Historic | Pasadena Trailer Park | Not evaluated |
| P-19-183478 | — | Historic | Sparkle Laundry & Cleaners | Not evaluated |
| P-19-183479 | — | Historic | Siam Gourmet | Not evaluated |
| P-19-183480 | — | Historic | Pasadena Hub Caps | Not evaluated |
| P-19-183481 | — | Historic | VCR TV MW Stereo Repair | Not evaluated |
| P-19-183482 | — | Historic | Mutual Bldg. & Loan Assn. | Not evaluated |
| P-19-183483 | — | Historic | Post Office | Not evaluated |
| P-19-183484 | — | Historic | Locators Agency | Not evaluated |
| P-19-183485 | — | Historic | Sharon Newbold Realtor | Not evaluated |
| P-19-183486 | — | Historic | Sud'N Service | Not evaluated |
| P-19-183487 | — | Historic | Silver-Reed | Not evaluated |
| P-19-183488 | — | Historic | Gwinn's Restaurant | Not evaluated |
| P-19-183489 | — | Historic | Serendipity | Not evaluated |
| P-19-183490 | — | Historic | Serendipity | Not evaluated |
| P-19-183491 | — | Historic | Serendipity | Not evaluated |
| P-19-183492 | — | Historic | Serendipity | Not evaluated |
| P-19-183943 | — | Historic | Stuart Co. Plant & Office Bldg. | Listed |
| P-19-184686 | — | Historic | Hempel Tile | Not evaluated |
| P-19-184687 | — | Historic | Glo-Quartz Mfg. | Not evaluated |
| P-19-184688 | — | Historic | Pasadena Indoor Swapmeet | Not evaluated |
| P-19-188038 | — | Historic | Warner's Egyptian Theater | Recommended ineligible |
| P-19-189110 | — | Historic | AT & SF RR bridge over Rosemead Blvd. | Recommended ineligible |
| P-19-189225 | — | Historic | First Western Bank | Appears eligible |
| P-19-189226 | — | Historic | First National Bank of Lamanda Park | Listed |
| P-19-189227 | — | Historic | Denny's | Listed |
| P-19-189228 | — | Historic | Suzuki Dealership | Appears eligible |

## Table 10. Previously Recorded Cultural Resources Within 1 Mile of the APE

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-189229 | — | Historic | Fred C Henson Co. | Listed |
| P-19-189230 | — | Historic | Factory Service | Recommended ineligible |
| P-19-189231 | — | Historic | Vista Paint & Wallcovering | Appears eligible |
| P-19-189232 | — | Historic | Glatts Lumber | Recommended ineligible |
| P-19-189233 | — | Historic | Simpson Bldg. | Recommended ineligible |
| P-19-189236 | — | Historic | Street lights | Appears eligible |
| P-19-190399 | — | Historic | Single-family residence | Not evaluated |
| P-19-190917 | — | Historic | Single-family residence | Recommended ineligible |
| P-19-192125 | — | Historic | Single-family residence | Not evaluated |
| P-19-192131 | — | Historic | Single-family residence | Not evaluated |
| P-19-192132 | — | Historic | Single-family residence | Not evaluated |
| P-19-192133 | — | Historic | Single-family residence | Not evaluated |
| P-19-192134 | — | Historic | Single-family residence | Not evaluated |
| P-19-192221 | — | Historic | Single-family residence | Recommended ineligible |
| P-19-192479 | — | Historic | Naval Ordinance Test Station (NOTS); Pasadena, Foothill Plant | Appears eligible for CRHR |

**Source:** Appendix E.
**Notes:** APE = area of potential effects; NRHP = National Register of Historic Places; CRHR = California Register of Historical Resources.

P-19-190502 is characterized as a historic-age transmission line that runs generally north to south for approximately 13 miles to distribute power between the SCE Mesa Substation, Anita Substation, and Eaton Substation. A segment of the resource intersects the APE. This resource was given the California Office of Historic Preservation status code of 6Z: Found ineligible for National Register, California Register, or local designation through survey evaluation (Appendix E). The segment of P-19-190502 within the APE was inventoried and evaluated as part of the Cultural Resources Assessment Report prepared for the project (Appendix E).

On June 26, 2025, Dudek architectural historian Katie Ahmanson, MHC, surveyed the APE for built environment resources. The built environment survey identified five historic-era (45 years of age or older) properties within the APE for built environment resources, consisting of the Eaton Wash Channel, Eaton Blanche Park, the former Earthside Nature Center site, the urgent care center building at 3160 East Del Mar Boulevard, and the SCE Mesa-Anita Eaton Transmission Line (Appendix E). Dudek evaluated these five historic-age properties in the APE and found that none are eligible for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or the City of Pasadena's component of the California Historical Resources Inventory Database due to a lack of significant associations and architectural merit due to a lack of historical significance and architectural merit. Therefore, no historic properties were identified within the APE.

As no resources were identified in the records search or survey, except for the five historic-era properties that would not be eligible for NRHP, CRHR, or City of Pasadena California Historical Resources Inventory Database listing, the project would not cause a substantial adverse change in the significance of a known historical resource pursuant to Section 15064.5. Impacts would be less than significant.

*b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

Less-Than-Significant Impact with Mitigation Incorporated. The analysis of project impacts on archaeological resources is primarily based on the results of the SCCIC records search, review of historic maps and aerial images, and the pedestrian survey. Dudek contacted the Native American Heritage Commission (NAHC) on April 24, 2025, and requested a review of their Sacred Lands File for the APE and a 1-mile radius. The Sacred Lands File consists of a database of known Native American cultural resources that may not be included in the SCCIC database or be depicted in the records search results. NAHC replied via email correspondence on May 7, 2025, stating that the Sacred Lands File search was completed with positive results. Positive results indicate the presence of Native American cultural resources within 1 mile of the APE, not necessarily directly within the APE. NAHC additionally provided a list of Native American individuals and/or tribal organizations that should be contacted for more information on potential tribal sensitivities regarding the currently proposed project (Appendix E).

Dudek archaeologist Roshanne Bakhtiary, MA, RPA, conducted an intensive-level pedestrian survey of the APE for archaeological resources on June 26, 2025. Approximately 75% of the APE for archaeological resources had zero ground surface visibility, while the remainder had moderate ground surface visibility. The survey observed existing disturbances that include evidence of grading, vegetation clearing, and modern debris throughout. Although the remains of the former Earthside Nature Center were recorded during this field effort, this resource was treated as a built environment resource, as discussed in Section 3.5(a). No archaeological resources were identified during the pedestrian survey of the APE for archaeological resources (Appendix E).

No archaeological resources were identified during the pedestrian survey. Additionally, Dudek's archival review indicates that the majority of the APE has been previously disturbed by the channelization of Eaton Wash, building development, demolition, and grading. Based on the results of the SCCIC records search and pedestrian survey and the prior disturbance and grading of the project site, the project would not cause a substantial adverse change in the significance of a known archaeological resource pursuant to CEQA Guidelines Section 15064.5. However, there are previously recorded prehistoric resources located within the 1-mile record search radius, and it is not possible to conclude the absence of subsurface archaeological deposits based on surface observations. Therefore, MM-CUL-1, Archaeological Monitoring, and MM-CUL-2, Unanticipated Discovery of Archaeological Resources, are recommended to ensure that the potential for impacts to unknown archaeological resources would be appropriately addressed (see the "Mitigation Measures" subsection for the text of MM-CUL-1 and MM-CUL-2). With implementation of these mitigation measures, impacts would be less than significant with mitigation incorporated.

## Mitigation Measures

MM-CUL-1 Archaeological Monitoring. Prior to ground-disturbing activities, the City of Pasadena (City) and/or subsequent responsible parties should retain a Principal Investigator/ Archaeologist meeting the Secretary of the Interior's Professional Qualification Standards

in Archaeology and with experience in California prehistoric and historic resources (experience within Los Angeles County preferred). An archaeological monitor shall be present during all initial ground-disturbing activities for the project. Archaeological monitoring may be adjusted (increased, decreased, or discontinued) at the recommendation of the archaeological principal investigator and based on the inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. The archaeological monitor shall be provided a copy of the Cultural Resources Assessment Report for the Eaton Wash Stormwater Capture Project and its pertinent appendices to inform their monitoring efforts. The archaeological monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. The requirement for tribal monitoring, while recommended, shall be determined by the lead agency in consultation with the traditionally culturally affiliated tribes with geographic ties to the project area.

Daily monitoring logs shall be completed by the on-site archaeological monitor. Within 60 days following completion of construction, the archaeological principal investigator shall provide an archaeological monitoring report to the City. This report shall include the results of the cultural monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices shall include archaeological monitoring logs and documentation relating to any newly identified or updated cultural resources. This report shall be submitted to the South Central Coastal Information Center (SCCIC) once considered final.

While recommended, the requirement to include a Native American Monitor should be determined by the City, having reviewed cultural resources technical findings, through government-to-government consultation with the traditionally culturally affiliated tribes with geographic ties to the project site and in review of the present report findings.

MM-CUL-2 Unanticipated Discovery of Archaeological Resources. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 50 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology is provided access to the project site and can assess the significance of the find and determine whether additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource to avoid any disturbance from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by the California Environmental Quality Act (CEQA) and its implementing guidelines and Section 106 of the National Historic Protection Act. If the archaeological principal investigator observes the discovery to be potentially significant under CEQA and/or the National Historic Protection Act, additional efforts, such as the preparation of an archaeological treatment plan, testing, and/or data recovery, may be warranted prior to allowing construction to proceed in this area.

***c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?***

Less-Than-Significant Impact. As discussed above, the project site has been subject to past disturbances associated with the channelization of Eaton Wash, building development, demolition, and grading. No prehistoric or historic-period burials, including those interred outside of dedicated cemeteries, were identified within the project site as a result of the CHRIS records search, NAHC Sacred Lands File search, or archival background research. Based on the results of the previous research and ground-disturbing activities, the potential for human remains to exist within the project site is considered unlikely. However, it is possible that unknown human remains could be encountered during ground-disturbing activities associated with project construction.

In the event that human remains are inadvertently encountered during construction activities, the remains and associated resources must be treated in accordance with state and local regulations that provide requirements with regard to the accidental discovery of human remains, including California Health and Safety Code Section 7050.5, PRC Section 5097.98, and CEQA Guidelines Section 15064.5(e). In accordance with these regulations, if human remains are found, the Los Angeles County Coroner (County Coroner) must be immediately notified of the discovery. No further excavation or disturbance of the project site or any nearby area (within 100 feet of the find) reasonably suspected to overlie adjacent remains must occur until the County Coroner has determined if the remains are potentially human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, the Coroner is required to notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant must then recommend to the lead agency their preferred treatment of the remains and associated grave goods. Therefore, compliance with state and local regulations identified above would ensure that the project would result in less-than-significant impacts related to the inadvertent disturbance of any human remains.

# 3.6 Energy

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **VI. Energy** – Would the project: | | | | |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

Less-Than-Significant Impact. Project implementation would result in energy use for construction and operation, including the use of electricity and petroleum-based fuels. The following analysis evaluates the potential wasteful, inefficient, or unnecessary consumption of electricity, natural gas, and petroleum during construction and operation.

## Construction Energy Use

### Electricity

Electricity consumed during project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities would require electricity, including conveying water that would be used for dust control (supply and conveyance), powering any necessary lighting or electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary and nominal, and would cease upon the completion of construction. Therefore, the use of electricity during project construction would not be wasteful, inefficient, or unnecessary.

### Natural Gas

No natural gas would be used during construction. Equipment and vehicles would be powered by petroleum-based fuels, as discussed below. Therefore, the use of natural gas during project construction would not be wasteful, inefficient, or unnecessary.

### Petroleum

Construction of the project would consume energy resources as a result of the use of heavy-duty construction equipment, on-road delivery and haul trucks, and workers commuting to and from the project site. Petroleum emissions associated with the use of construction equipment and vehicles, which were

used to calculate gallons of petroleum consumed, were calculated using CalEEMod and are provided in Appendix A. Fuel consumption from construction equipment was estimated by converting the total carbon dioxide ($CO_2$) emissions from each construction phase to gallons, using the conversion factors for $CO_2$ to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton (MT) $CO_2$ per gallon, and the conversion factor for diesel is 10.21 kilograms per MT $CO_2$ per gallon (The Climate Registry 2025). The estimated fuel usage from construction of the project is shown in Table 11.

**Table 11. Total Proposed Project Construction Petroleum Demand**

| Scenario | Off-Road Equipment (Diesel) | Haul Trucks (Diesel) | Vendor Trucks (Diesel) | Worker Vehicles (Gasoline) |
|---|---|---|---|---|
| | Gallons | | | |
| Project Construction | 75,527 | 2,977 | 3,174 | 6,500 |
| | | | **Total Petroleum Consumed for Project Construction** | **85,178** |

**Source:** Appendix A.

In summary, construction associated with the development of the project is estimated to consume a total of approximately 85,178 gallons of petroleum. The project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation, which applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements.

Overall, although construction activities would result in the consumption of petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumption related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what is typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts would be less than significant.

## Operational Energy Use

### Electricity

Project operation would require electricity for the small pump and site lighting. These sources of electricity use are considered negligible and fit within the scope of the City's communitywide energy demand.

### Natural Gas

Long-term operation of the project would not require natural gas consumption, and impacts would be less than significant.

### Petroleum

During operations, fuel consumption resulting from the project would occur from the use of motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by visitors to the project.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site would be minimal, as it is a function of operational VMT. As discussed in Section 3.18, Transportation, the VMT attributable to the project would be less than 110 VMT per day. Accordingly, fuel consumption from vehicles associated with the project would be negligible.

Over the lifetime of the project, the fuel efficiency of the vehicles being used by the visitors to and maintenance workers for the project is expected to increase. As such, the amount of gasoline consumed as a result of vehicular trips to and from the project site during operation would decrease over time as a result of the numerous regulations in place that require and encourage increased fuel efficiency.

Given these considerations, the petroleum consumption associated with the project would not be considered inefficient or wasteful, and impacts would be less than significant.

***b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

Less-Than-Significant Impact. The project would not include any buildings and would therefore not be required to comply with the majority of the California Building Energy Efficiency Standards (24 CCR Part 6) or the California Green Building Standards (24 CCR Part 11). Any energy consumption related to the project (e.g., outdoor parking lot lighting) would be subject to the appropriate Title 24 standards. As such, the project would comply with the California code requirements for energy efficiency.

Based on these considerations, the project would be consistent with applicable local and statewide energy policies and goals by reducing energy demand through compliance with advanced energy codes and by sourcing electricity from renewable resources. Impacts related to the project's potential to conflict with plans for renewable energy and energy efficiency would be less than significant.

# 3.7 Geology and Soils

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **VII. GEOLOGY AND SOILS** – Would the project: | | | | |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☒ | ☐ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☒ | ☐ |
| iv) Landslides? | ☐ | ☐ | ☐ | ☒ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☒ | ☐ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |

The analysis in this section is based on the Geotechnical Evaluation prepared for the project by Ninyo & Moore in March 2025.

*a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

*i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

*and*

*ii) Strong seismic ground shaking?*

Less-Than-Significant Impact. The project site is located within a seismically active region, as is most of the Southern California region. The project would likely be exposed to seismic ground shaking at multiple points in the future. The intensity of ground shaking at any specific location within the region depends on the characteristics of the earthquakes, the distance from the earthquake epicenter, and the local geologic and soil conditions. Earthquake fault zones are delineated boundaries encompassing active faults that constitute potential hazards to structures from surface faulting or fault creep (DOC 2018).

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest fault to the project site is the Mount Wilson Fault Zone, located approximately 0.7 miles south of the project site (DOC 2025b). Due to the proximity of the site to active faults, the project area has a high potential to experience strong ground motion. However, project construction and operation would not increase or exacerbate the potential for fault rupture to occur, and engineering design and project development would be performed in accordance with the requirements of governing jurisdictions and applicable building codes. Therefore, the project would not directly or indirectly cause potential adverse effects involving rupture of a known earthquake fault, and impacts would be less than significant.

*iii) Seismic-related ground failure, including liquefaction?*

Less-Than-Significant Impact. Ground failure is a secondary effect of ground shaking and can include landslides, liquefaction, lurching, and differential settlement. Liquefaction is the loss of soil strength due to seismic forces generating various types of ground failure. Liquefaction occurs when saturated and poorly consolidated granular material is shaken during an earthquake and is transformed into a fluid-like state.

According to maps obtained through the California Department of Conservation and California Geological Survey, the area of the proposed project that includes the location of the proposed pedestrian bridge is not located within a liquefaction zone. However, the southeasternmost end of the site is within a liquefaction zone (DOC 2025b). The geotechnical investigation determined that the relatively dense to very dense nature of the alluvial materials below the historic high groundwater depth of 40 feet indicates that the potential for liquefaction and dynamic settlement would be negligible (Ninyo & Moore 2025). Additionally, the proposed project would not include structures for long-term human occupancy. For these reasons, impacts would be less than significant.

*iv) Landslides?*

No Impact. Landslides typically occur on moderate to steep slopes that are affected by such physical factors as slope height, slope steepness, shear strength, and orientation of weak layers in the underlying geologic units. The project site and surroundings are generally flat, with soils stabilized by development and landscaping. The project site is not located within a landslide zone and the project would not result in the creation of moderate to steep slopes that may become susceptible to landslides (DOC 2025b). As such, no impact would occur.

*b) Would the project result in substantial soil erosion or the loss of topsoil?*

Less-Than-Significant Impact. Construction of the project would require earthwork activities that would potentially contribute to soil erosion or loss of topsoil. Construction of the project would result in more than 1 acre of land disturbance; therefore, a site-specific SWPPP, in accordance with SWRCB Order No. 2009-0008-DWQ, National Pollutant Discharge Elimination System General Permit No. CAS00002 (Construction General Permit), amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ, would be prepared and implemented during project construction. One of the purposes of the SWPPP is to address potential pollutants and their sources, including sources of sediment, and site erosion. Conditions of these existing regulations would include adherence to sediment and stormwater pollutant control BMPs, such as covering of exposed soil stockpiles, sediment barriers, storm drain protection, and various other measures designed to minimize the potential for soil erosion and loss of topsoil. Disturbed areas would be returned to existing conditions or stabilized by new asphalt or landscape plantings. Operation of the proposed stormwater capture and treatment facility, park improvements, and pedestrian bridge would not affect erosion. Therefore, the project would not result in substantial soil erosion of the loss of topsoil and impacts would be less than significant.

*c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less-Than-Significant Impact. As previously discussed, the project site is located in an area susceptible to liquefaction. The geotechnical evaluation included design recommendations that would be incorporated into the final design plans and implemented during construction to minimize potential geotechnical risks, including soil stability, per applicable California Building Code requirements. Therefore, the project would not exacerbate geotechnical hazards related to unstable soils and impacts would be less than significant.

*d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Less-Than-Significant Impact. Expansive soils are clay based and tend to increase in volume due to water absorption and decrease in volume due to drying. The geotechnical evaluation included design recommendations that would be incorporated into the final design plans and implemented during construction, including sampling and analysis of soils on site. If such conditions are encountered, the project would employ standard engineering protocols to limit the potential effects on project-related infrastructure. Therefore, impacts would be less than significant.

*e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. The project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

*f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less-Than-Significant Impact with Mitigation Incorporated. Paleontological resources are the remains or traces of plants and animals that are preserved in the Earth's crust, and per the Society of Vertebrate Paleontology guidelines (SVP 2010), are older than written history or older than approximately 5,000 years, which approximates the middle Holocene. They are limited, nonrenewable resources of scientific and educational value, which are afforded protection under state laws and regulations.

According to the geotechnical report by Ninyo & Moore (Ninyo & Moore 2025), "it is anticipated that the southwest side of the site, generally adjacent to Eaton Wash, and Eaton Blanche Park have been raised to current site grades with various amounts of fill." Undocumented fill was encountered in boring B-4 to a depth of approximately 19 feet. Moreover, "alluvium was encountered beneath the fill in boring B-4 and at the ground surface of the remaining borings (except P-6 that encountered shallow refusal) to the explored depths of up to approximately 51.5 feet" (Ninyo & Moore 2025).

According to surficial geological mapping by Dibblee and Ehrenspeck (1998) at a 1:24,000 scale, the project site is underlain by Holocene (<11,700 years ago; Cohen et al. 2024) gravel and sand of major stream channels, with possible Late Pleistocene (approximately 11,700 years ago to 2.58 million years ago) terrace remnants of alluvial gravel and sand deposits mapped approximately 100 meters (330 feet) to the west. The younger, Holocene age gravel and sand deposits and undocumented fill within the project site have a low potential to yield paleontological resources and thus require no mitigation during ground-disturbing activities. However, Pleistocene (or "Ice Age") gravel and sand deposits may be encountered at an unknown depth beneath Holocene gravel and sand deposits; as such, these deposits have a high potential to produce significant paleontological resources and would require monitoring if impacted during construction.

Although no fossils are recorded from within the project site itself, they are documented nearby from sedimentary deposits similar to those underlying the project site. According to the records search results received from the Natural History Museum of Los Angeles County (NHMLA 2025a) and an in-house records search of the nearby area, the following fossil localities have been documented:

- Approximately 2.44 miles northwest of the project site, Los Angeles County Museum Vertebrate Paleontology (LACM VP) 2027 yielded a mammoth from an unknown Pleistocene formation (NHMLA 2025b).
- Approximately 7.87 miles southwest of the project site, LACM VP 3363 yielded a fossil horse from an unknown Pleistocene formation (NHMLA 2025a).
- Approximately 8.09 miles west-southwest of the project site, LACM California Institute of Technology 342 produced turkey and mammoth specimens from Quaternary sediments, 14 feet below the ground surface. Both specimens were documented in scientific publications (NHMLA 2019).

- Approximately 8.18 miles southeast of the project site, San Bernardino County Museum 5.1.14–5.1.21 produced mastodon, bison, and camel specimens from as shallow as 5 feet below the ground surface (Caltrans 2014).
- Approximately 9 miles southwest of the project site, LACM VP 1652 yielded a sheep specimen from Pleistocene alluvium (NHMLA 2022).
- Approximately 9.24 miles southeast of the project site, LACM 1807 produced a mastodon specimen from Pleistocene sediments (NHMLA 2025c; Jefferson 2012).

No paleontological resources were identified within the project site as a result of the institutional records search or desktop geological review. If intact, undocumented paleontological resources are present on site, ground-disturbing activities associated with construction of the project, such as large-diameter (2 feet or greater) drilling, grading during site preparation, and trenching for utilities have the potential to destroy a unique paleontological resource or site. As such, the project site is considered to be potentially sensitive for paleontological resources at depth, and without mitigation, the potential damage to paleontological resources during construction associated with the project is considered a potentially significant impact. Given the proximity of past fossil discoveries in the surrounding area and potential for underlying Pleistocene-age alluvial deposits, these sedimentary deposits within the project area are considered to be highly sensitive for supporting paleontological resources. With implementation of MM-GEO-1, Paleontological Monitoring (see "Mitigation Measures" subsection below), impacts would be reduced to less than significant with mitigation incorporated.

## Mitigation Measures

MM-GEO-1 Paleontological Monitoring. Prior to commencement of grading activity within Pleistocene-age alluvial deposits, the City shall retain a qualified paleontologist per the 2010 Society of Vertebrate Paleontology guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program for the project, which shall be consistent with the 2010 Society of Vertebrate Paleontology guidelines. The Paleontological Resources Impact Mitigation Program shall outline requirements for pre-construction meeting attendance and worker environmental awareness training, where monitoring is required within the project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting and a paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities in previously undisturbed, fine-grained Pleistocene age alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery shall be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Any costs for laboratory work and curation fees at an accredited fossil repository in case of fossil recovery are the responsibility of the City of Pasadena.

# 3.8 Greenhouse Gas Emissions

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **VIII. GREENHOUSE GAS EMISSIONS** – Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

***and***

***b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

Less-Than-Significant Impact. Greenhouse gases (GHGs) are those that absorb infrared radiation (i.e., trap heat) in the Earth's atmosphere. The trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere) is referred to as the "greenhouse effect" and is a natural process that contributes to the regulation of the Earth's temperature, creating a livable environment on Earth. The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. Human activities that generate and emit GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. This rise in temperature has led to large-scale changes to the Earth's system (e.g., temperature, precipitation, wind patterns), which are collectively referred to as climate change. Global climate change is a cumulative impact: a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include $CO_2$, methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride ($SF_6$), and nitrogen trifluoride ($NF_3$) (see also CEQA Guidelines Section 15364.5). The primary GHGs that would be emitted by project-related construction and operations include $CO_2$, $CH_4$, and $N_2O$.[7]

[7] Emissions of HFCs, PFCs, $SF_6$, and $NF_3$ are generally associated with industrial activities, including the manufacturing of electrical components and heavy-duty air-conditioning units and the insulation of electrical transmission equipment (substations, power lines, and switch gears). Therefore, emissions of these GHGs were not evaluated or estimated in this analysis because the project would not include these activities or components and would not generate HFCs, PFCs, $SF_6$, or $NF_3$ in measurable quantities.

The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The reference gas used is $CO_2$; therefore, GWP-weighted emissions are measured in MT of $CO_2$ equivalent ($CO_2e$). The current version of CalEEMod assumes that the GWP for $CH_4$ is 25 MT $CO_2e$ (so emissions of 1 MT of $CH_4$ are equivalent to emissions of 25 MT of $CO_2$), and the GWP for $N_2O$ is 298 MT $CO_2e$, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

### Consistency with the Pasadena Climate Action Plan

The Pasadena Climate Action Plan (CAP) was adopted on March 5, 2018, and intends to analyze GHG emissions at a programmatic level, outline a strategy to reduce and mitigate municipal and communitywide GHG emissions, demonstrate Pasadena's commitment to achieving the statewide emissions reduction targets, and serve as a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5 (City of Pasadena 2018). The CAP Consistency Checklist in Appendix D to the CAP (City of Pasadena 2017a) is intended to be used as a tool to determine a project's consistency with the CAP. Projects that meet the requirements of the CAP Consistency Checklist would be deemed consistent with the CAP and would be found to have a less-than-significant contribution to cumulative GHGs (i.e., the project's incremental contribution to cumulative GHG effects would not be cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b).

One of three options in Step 3 of the CAP Consistency Checklist can be used to determine consistency with the CAP (City of Pasadena 2017a). Option A requires that the project incorporate sustainable development actions listed in the CAP Consistency Checklist; Option B requires that the project demonstrate consistency with the applicable service person GHG efficiency threshold; and Option C requires that the project achieve net zero GHG emissions.

Option A, which requires that the proposed project incorporate the applicable Sustainable Development Actions as outlined in the CAP Consistency Checklist to ensure that the project contributes to the City's cumulative GHG reduction goals, was deemed to be the most applicable for the proposed project. The CAP Consistency Checklist was intended to be a tool for new development projects; therefore, many of the Sustainable Development Actions identified therein are not directly applicable to the proposed project, which is primarily a stormwater capture infrastructure project. Nonetheless, Table 12 details the project's consistency with the applicable actions as identified in the CAP Consistency Checklist.

**Table 12. Project Consistency with City CAP Consistency Checklist Option A Sustainable Development Actions**

| GHG Reduction Strategy | Sustainable Development Actions | Project Consistency |
|---|---|---|
| **Mandatory Actions** | | |
| T-1.2: Continue to improve bicycle and pedestrian safety | Bicycle Storage: Does the project provide bicycle storage lockers, racks, or other bicycle storage facilities for residents/employees? | **Not applicable.** The project would not involve residents or full-time employees. The site would be visited by nearby residents and periodically by maintenance staff. Nonetheless, bike racks would be provided on site for visitors and staff. |

## Table 12. Project Consistency with City CAP Consistency Checklist Option A Sustainable Development Actions

| GHG Reduction Strategy | Sustainable Development Actions | Project Consistency |
|---|---|---|
| T-3.1: Decrease annual commuter miles traveled by single occupancy vehicles | Transportation Demand Management (TDM): Does the project include a TDM plan? A TDM plan is required for the following projects: multifamily residential development that are 100 or more units; mixed-use developments with 50 or more residential units or 50,000 square feet or more of non-residential development; or non-residential projects which exceed 75,000 square feet. | **Not applicable**. The project does not meet the criteria for a TDM plan. |
| T-4.1: Expand the availability and use of alternative fuel vehicles and fueling infrastructure | Alternative Vehicle Fueling Wiring: For projects with more than three parking spaces, does the project provide wiring for at least one 240V Type II electric car charger? | **No conflict.** The project features two small parking areas, which would include wiring for at least one 240-volt Type II electric car charger to accommodate electric vehicle access. |
| E-1.2: Encourage the use of energy conservation devices and passive design concepts that make use of the natural climate to increase energy efficiency | Passive Design Features: Does the project utilize passive design techniques such as awnings or overhangs on the east, west, and south facing windows which block the high summer sun but allow in lower winter sun? | **Not applicable.** The project would not include building space and would include only passive outdoor areas for visitors; therefore, the energy efficiency design features would not be applicable to the project. |
| WC-1.1: Reduce potable water usage throughout Pasadena | Irrigation Efficiency: Will the project utilize drought tolerant landscaping and/or drip irrigation and/or weather controllers to reduce outdoor water use? | **No conflict.** The project's design is intended to limit outdoor water consumption. Landscaping would feature native and drought-tolerant plant species. New landscape areas would be irrigated through a combination of low-water drip and rotary irrigation at the surface level, connected to a typical irrigation controller and valve system, via swales and ponds filled with water from Eaton Wash. Riparian plant communities would be irrigated via swales and ponds, with water redirected from the wash, and via stormwater during rain events. |
| WR-1.1: Continue to reduce solid waste and landfill GHG emissions | Facilitate Recycling: Does the project include a space for separate trash and recycling bins as well as provide informational signage/handouts for residents/employees outlining materials to be recycled? | **Not applicable**. The project would not include buildings or involve residents or employees. The project would not result in appreciable long-term solid waste generation. |

## Table 12. Project Consistency with City CAP Consistency Checklist Option A Sustainable Development Actions

| GHG Reduction Strategy | Sustainable Development Actions | Project Consistency |
|---|---|---|
| **Selective Actions – Energy Efficiency and Conservation** | | |
| E-1.1: Increase energy efficiency requirements of new buildings to perform better than 2016 Title 24 Standards | Zero-Net Energy (ZNE): Does the project generate 100% of electricity required on site? | **Not applicable.** Because the project would not include building space, it would not be subject to Title 24 standards or the energy efficiency and conservation measures described in E-1.1 and E-4.1. Further, the project would not be a significant long-term source of energy consumption. |
| | Energy Efficiency (Exceed 2016 Title 24): Does the project exceed the 2016 Title 24 Efficiency Standards by at least 5%? | |
| E-4.1: Increase city-wide use of carbon-neutral energy by encouraging and/or supporting carbon-neutral technologies | Renewable Energy: Does the project generate at least 60% of the building's projected electricity needs through renewable energy? | |
| **Selective Actions – Sustainable Mobility and Land Use** | | |
| T-5.1: Facilitate high density, mixed-use, transit-oriented, and infill development | Transit Oriented Development: Is the project located within 0.25 mile of a major transit stop as defined in the Zoning Code? | **Not applicable.** The project is located within 0.25 miles of a bus stop at East Del Mar Boulevard and Kinneloa Avenue that services Los Angeles County Metropolitan Transportation Authority Line 267 and Pasadena Transit Route 60. The project proposes infrastructure and park amenities that are not the focus of this CAP development action. |
| **Selective Actions – Water Conservation** | | |
| WC-2.1: Increase access to and use of non-potable water | Rainwater Capture and Reuse: Does the project utilize a rainwater capture and reuse system to reduce the amount of potable water consumed on site? | **No conflict.** The project would not represent a major long-term source of potable water consumption, as landscaping of the site would primarily feature native and drought-tolerant species that require minimal watering. |
| WC-3.1: Improve storm water to slow, sink, and treat water run-off, recharge groundwater, and improve water quality | Permeable Surfaces: Is at least 30% of the hardscape (e.g., surface parking lots, walkways, patios, etc.) permeable to allow infiltration? | **No conflict.** The project would feature minimal hardscape to accommodate the small parking areas. The parking areas would be paved with permeable and open cell pavers to maximize groundwater recharge. The project would also include biofiltration basins with underdrains to capture surface site runoff. |

## Table 12. Project Consistency with City CAP Consistency Checklist Option A Sustainable Development Actions

| GHG Reduction Strategy | Sustainable Development Actions | Project Consistency |
|---|---|---|
| WC-3.1: Improve storm water to slow, sink, and treat water run-off, recharge groundwater, and improve water quality | Stormwater Capture: Is the project designed to retain stormwater resulting from the 95th percentile, 24 hour rain event as defined by the Los Angeles County 95th percentile precipitation isohyetal map? | **No conflict.** The project directly supports the strategy to improve stormwater management and water quality, with the primary purpose of reducing pollutants in the Rio Hondo/Upper Los Angeles River Watershed. |
| **Selective Actions – Urban Greening** | | |
| UG-1.1: Continue to preserve, enhance, and acquire additional green space throughout Pasadena to improve carbon sequestration, reduce the urban heat-island effect, and increase opportunities for active recreation | Greenspace: Does the project include at least 500 sq. ft. of public use greenspace (landscaped yards, parklets, rooftop garden, etc.)? At a minimum, 50% of the required greenspace must include softscape landscaping (e.g., trees, plants, grass, etc.). | **Not conflict.** The project would include the development of existing unused property into passive recreational and educational spaces for the community. These proposed amenities include both a community garden and a pollinator garden, an aboveground water feature, a dog park, a riparian garden, an outdoor classroom, and new native vegetation. |
| UG-2.1: Continue to protect existing trees and plant new ones to improve and ensure viability of Pasadena's urban forest | Trees: Does the project result in a net gain of trees? Please include these specifications on the project plans. | **No conflict.** The project would result in a net gain of 449 trees, including native vegetation, and would add to Pasadena's urban forest. |

**Source:** City of Pasadena 2017a.

As demonstrated in Table 12, the project incorporates several of the GHG reduction strategies that are applicable to the project; therefore, the project is considered consistent with the City's CAP Consistency Checklist via Option A and thus with the CAP. Therefore, the project is also deemed to be consistent with the GHG reduction targets established under AB 32 and Senate Bill 32.

Because the City's CAP does not consider the statewide GHG reduction target established under AB 1279, an additional discussion of the project's consistency with the 2022 CARB Scoping Plan is included below.

### Consistency with the 2022 CARB Climate Change Scoping Plan

CARB adopted the 2022 Scoping Plan in December 2022. The 2022 CARB Scoping Plan outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward achieving GHG reduction goals by 2030. Per the Legislative Analyst's Office, the 2022 CARB Scoping Plan identifies a more aggressive 2030 GHG goal. As it relates to the 2030 goal, perhaps the most significant change in the 2022 Scoping Plan (compared to previous Scoping Plans) is that it identifies a new GHG target of 48% below the 1990 level, compared to the current statutory goal of 40% below. Current law requires the state to reduce GHG emissions by at least 40% below the 1990 level by 2030, but it does not specify an alternative goal. According to CARB, a focus on the lower target is needed to put the state on a path to meeting the newly established 2045 goal, consistent with the overall path to 2045 carbon

neutrality. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemicals and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel-fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options, such as green hydrogen (CARB 2022).

Overall, the proposed project would comply with all regulations adopted in furtherance of the 2022 Scoping Plan to the extent applicable and required by law. Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production.

Based on the above considerations, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, nor would it conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts would be less than significant.

# 3.9 Hazards and Hazardous Materials

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **IX. HAZARDS AND HAZARDOUS MATERIALS** – Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | ☐ | ☐ | ☐ | ☒ |

***a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

Less-Than-Significant Impact. Relatively small amounts of commonly used hazardous substances such as gasoline, diesel fuel, lubricating oil, adhesive materials, grease, solvents, and architectural coatings would be used during construction. Operation and maintenance of the project would also require routine use of common hazardous substances. These materials are used routinely throughout urban environments for construction projects and operation of utility infrastructure. These materials would be transported and

handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. With adherence to federal, state, and local regulations, impacts associated with routine transport, use, and disposal of hazardous materials would be less than significant.

*b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less-Than-Significant Impact. As discussed in Section 3.9(a), construction and operation would involve relatively small amounts of commonly used hazardous substances such as gasoline, diesel fuel, lubricating oil, grease, adhesive materials, and solvents. These materials are not considered acutely hazardous and are used routinely throughout urban environments for both construction and operation of projects. Further, these materials would be transported, handled, and disposed of in accordance with all federal, state, and local laws regulating the management of spill prevention and spill response related to hazardous materials. Impacts would therefore be less than significant.

*c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less-Than-Significant Impact. Three schools are located within 0.25 miles of the project site: Willard Elementary School, located at 301 Madre Street, and Wilson Middle School and Rose City High School, co-located at 300 Madre Street. Construction and operation of the proposed project would involve relatively small amounts of commonly used hazardous substances such as gasoline, diesel fuel, lubricating oil, grease, adhesive materials, and solvents. These materials are used routinely throughout urban environments for construction projects and would not pose a significant risk to the public or environment. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials.

Additionally, potential health impacts related to construction air emissions are analyzed in Section 3.3, Air Quality, of this IS/MND. MM-AQ-1, Fugitive Dust Control During Construction, and MM-AQ-2, Construction Equipment Emissions Reductions, which require additional site watering and construction equipment emissions reductions (refer to Section 3.3[c] for full text of these mitigation measures), would be incorporated into project construction. As such, impacts would be less than significant.

*d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. According to the California Department of Toxic Substances Control EnviroStor database, no hazardous materials sites or facilities are located within or adjacent to the project site. The nearest identified active site is Kinneloa Avenue Property, a Voluntary Cleanup Site, located approximately 0.20 miles north of the project site (DTSC 2025). Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List. The SWRCB GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any sites or facilities within or adjacent to the project site. The nearest identified site with an open site assessment status is the Goodwill Auto Repair (T0603705548), a Leaking Underground Storage Tank Cleanup Program Site, located approximately

0.70 miles southeast of the project site (SWRCB 2025). These hazardous materials sites are located at adequate distances from the project site, such that they would be of no concern to present a worker hazard for construction crews. Therefore, no impact would occur.

*e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. The project site is approximately 5 miles north of the San Gabriel Valley Airport; 6 miles northwest of the RC Airplane Airport at Santa Fe Dam, Irwindale, California; 16.2 miles southwest of the Hollywood Burbank Airport; and 22 miles northeast of the Los Angeles International Airport. The project site does not fall within the airport land use plan for any of these airports and it is not located within 2 miles of a public use airport. Therefore, no impact would occur.

*f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less-Than-Significant Impact. The City has prepared a Draft Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan is a document that contains information to assist communities in reducing risk from hazards by identifying resources, information, and strategies for risk reduction (City of Pasadena 2025c). Construction equipment, vehicles, and material would be staged and stored overnight on the project site with adequate site security. Construction staging for the underground storage reservoir modules would be located off site at the Kinneloa Yard or the City-owned property south of the Vina Vieja Dog Park, and the modules would remain on staged delivery truck beds until ready to be installed. Full or partial closures of any public roads for project construction are not anticipated. If temporary closures of Millicent Way or adjoining roadways are required for project construction, the temporary closures would be performed pursuant to a traffic control plan prepared by the contractor and subject to City approval, which would demonstrate that emergency response and evacuation would not be impeded. Traffic would revert to existing conditions upon completion of the project. Because the proposed project would be uninhabited, future emergency response and evacuation planning would not change from current conditions. Impacts would be less than significant.

*g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

No Impact. According to the California Department of Forestry and Fire Protection (CAL FIRE), the project site is not located within a Local Responsibility Area and is not located within a Very High Fire Hazard Severity Zone (City of Pasadena 2025d; CAL FIRE 2025). In the event of an emergency, fire response services for the project would be provided by the Los Angeles Couty Fire Department. Construction and operation of the project would comply with Chapter 14.28 of the PMC, which adopts the California Fire Code by reference. The project would not include structures intended for long-term occupancy or include development that could exacerbate fire risk. The project's design process would improve the site's fire safety by implementing fire-safe landscaping measures, such as selecting plant species that are more fire resistant, spacing plantings, and maintaining irrigation at a level that prevents plants from thoroughly drying out in the summer. Furthermore, the project site is relatively flat and the proposed project would not alter land on the project site; therefore, it would not influence prevailing winds or other factors that could exacerbate wildfire risk. As such, people and structures would not be exposed to a significant risk of loss, injury, or death involving wildfires. No impact would occur.

# 3.10 Hydrology and Water Quality

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **X. HYDROLOGY AND WATER QUALITY** – Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| i) result in substantial erosion or siltation on- or off-site; | ☐ | ☐ | ☒ | ☐ |
| ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | ☐ | ☐ | ☒ | ☐ |
| iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | ☐ | ☐ | ☒ | ☐ |
| iv) impede or redirect flood flows? | ☐ | ☐ | ☒ | ☐ |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☐ | ☒ |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

Less-Than-Significant Impact. The project site is located within the boundaries of the ULAR. The ULAR EWMP outlines water quality objectives. The City of Pasadena and ULAR Watershed Management Group have identified the project as a critical project contributing to the compliance goals as set in the ULAR EWMP. Additionally, the 2021 Pasadena Stormwater Master Plan identified an Eaton Wash project site as a high-priority location to help the City achieve its pollutant load reduction compliance in the ULAR and Rio Hondo Watersheds.

Construction of the project would involve ground-disturbing activities for grading that could result in sediment discharge in stormwater runoff. Additionally, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. These potential sediment and chemical discharges during construction would have the potential to impact water quality in receiving water bodies. However, because the proposed project would disturb more than 1 acre of land, the project would be required to prepare and implement a SWPPP, which would include water quality BMPs to ensure that water quality standards are met and that runoff from the construction work areas does not cause degradation of water quality in receiving water bodies. The SWPP would also include the off-site construction staging areas located at the Kinneloa Yard or the City-owned property south of the Vina Vieja Dog Park. Through the incorporation of BMPs and implementation of SWPPP requirements, impacts associated with water quality standards during construction would be less than significant.

The purpose of the project is to decrease the amount of pollutants in stormwater and dry-weather runoff entering the Eaton Wash and the Rio Hondo River, improving local and regional water quality. The project would be implementing identified improvements in the ULAR EWMP for pollution reduction. Upon operation, existing stormwater flows would be diverted and treated prior to infiltration and/or discharge, resulting in water quality benefits compared to existing conditions. Additionally, runoff from the dog park would be conveyed into a biofiltration basin north of the dog park (see Figure 4) for treatment before it eventually discharges to the infiltration gallery or the post-treatment filter and ultimately the Eaton Wash Channel. Untreated runoff from the dog park would not be discharged directly into the channel. Ongoing maintenance and sampling would ensure that the project is performing as expected in terms of stormwater treatment. Therefore, adverse impacts during operation would be less than significant.

*b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less-Than-Significant Impact. Groundwater was not encountered during subsurface exploration to the explored depths of up to approximately 51.5 feet below ground surface (Ninyo & Moore 2025). The project would include the installation of an underground storage reservoir that would connect to existing storm drains to collect stormwater and would facilitate infiltration of captured stormwater, allowing water to seep into the underlying aquifer and providing natural filtration through the soil. In this way, the project would increase groundwater recharge in areas under the park. The project would not otherwise result in a substantial change in impervious surfaces that would affect groundwater infiltration. The park facilities, as described in Section 2.2.2, Park Improvements, include surface stormwater components, such as an overflow channel leading to a bioswale, riparian planting, and a basin to hold water during storm events, which would collect water flowing across any impervious surfaces and help with groundwater infiltration. Additionally, the project would not entail temporary or permanent use of groundwater and thus would not deplete groundwater in the project vicinity Additionally, the pervious bottom of the storage reservoir would allow for recharge of the Raymond Basin, the groundwater aquifer underlying the project site. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge; impacts would be less than significant.

*c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

*i) Result in substantial erosion or siltation on- or off-site;*

*or*

*ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;*

*or*

*iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*

*or*

*iv) Impede or redirect flood flows?*

Less-Than-Significant Impact. The project would not substantially alter existing drainage patterns, including streams or river courses. Construction of the project would entail temporary earthwork to excavate and install the storage reservoir and associated infrastructure. Implementation of the project-specific SWPPP, including BMPs, would prevent substantial erosion and siltation of exposed soils during construction activities. Once construction of the stormwater infrastructure is complete, park facilities, as described in Section 2.2.2, intended to feature nature-based recreational and educational elements would be installed at a site that once housed similar uses.

In operation, the intent of the project is to capture and divert stormwater flows, which would be directed to the underground system and therefore would not result in substantial erosion, siltation, or runoff. Operation of the stormwater infrastructure would improve the stormwater system because it would improve storage and filtration capabilities, which would reduce pollution of stormwater runoff. The project would not result in a substantial change in impervious surfaces within the project site. The park facilities, as described in Section 2.2.2, include surface stormwater components, such as an overflow channel leading to a bioswale, riparian planting, and a basin to hold water during storm events, which would collect water flowing across any impervious surfaces. Additionally, runoff from the dog park would be conveyed into a biofiltration basin for treatment before it eventually discharges to the infiltration gallery or the post-treatment filter and ultimately the Eaton Wash Channel. Therefore, implementation of the project would not substantially alter the existing drainage pattern of the site or area in a way that would cause substantial erosions, flooding, polluted runoff, or changes to flood flows. Impacts would be less than significant.

*d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

No Impact. According to Federal Emergency Management Agency (FEMA) flood maps, the project site is located in a Flood Zone X. The western portion of the project site is mapped as an "area of minimal flood hazard" and the eastern portion of the site is mapped as an "area with reduced flood risk due to levee" (FEMA 2008). Additionally, the project site is not located within a tsunami inundation zone and seiches do not pose a hazard to the project site (DOC 2025c). The project would include the construction of a stormwater capture and treatment facility, which would improve the water quality of the Eaton Wash, which flows downstream to the Rio Hondo River, then the Los Angeles River, and, ultimately, the Pacific Ocean. As discussed in Section 3.10(a), the project would involve preparation of a SWPPP, which would include water quality BMPs to ensure that water quality standards are met and that runoff from the construction

work areas would not cause degradation of water quality in receiving water bodies. Upon completion of construction, the project would not require the storage of pollutants that, in the event of inundation, could be released. During larger storm events that fill up the reservoir, water would flow into an outlet pipe and post-treatment filter system, providing additional pollutant removal prior to discharging water back into the Eaton Wash Channel. The water discharged back into Eaton Wash Channel would be similar to existing flow conditions except the water would be pre-treated. Therefore, no impact associated with the risk of release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone would occur.

*e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less-Than-Significant Impact. As discussed in greater detail in Chapter 1, Introduction, the proposed project is a critical component of the City's approach to meeting regional pollutant load reduction goals. The project would include runoff storage and water quality benefits for the City and other ULAR members, helping to achieve City Stormwater Master Plan goals and MS4 Permit compliance. As such, the project would implement the applicable water quality control plan for the region. As discussed previously, the project would allow for infiltration into the underlying soils and would not interfere with groundwater supplies. Therefore, the project would not conflict with a water quality control plan or sustainable groundwater management plan and impacts would be less than significant.

# 3.11 Land Use and Planning

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XI. LAND USE AND PLANNING** – Would the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |

***a) Would the project physically divide an established community?***

No Impact. The proposed project would be located on a City-owned property east of the Eaton Wash Channel that is vacant and disturbed. The site is in a developed part of the City that primarily features single-family residences and institutional uses. Institutional uses include an urgent care clinic abutting the site to the north, and to the northeast of the site, the Boys & Girls Club, Willard Elementary School, CALRegional Pasadena adult education center, and a church. The project would not create a physical division of an existing community, such as could occur with the development of a freeway or large linear infrastructure project. The project would entail constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park. Therefore, the project would not result in the removal of an existing means of access, such as a road or bridge, that would impede mobility between an existing community and other areas. No impact would occur.

***b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

No Impact. The project site within the City is designated as Open Space on the City Land Use Diagram (City of Pasadena 2025a) and is zoned as Open Space and Public, Semi-Public on the City Zoning Map (City of Pasadena 2025b). The project site within unincorporated LA County is designated as Public and Semi-Public in the County's Land Use Policy (County of Los Angeles 2014) and is zoned as R-1 Single Family Residence in the County's Zoning Map (County of Los Angeles 2025). The project would entail constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park. Upon completion, the project site would be available to the public for recreational use of the park. Implementation of the project would not result in a change to land uses. Potential environmental impacts associated with the implementation of the project are analyzed throughout this IS/MND. The project will incorporate applicable mitigation measures (see Sections 3.3, Air Quality; 3.4,

Biological Resources; 3.5, Cultural Resources; 3.7, Geology and Soils; 3.9, Hazards and Hazardous Materials; and 3.13, Noise) to reduce environmental impacts. Therefore, the project would not be in conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, no impact would occur.

# 3.12 Mineral Resources

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XII. MINERAL RESOURCES** – Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

***a)*** ***Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?***

***and***

***b)*** ***Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?***

No Impact. The project site is located in a developed and urban area. The City's General Plan does not identify any mineral recovery sites within the City (City of Pasadena 2012). Therefore, the project would not result in any loss of availability of a known mineral resource or locally important mineral resource recovery site, and no impact would occur.

# 3.13 Noise

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XIII. NOISE** – Would the project result in: | | | | |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☒ | ☐ | ☐ |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

This section is based on technical analysis conducted by Dudek, including quantitative predictions of noise emissions based on assumptions developed in consultation with the project design engineers. The results of the noise prediction modeling are provided as Appendix F, Noise Modeling Inputs and Outputs, to this IS/MND.

The majority of the project site is in the southeastern portion of the City with a small portion of the project site, and off-site residences adjacent to the site, falling within unincorporated LA County. The site is in a developed part of the City that primarily features single-family residences and institutional uses. Institutional uses include an urgent care clinic abutting the site to the north, and to the northeast of the site, the Boys & Girls Club, Willard Elementary School, CALRegional Pasadena adult education center, and a church. The urgent care clinic facility is within the City-owned parcel and Exer Urgent Care leases the land for their use.

Represented by locations ST1, ST2, ST3, and ST4 in Table 13 and on Figure 3.13-1, Baseline Sound Pressure Level Measurement Locations, the existing outdoor ambient sound environment of the project location was sampled during a field survey conducted on June 26, 2025. These ambient noise monitoring locations are intended to be representative of the existing single-family residences and noise-sensitive institutional land uses adjoining project area. Collected sample sound pressure level measurements at these locations, along with documented investigator observations regarding perceived or witnessed acoustic contributors to this baseline or pre-project noise environment, also appear in Table 13. Photographs, tagged survey positions, and instrument details are provided in Appendix F.

## Table 13. Measured Samples of Existing Outdoor Ambient Sound Level

| Survey Position | Location | Time | $L_{eq}$ (dBA) | $L_{max}$ (dBA) | $L_{90}$ (dBA) | Notes (Perceived Sound Sources) |
|---|---|---|---|---|---|---|
| ST1 | 34.141076°, −118.085894° | 10:16 a.m.–10:31 a.m. | 49 | 60 | 45 | Traffic, birds, distant conversations, distant dog barking, distant landscape noise, rustling leaves |
| ST2 | 34.141480°, −118.085022° | 09:51 a.m.–10:06 a.m. | 47 | 63 | 43 | Traffic, birds, distant landscaping, rustling leaves |
| ST3 | 34.140402°, −118.083051° | 10:58 a.m.–11:13 a.m. | 48 | 59 | 44 | Traffic, birds, distant conversations, rustling leaves |
| ST4 | 34.140259°, −118.084695° | 10:33 a.m.–10:48 a.m. | 44 | 51 | 42 | Traffic, birds, distant conversations, rustling leaves |

**Source:** Appendix F.
**Notes:** $L_{eq}$ = energy equivalent sound level (time-averaged sound level); dBA = A-weighted decibels; $L_{max}$ = maximum sound level during the measurement interval; $L_{90}$ = sound level exceeded 90% of the time.

The measured outdoor energy equivalent sound level ($L_{eq}$) values presented in Table 13 range from 44 to 49 A-weighted decibels (dBA) and are consistent with expectations for the environment based on the distance to roadways, such as Del Mar Boulevard.

### Regulatory Setting and Thresholds of Significance

#### City of Pasadena Municipal Code

PMC Chapter 9.36 includes noise restrictions (Noise Ordinance). According to PMC Section 9.36.050 (General noise sources), it is unlawful for any person to create, cause, or make or continue to make or permit to be made or continued any noise or sound that exceeds the ambient noise level at the property line of any property by more than 5 decibels (dB; City of Pasadena 2017b).

PMC Section 9.36.060 addresses multifamily residential properties. According to this section of the PMC, it is unlawful to produce sounds at a level greater than those shown in Table 1 of PMC Section 9.36.060 (presented below as Table 14) when measured inside any dwelling unit on the same property or 20 feet from the outside of the source dwelling unit (City of Pasadena 2017b).

## Table 14. Interior Noise Standard

| Time Interval | Interior Noise Standard (dBA) |
|---|---|
| 7:00 a.m. to 10:00 p.m. | 60 |
| 10:00 p.m. to 7:00 a.m. | 50 |

**Source:** City of Pasadena 2017b.
**Notes:** dBA = A-weighted decibel.

Noise impacts from construction and stationary sources are regulated through PMC Section 9.36.070, (Construction Projects), which limits typical construction hours in a residential district or within 500 feet of a residential district to certain hours depending on the day. On weekdays (Monday through Friday), allowable construction hours are from 7:00 a.m. to 7:00 p.m. On Saturdays, construction can occur between 8:00 a.m. and 5:00 p.m. On Sundays and holidays, construction is prohibited (City of Pasadena 2017b).

In addition to construction hour restrictions, PMC Section 9.36.080 further restricts the noise level of powered construction equipment to no more than 85 dBA when measured at 100 feet from the equipment. PMC Section 9.36.090 also forbids "any person to operate any machinery, equipment, pump fan, air condition apparatus, or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 dB" (City of Pasadena 2017b).

### Los Angeles County Noise Regulations

Section 12.08.440 of the LA County Code of Ordinances addresses construction noise restrictions. Construction activity is prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturday and all day on Sundays, in cases where the noise would create a disturbance across a residential property line. For single-family residences, that disturbance noise level overnight is defined as greater than 50 dBA (for construction with a duration greater than 10 days). For construction lasting less than 10 days, or when "mobile" construction equipment is in use, the daytime (i.e., between 7:00 a.m. and 7:00 p.m.) limit for noise exposure at a single-family residential property affected by the construction noise is 75 dBA. For construction lasting longer than 10 days, or when "stationary" construction equipment is in use, the daytime limit for noise exposure at a single-family residential property affected by the construction noise is 60 dBA (County of Los Angeles 1978).

With respect to sources of groundborne vibration, such as the operation of installed electro-mechanical equipment on a site, the LA County Code (Section 12.08.560) also specifies that operating or permitting the operation of any device that creates vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way, is prohibited. The LA County Noise Regulations were used to assess noise impacts at the unincorporated LA County residence along Thorndale Road, the nearest noise sensitive receptor, east of the project site.

*a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

#### Construction

Less-Than-Significant Impact with Mitigation Incorporated. Construction of the project would result in the temporary generation of noise at the project site. Construction would involve the use of heavy equipment and machinery, such as excavators, loaders, cranes, temporary generators, scrapers, and other equipment. Construction would generate levels of noise that can vary from hour to hour and day to day depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 15 provides a list of the sound levels generated by various powered equipment that could be associated with construction of the project, measured at a distance of 50 feet, using a "slow" response time constant (1 second). Sound source information was obtained from the Noise Source Database developed under National Cooperative Highway Research Program 25-49 (NCHRP 25-49), Development of a Highway Construction Noise Prediction Model (NASEM 2022).

## Table 15. Sound Levels of Typical Construction Equipment

| Equipment | Maximum Sound Level (dBA $L_{max}$) at 50 Feet from Source | Energy Equivalent Sound Level (dBA $L_{eq}$) at 50 Feet from Source |
|---|---|---|
| Air compressor | 67 | 66 |
| Aerial lift (man lift) | 73 | 72 |
| Backhoe | 84 | 76 |
| Compactor (plate) | 75 | N/A |
| Compactor (roller) | 83 | N/A |
| Concrete mixer | 82 | 81 |
| Concrete saw | 88 | 85 |
| Crane, mobile | 76 | 74 |
| Dozer | 86 | 80 |
| Forklift | 88 | N/A |
| Generator | 68 | 67 |
| Grader | 79 | N/A |
| Horizontal bore drill | 88 | 87 |
| Loader | 81 | 72 |
| Paving – asphalt | 83 | N/A |
| Paving – concrete | 88 | 85 |
| Pump | 74 | 73 |
| Scraper | 92 | N/A |
| Flatbed truck | 74 | N/A |
| Welding machine | 72 | 71 |

**Source:** NASEM 2022.
**Notes**: dBA = A-weighted decibel; $L_{max}$ = maximum instantaneous noise level; $L_{eq}$ = energy equivalent sound level; N/A = not applicable: equipment without energy equivalent sound levels ($L_{eq}$) are non-stationary and best represented only by maximum instantaneous noise level ($L_{max}$).

Aggregate noise emission from construction activities, broken down by phase, was predicted at the following distances: (1) 100 feet away from construction activities, per PMC Section 9.36.080, and (2) the nearest distance from a single-family residence adjoining the project boundary along Thorndale Road, in unincorporated LA County, to each construction phase area across the project site (i.e., reservoir excavation/construction, pedestrian bridge construction). For the receptor located in unincorporated LA County, per Section 12.08.440 of the LA County Code of Ordinances, construction equipment by phase was separated into "mobile" and "stationary" equipment in Table 15; the City does not require such separation of equipment. The construction activities that are expected to occur, grouped by phase, are shown in Table 3, Construction Scenario Details (Section 3.3, Air Quality).

Using the roster from Table 3 as guidance for input parameters, and as detailed in the worksheets appearing in Appendix F, combined construction noise emissions for each listed phase were predicted with a model that emulates an updated version of the Federal Highway Administration Roadway Construction Noise Model and utilizes its reference sound level data by equipment type (e.g., selected data from Table 15; FHWA 2008). The predicted noise level exposures from the proposed construction activities are summarized in Table 16.

## Table 16. On-Site Construction Noise Model Results Summary

| Construction Phase | Distance to Nearest County NSR (Feet) | Construction Noise at Nearest County NSR[a] (dBA) | | | | Construction Noise at 100 feet from Activity[b] (dBA) | |
|---|---|---|---|---|---|---|---|
| | | Mobile Equipment | | Stationary Equipment | | | |
| | | Phase 1-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] | Phase 1-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] | Phase 8-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] |
| Demolition of project site structures/open space area | 230 | 68 | 63 | N/A | N/A | 77 | 72 |
| Site preparation, clearing and grubbing[c] | 230 | 69 | 73 | 60 | 60 | 79 | 72 |
| Reservoir excavation | 280 | 66 | 61 | N/A | N/A | 77 | 72 |
| Reservoir construction | 625 | 57 | 53 | N/A | N/A | 76 | 72 |
| Installation of pipe, diversion structure, actuated valve, trash trap, pre-treatment unit, and pump | 625 | 54 | 49 | N/A | N/A | 73 | 68 |
| Installation of outlet line, flow control structure, and cartridge filter treatment unit | 625 | 58 | 53 | N/A | N/A | 77 | 72 |
| Pedestrian bridge construction | 670 | 54 | 48 | N/A | N/A | 73 | 67 |
| Project site improvements | 50 | **88** | **82** | N/A | N/A | 79 | 74 |

**Source:** FHWA 2008; Appendix F.
**Notes:** NSR = noise-sensitive receptor; dBA = A-weighted decibels; $L_{eq}$ = energy equivalent sound level; $L_{max}$ = maximum sound level during the measurement interval; N/A = not applicable.
See Appendix F for complete results.
**Bolded values** indicate an exceedance of the applicable significance threshold.

[a] Per Section 12.08.440 of Los Angeles County's Code of Ordinances, the construction noise limit for mobile equipment is 75 dBA $L_{eq}$, or 60 dBA $L_{eq}$ for stationary equipment.
[b] Per PMC Section 9.36.080, the construction noise limit is 85 dBA at 100 feet from construction activities.
[c] Predictive analysis assumes a jackhammer is used behind 4-foot × 8-foot plywood sheeting during construction.
[d] Loudest single piece of equipment for indicated phase.

As presented in Table 16, construction noise during all phases would not exceed 85 dBA at 100 feet. Thus, construction noise is predicted to comply with Section 9.36.080 of the City Municipal Code. Lower levels of noise would also be generated at whichever off site construction staging area is selected for contractor use, both of which are in the City. At these locations nearby residences may perceive occasional noise

generated by deliveries, worker vehicle access, and equipment accessing and moving around the staging areas. Occasional construction traffic would generate noise along the routes travelling between the respective staging area and the construction site, including residential streets. This intermittent construction-related activity would not generate noise levels that would exceed City standards.

With respect to Section 12.08.440 of the LA County Code of Ordinances, operation of stationary construction equipment would comply with the applicable daytime limit of 60 dBA $L_{eq}$ measured over 1 hour ($L_{eq}$[h]), as summarized in Table 16. However, although mobile construction equipment operation would comply with the applicable daytime limit of 75 dBA $L_{eq}$(h) during most phases, the estimated construction noise from mobile equipment exceeds the applicable limit during the project site improvements phase, as illustrated in Table 16. Thus, MM-NOI-1, Temporary Construction Noise Reduction, is recommended and studied in the predictive analysis, which assumes the implementation of a 10-foot-tall temporary noise barrier during the project site improvements phase, strategically placed along the eastern project boundary where the SCE easement adjoins the off-site unincorporated LA County residence along Thorndale Road. Table 17 presents the predicted construction noise levels during the project site improvements phase with the incorporation of MM-NOI-1 (refer to the "Mitigation Measures" subsection at the end of this section for the text of MM-NOI-1).

## Table 17. On-Site Construction Noise Model Results Summary – Mitigated

| Construction Phase | Distance to Nearest County NSR (Feet) | Construction Noise at Nearest County NSR[a] (dBA) | | | | Construction Noise at 100 feet from Activity[b] (dBA) | |
|---|---|---|---|---|---|---|---|
| | | Mobile Equipment | | Stationary Equipment | | | |
| | | Phase 1-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] | Phase 1-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] | Phase 8-hour $L_{eq}$ | Loudest Equipment $L_{max}$[d] |
| Project site improvements | 50 | 73[e] | 67[e] | N/A | N/A | 79 | 74 |

**Notes:** NSR = noise-sensitive receptor; dBA = A-weighted decibels; $L_{eq}$ = energy equivalent sound level; $L_{max}$ = maximum sound level during the measurement interval; N/A = not applicable.
See Appendix F for complete results.

[a] Per Section 12.08.440 of Los Angeles County's Code of Ordinances, the construction noise limit for mobile equipment is 75 dBA $L_{eq}$, or 60 dBA $L_{eq}$ for stationary equipment.
[b] Per PMC Section 9.36.080, the construction noise limit is 85 dBA at 100 feet from construction activities.
[c] Predictive analysis assumes a jackhammer is used behind 4-foot × 8-foot plywood sheeting during construction.
[d] Loudest single piece of equipment for indicated phase.
[e] Assumes installation of 10-foot-tall temporary noise barrier during construction phase/activity, per MM-NOI-1.

MM-NOI-1 would require the City to implement certain noise reduction measures as site conditions warrant. Proper implementation of MM-NOI-1 would reduce noise levels by up to 15 dB if a 10-foot-tall temporary construction noise barrier is implemented during the project site improvements construction phase along the eastern project boundary, which would correspondingly reduce the highest predicted estimated non-mitigated construction noise level from 88 dBA $L_{eq}$ (h) to 73 dBA $L_{eq}$ (h), which would be within the applicable 75 dBA $L_{eq}$(h) threshold for mobile equipment.

With the implementation of MM-NOI-1, estimated construction noise levels are predicted to reach up to 73 dBA $L_{eq}$(h) at the nearest existing residences, located along Thorndale Road at the project site's eastern boundary during site preparation and project site improvements activities. Such levels would be up to 22 dB higher than existing outdoor ambient noise levels measured at ST3, or up to 26 dB higher than those

measured at ST4 (Table 13). Given that these levels are below the City and LA County thresholds, construction-related impacts would be less than significant with mitigation incorporated.

### Operation

Less-Than-Significant Impact. Upon completion of construction, the project would feature underground infrastructure and above-ground park uses. The stormwater capture system would include a pump with powered mechanical systems installed in underground vaults with hatches for personnel access. Noise from the operation of the stormwater capture system would be isolated by the closed access hatch, resulting in negligible noise levels.

The project's park improvements and dog park would introduce increased pedestrian foot traffic to the area. Resulting sound sources may include conversations, children playing, or dogs barking that may be received at off-site residences. These noises are common in an urban setting such as the project location, and such activities would not result in a noticeable change in measured noise levels. Noise from the dog park received at nearby residences would be further minimized by its distance from the residences, approximately 225 feet from the nearest home, it's placement at a slightly lower elevation than the residences, and intervening vegetation, all of which would serve to attenuate sound levels generated by public activity at the park. While noise from increased activity at the site may be noticeable to nearby residences, they would not be considered a significant impact pursuant to CEQA.

On this basis, compared to the measurement samples of $L_{eq}$ presented in Table 13, project operation noise is anticipated to be comparable to or less than the existing outdoor ambient level at the nearest existing homes and thereby to comply with the noise level thresholds set forth in both County and City codes. For these reasons, project operational noise impacts would be less than significant.

### Mitigation Measures

MM-NOI-1 Temporary Construction Noise Abatement. The City shall install noise abatement during the project site improvements phase, strategically placed along (or within, as practical and appropriate) the eastern project site boundary where the SCE easement adjoins the off-site unincorporated LA County residence along Thorndale Road.

Noise abatement shall be in the form of sound blankets or comparable temporary solid barriers to occlude construction noise emission between the site (or specific equipment operation as the situation may define) and the noise sensitive receptor(s) of concern (i.e., where the line-of-sight is blocked). By way of example, suspended sound blankets, field-erected plywood sheeting, or comparable temporary solid or flexible but sufficiently massive barriers (of minimum sound transmission class [STC] rating of 25) would occlude construction noise emission between the site and the noise-sensitive receptor(s) of concern.

During the project site improvements phase of construction, noise abatement in the form of sound blankets or temporary solid barriers must be at least 10-feet in height to achieve on-site noise control and sound abatement that would result in a minimum construction noise reduction of approximately 13 decibels (dB) at the unincorporated LA County residence along Thorndale Road, east of the Southern California Edison (SCE) easement within the project work limits.

In addition to the noise abatement discussed above, the following measures should be considered as supplemental abatement strategies to sufficiently reduce construction noise emission:

A. **Implement administrative controls** (e.g., reduce operating time of equipment and/or prohibit usage of equipment type[s] within certain distances to the nearest receiving occupied off-site property).
B. **Implement engineering controls** (change equipment operating parameters [e.g., speed, capacity], or install features or elements that otherwise reduce equipment noise emission [e.g., upgrade engine exhaust mufflers]).

Appendix F to this IS/MND includes a construction noise prediction worksheet that illustrates a sample scenario of what the anticipated and quantifiable noise reduction effect would be of adding a temporary 10-foot-tall noise barrier to reduce construction noise exposure at the unincorporated LA County residence along Thorndale Road. Such a wall should be strategically located on the eastern project boundary so as to reduce construction noise exposure by occluding direct line of sight between construction activities and the sensitive receptor of concern.

***b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?***

Less-Than-Significant Impact. Vibration is oscillatory movement of mass (typically a solid) over time. Depending on their distances to a sensitive receptor, operation of large bulldozers, graders, loaded dump trucks, or other heavy construction equipment and vehicles on a construction site have the potential to cause high vibration amplitudes.

For purposes of this impact assessment, a vibration velocity level of 0.2 inches per second (ips) peak particle velocity (PPV) is used as the standard for evaluating human annoyance (to perceived groundborne vibration within an occupied structure) and for the potential risk of residential building damage due to "continuous" or frequently occurring groundborne vibration events (Caltrans 2020).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock can be estimated with expressions found in Federal Transit Administration and Caltrans guidance. For example, if a bulldozer were operating as close as 50 feet to the nearest receiving sensitive land use during the demolition or site preparation construction phases, the estimated vibration velocity level would be 0.031 ips, per the equation as follows (FTA 2018):

$$PPV_{rcvr} = PPV_{ref} \times (25/D)^{1.5} = 0.031 \text{ ips } PPV = 0.089 \times (25/50)^{1.5}$$

In the above equation, $PPV_{rcvr}$ is the predicted vibration velocity at the receiver position (i.e., residence), $PPV_{ref}$ is the reference value at 25 feet from the vibration source (the bulldozer), and D is the actual horizontal distance to the receiver from the source.

Based on the identified distance between construction activities and the closest existing residential structures, predicted groundborne vibration velocity PPV values associated with project construction are

below the 0.2 ips PPV threshold for building occupant annoyance and building damage risk. Impacts during construction would therefore be less than significant.

Once operational, the proposed project would not be expected to feature major producers of groundborne vibration. For this reason, project operation impacts from groundborne vibration at off-site receptors would be considered less than significant.

*c)* ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. There are no public airports or private airfields within 2 miles of the project site and the project area is far from any aviation traffic noise contour greater than 65 dBA community noise equivalent level. Construction workers and park users would not be exposed to significant aviation noise levels; therefore, no impact would occur.

# 3.14 Population and Housing

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XIV. POPULATION AND HOUSING** – Would the project: | | | | |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

***a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

No Impact. Construction of the project would result in a temporary direct increase in construction jobs in the area. However, given the relatively small footprint of the project construction and the comparatively short anticipated schedule, the demand for construction employment would likely be met within the existing and future labor market in the City and in the greater Los Angeles County area. If construction workers live outside the City, these workers would likely commute only during the temporary construction period. Operationally, the project does not contain land uses that typically result in direct population growth, such as new homes or large commercial/business centers. The project would improve the existing, vacant site to further serve the existing and anticipated future demand for recreational uses within the City. Additionally, the project is consistent with underlying land use and zoning designations. Therefore, the project would not directly result in substantial unplanned population growth in the area.

The project site is in an area served by existing roads and infrastructure. The project would not include the extension of utility infrastructure, such as sewer lines or roads, into previously undeveloped areas, which could indirectly induce growth. Therefore, the project would not indirectly result in substantial unplanned population growth in the area. No impact would occur.

***b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

No Impact. The project site does not contain any existing housing or provide other means of housing people. The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

# 3.15 Public Services

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XV. PUBLIC SERVICES** – Would the project: | | | | |
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | | | | |
| Fire protection? | ☐ | ☐ | ☐ | ☒ |
| Police protection? | ☐ | ☐ | ☐ | ☒ |
| Schools? | ☐ | ☐ | ☐ | ☒ |
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other public facilities? | ☐ | ☐ | ☐ | ☒ |

***a)*** ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:***

***Fire protection? Police protection? Schools? Parks? Other public facilities?***

No Impact. The project would entail constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park.. As discussed in Section 3.14, Population and Housing, the project would not induce substantial unplanned population growth in the area. Additionally, the project would not result in a substantial increase in the number of emergency calls because the project does not propose uses or components associated with the need for additional fire, police, or emergency medical services. As such, construction, operation, and maintenance of the project would not require new or physically altered facilities associated with fire protection, police protection, schools, parks, or other public facilities. Therefore, no impact would occur.

# 3.16 Recreation

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XVI. RECREATION** | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☒ | ☐ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

Less-Than-Significant Impact. The project would entail developing new public recreation amenities and constructing a pedestrian bridge over the Eaton Wash channel to connect the new features to Eaton Blanche Park. Most of Eaton Blanche Park is expected to remain open to the public during construction, although a part of the park would be closed for construction of the bridge and access path to the bridge. Upon completion of construction, the new facilities would potentially attract new users that would incrementally increase the use of Eaton Blanche Park. However, the scale of the new facilities and the types of activities that would occur at the site are not anticipated to create a significant attraction to new users that would increase the use of Eaton Blanche Park such that physical deterioration of facilities would occur or be accelerated. As such, impacts to recreational facilities would be less than significant.

***b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

Less-Than-Significant Impact. The project would include park improvements at the project site and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park. Most of Eaton Blanche Park is expected to remain open to the public during construction. As discussed in Section 3.14, Population and Housing, implementation of the project would not induce population growth. As such, the project would not require the construction or expansion of recreational facilities. Potential environmental impacts and mitigation measures associated with the implementation of the project, which includes recreational facilities, are analyzed throughout this IS/MND. The project will incorporate applicable mitigation measures (see Sections 3.3, Air Quality; 3.4, Biological Resources; 3.5, Cultural Resources; 3.7, Geology and Soils; 3.9, Hazards and Hazardous Materials; and 3.13, Noise) to reduce environmental impacts. Impacts would be less than significant.

# 3.17 Transportation

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XVII. TRANSPORTATION** – Would the project: | | | | |
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☒ | ☐ |
| d) Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

Less-Than-Significant Impact. The project would not conflict with applicable programs, plans, ordinances, or policies addressing the circulation system, as further discussed below. This includes the City's General Plan Mobility Element (City of Pasadena 2015a); the City's Pedestrian Transportation Action Plan (TAP) (City of Pasadena 2024); the City's Bicycle TAP (City of Pasadena 2015b); and the existing and proposed roadway, pedestrian, bicycle and transit facilities and services in the project area.

## General Plan Mobility Element

The vision of the Mobility Element is to promote a livable community where people can circulate without cars. Consistent with this principle, the Mobility Plan has four primary objectives that guide how the City's transportation system is managed: Promote a livable and economically strong community, encourage non-auto travel, protect neighborhoods by discouraging traffic from passing through neighborhoods, and manage multimodal corridors to improve citywide transportation services (City of Pasadena 2015a).

## City of Pasadena Pedestrian Transportation Action Plan

The City of Pasadena Pedestrian TAP (2024) prioritizes and guides investments to create a safer and more walkable Pasadena. The Pedestrian TAP focuses on the implementation of Pasadena's planning efforts and creates tangible and constructible improvements within the context of the City's built environment. The Pedestrian TAP aims to make walking in the City safer, more comfortable, and more convenient and accessible for pedestrians of all ages and abilities. The primary goals of the Pedestrian TAP include the following: improve conditions for people walking, increase the percentage of walking trips, improve connections to surrounding destinations, and reduce the environmental impacts of driving and the number of miles traveled by people who drive (City of Pasadena 2024).

### City of Pasadena Bicycle Transportation Action Plan

The City of Pasadena Bicycle TAP (2015b) provides specific goals, objectives, actions, and timelines for creating an environment where people can circulate without a car; that significantly increases the number of people who commute by bike and who use a bike for utilitarian trips, fitness, and recreation; and that provides business and economic benefits for the City. The Bicycle TAP provides details for a network of bikeways so that every neighborhood is within 0.25 miles of an effective bicycling route in the north–south and east–west directions. The Bicycle TAP outlines educational, engagement, enforcement, and evaluation strategies designed to increase bicyclist safety by educating both bicyclists and motorists and outlines strategies for funding the program. A Bikeways Analysis and Feasibility Study was conducted to evaluate the possibility of constructing buffered bike lanes, cycle tracks, or bicycle boulevards on specific roadways throughout the City. The Bicycle TAP builds on the feasibility study and lays out an action plan for the installation of buffered lanes, cycle tracks, and bike boulevards along 10 corridors. In addition, it outlines educational, public outreach, and funding strategies (City of Pasadena 2015b).

### Transit, Bicycle, and Pedestrian Facilities

Public transportation in the City is provided by Pasadena Transit, Foothill Transit, Los Angeles Department of Transportation, and the Los Angeles County Metropolitan Transportation Authority (Metro). The nearest transit routes to the project site are Metro Line 267, with service between Altadena, Pasadena, and El Monte via Del Mar Boulevard and Temple City Boulevard, and Pasadena Transit Route 60, with service to the Sierra Madre Villa Metro A Line Station via Del Mar Boulevard. The nearest bus stop to the project site is located at the intersection of East Del Mar Boulevard and Kinneloa Avenue, approximately 0.05 miles north of the project site, servicing Metro Line 267 and Pasadena Transit Route 60. Metro Line 267 operates from approximately 4:45 a.m. to 10:23 p.m. on weekdays, and from 6:00 a.m. to 9:35 p.m. on weekends (Metro 2025). Pasadena Transit Route 60 operates during the AM and PM peak hours on weekdays (City of Pasadena 2025e).

There are numerous bike facilities in the vicinity of the project site, including a Class II bike lane on Kinneloa Avenue between East Foothill Boulevard and East Del Mar Boulevard and a Class II bike lane on Madre Street between East Del Mar Boulevard and Thorndale Road. The City of Pasadena is well served by sidewalks, with relatively few gaps in the sidewalk network. Sidewalks are present along most roads in the vicinity of the site.

### Impact Analysis

The project entails constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park.

#### Construction

The construction phase is expected to cause a temporary, short-term increase in traffic, due to the arrival of construction workers and the delivery of materials and equipment to the site. The total duration of project construction is anticipated to be 22 months, with some phases overlapping. Typical construction work hours would be Monday through Friday, 7:00 a.m. to 7:00 p.m., pursuant to the PMC, with no night work

anticipated. Construction activities would be carried out in compliance with the City's noise and construction regulations, ensuring that heavy equipment is used only during the permitted hours. The project would involve traffic impacts primarily related to construction activities, and these impacts are expected to be temporary.

Regional access to the project site is from I-210, which is approximately 0.4 miles to the north. Direct construction access to the eastern part of the project site would be from Thorndale Road and Grayburn Road, both of which dead-end at existing gates leading to the City property and the SCE right-of-way, along with a maintenance road along the Eaton Wash Channel's eastern bank that connects to East Del Mar Boulevard. Access to the western part of the project site would be via Millicent Way, with a small parking lot connected to Millicent Way. Local construction access would be provided from East Del Mar Boulevard. Construction access would be coordinated with the urgent care facility, or with SCE (for use of their easement), or with LA County Flood Control District (for use of their channel maintenance road). Construction equipment, vehicles, and material would be staged and stored overnight on the project site with adequate site security. Construction staging for the underground storage reservoir modules would be located off site at the Kinneloa Yard or the City-owned property south of the Vina Vieja Dog Park, and the modules would remain on staged delivery truck beds until they are ready to be installed. Delivery trucks from Kinneloa Yard would travel to the project site via South Kinneloa Avenue and East Del Mar Boulevard and delivery trucks from the City-owned property south of the Vina Vieja Dog Park would travel to the project site via Avocado Avenue, Alameda Street, Sierra Madre Villa Avenue / Madre Street, and East Del Mar Boulevard.

Full or partial closures of any public roads for project construction are not anticipated. If temporary closures of Millicent Way or adjoining roadways are required for project construction, the temporary closures would be performed pursuant to a traffic control plan prepared by the contractor and subject to City approval. The traffic control plan would include measures such as identifying the proposed truck routes, minimizing and/or avoiding truck travel during peak hours, and using flaggers for local site access, along with other measures. All lane closures would be performed pursuant to the traffic control plan. With implementation of the traffic control plan, the potential impact on local circulation would be minimized and there would be no changes that would affect the safety and accessibility of the transportation system.

Construction of the stormwater capture facility would entail excavating earthen material. The excavated material would be placed in dump trucks and hauled off site to a licensed landfill or quarry for reuse or disposal. The full extent of the material haul route or routes would be determined by the contractor and the City Public Works Department once a disposal site has been identified. It is anticipated that the local route would follow East Del Mar Boulevard to access Sierra Madre Boulevard (which is a designated City truck route) to connect to I-210, which is a designated state truck route (City of Pasadena 2016). Due to the nominal and temporary increase in construction traffic, any effect on the operations of roadways or the overall circulation system along these roads would be minimal.

The nearest bicycle facility to the project site is a Class II bike lane on Madre Street between East Del Mar Boulevard and Thorndale Road. Metro Line 267 and Pasadena Transit Route 60 are the nearest transit routes to the site, with service on East Del Mar Boulevard and bus stops at the intersection of East Del Mar Boulevard and Kinneloa Avenue. The transit, bicycle, and pedestrian facilities would remain open during construction, and the temporary and minimal VMT increase caused by construction-related traffic would not interfere with existing public transit, bicycle, or pedestrian facilities. Impacts would be less than significant.

### Operations

The park improvements would allow for passive recreation uses, as detailed in Section 2.2.2, Park Improvements. Once the project is constructed, the proposed park would be accessible by pedestrians via the proposed pedestrian bridge across Eaton Wash that connects to Eaton Blanche Park, as well as from the pedestrian path extending from Thorndale Road to the eastern portion of the project site, which would provide access to Willard Elementary School and the Boys & Girls Club. Two small parking lots would be provided. One parking lot would be provided at the north end of the site, which would be accessed from the southeast corner of the urgent care clinic parking lot via East Del Mar Boulevard. The other parking lot would be provided at the east end of the site, which would be accessed from a vehicular access road that extends from Thorndale Road to the project site and would be for maintenance vehicles only.

The project would not include site improvements that would extend into the public right-of-way or interfere with the existing roadway network; interfere with public transit, bicycle, or pedestrian facilities; or impede the construction of new or the expansion of existing facilities in the future. Bicyclist and pedestrian safety would be maintained at existing levels in the area and improvements to the sidewalk along Thorndale Road, adjacent to Willard Elementary School, would improve pedestrian safety. The project would also not severely delay, impact, or reduce the service level of transit in the area. Operation of the project would result in a minor increase in activity at the site that would lead to park users parking vehicles on nearby residential streets; however, public street parking by non-residents is allowable and common in an urban setting such as the project location, and this would be similar to street parking generated by other existing nearby uses, such as Willard Elementary School, Wilson Middle School, and the tennis courts on Madre Street. This increase in parking may be noticeable to residents in the affected area, but would not be considered a significant impact pursuant to CEQA. Additionally, the project would not have an impact on traffic circulation or result in significant changes to the existing transportation network. Consequently, the project would be in compliance with the City's transportation policies, which aim to maintain a safe, integrated, and multi-modal transportation network.

Therefore, the proposed project would not conflict with the circulation policies in the City's General Plan. Impacts would be less than significant.

***b) Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?***

Less-Than-Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. The updated CEQA Guidelines state that "generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts," and define VMT as "the amount and distance of automobile travel attributable to a project." "Automobile" refers to on-road passenger vehicles, specifically cars and light trucks. The Governor's Office of Land Use and Climate Innovation (LCI), formerly known as the Governor's Office of Planning and Research, has clarified in its Technical Advisory on Evaluating Transportation Impacts in CEQA (LCI Technical Advisory) that heavy-duty truck VMT is not required to be included in the estimation of a project's VMT (OPR 2018).

Consistent with the LCI Technical Advisory and pursuant to SB 743, the City's Department of Transportation developed the City of Pasadena Transportation Impact Analysis Guidelines, which adopts VMT as a primary metric for determining transportation impacts for CEQA environmental review and establishes VMT screening criteria and thresholds for evaluating a project's potential impact on VMT (City of Pasadena 2022). Per the City's guidelines, a CEQA transportation analysis shall be conducted for development

projects which satisfy either of the following conditions: 1) a project proposes 50 or more net new residential dwelling units or 2) a project proposes 50,000 or more net new non-residential square feet. The project is not a development project, as defined in the City's guidelines, and does not meet conditions requiring a CEQA transportation analysis. Construction and operations VMT qualitative analyses are discussed below for informational purposes.

### Construction

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The proposed project is not a land use or transportation project and it would not result in a major expansion of Eaton Blanche Park. Therefore, neither Section 15064.3(b)(1) nor Section 15064.3(b)(2) of the CEQA Guidelines apply. Instead, the project would be categorized under Section 15064.3(b)(3), suitable for qualitative analysis and not subject to a quantitative threshold. Furthermore, the City's project size screening criterion (projects generating 110 daily trips or less) is intended to address permanent vehicle trips. Therefore, a qualitative analysis of the project construction is provided.

The project would involve construction that would generate temporary construction-related traffic for approximately 22 months. Even though worker and vendor trips would generate VMT, once construction is completed, the construction-related traffic would cease and traffic would return to pre-construction conditions. Measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction-related VMT. The project construction would be generally consistent with construction activities in terms of the temporary nature of activities, trip generation characteristics, and the types of vehicles and equipment required. The increase in VMT associated with project construction is expected to be temporary and would therefore not cause a significant VMT impact. Impacts would be less than significant.

### Operations

Once construction is complete, project operation is anticipated to entail routine maintenance activities at the stormwater capture facility and park that would be performed by City staff. The park facilities, as described in Section 2.2.2, Park Improvements, would result in a nominal increase in weekday and weekend trips. The project site is near an existing neighborhood park, Eaton Blanche Park, and the intent of the project is to provide passive recreational and educational spaces for the community, continuing the legacy of the project site's historical uses, while also connecting the project site to the developed recreational facilities at Eaton Blanche Park to enhance connectivity and usefulness in the community. Although the park facilities would broaden the recreational opportunities for the residents of Pasadena, the park facilities would continue to serve the local community and are not anticipated to increase VMT. By adding enhanced local recreational opportunities to the community and thereby improving proximity, local-serving projects tend to shorten trips and reduce VMT. The County of Los Angeles Parkland Standards and Classifications define a neighborhood park as having 3–10 acres with a service area of 0.5 miles, which is consistent with the characteristics of the project (County of Los Angeles 2017). Most of the patrons that would utilize the proposed park facilities would be from the surrounding residential neighborhoods, and therefore are not anticipated to increase VMT. Additionally, the project facilities are a neighborhood park and local-serving use; therefore, many visitors are more likely to walk to the site instead of drive. As such, operation of the project would result in a less-than-significant VMT impact.

Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) and 15064.3(b)(3) and impacts would be less than significant.

***c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

## Construction

Less-Than-Significant Impact. The project site is in an established, developed area with direct access to designated local and regional truck routes. Transportation and haul permits would be required from Caltrans and the City of Pasadena for construction truck traffic. The project would not introduce uses (types of vehicles) that are incompatible with existing uses already served by the area's road system during either construction or operations.

Access (ingress and egress) to the site for construction-related traffic (workers and trucks) would primarily be from East Del Mar Boulevard. Construction access would be coordinated with the urgent care facility, or with SCE (for use of their easement), or with LA County Flood Control District (for use of their channel maintenance road). Delivery trucks from Kinneloa Yard would travel to the project site via South Kinneloa Avenue and East Del Mar Boulevard and delivery trucks from the City-owned property south of the Vina Vieja Dog Park would travel to the project site via Avocado Avenue, Alameda Street, Sierra Madre Villa Avenue / Madre Street, and East Del Mar Boulevard. Full or partial closures of any public roads for project construction are not anticipated. If temporary closures of Millicent Way or adjoining roadways are required for project construction, the temporary closures would be performed pursuant to a traffic control plan prepared by the contractor and subject to City approval. All lane closures would be performed pursuant to the traffic control plan. With implementation of the traffic control plan, there would be no changes that would affect the safety and accessibility of the transportation system. Therefore, impacts associated with hazardous design features or incompatible land uses during construction of the project would be less than significant.

## Operations

Less-Than-Significant Impact. Pedestrian access to the site would be provided via the proposed pedestrian bridge across Eaton Wash that connects to Eaton Blanche Park as well as from the pedestrian path extending from Thorndale Road to the eastern portion of the project site, which would provide access to Willard Elementary School and the Boys & Girls Club. Two small parking lots would be provided. One parking lot would be provided at the north end of the site, which would be accessed from the southeast corner of the urgent care clinic parking lot via East Del Mar Boulevard. The other parking lot would be provided at the east end of the site, which would be accessed from a vehicular access road that extends from Thorndale Road to the project site and would be for maintenance vehicles only. The new maintenance vehicular access road extending from Thorndale Road and parking lot entrances would be designed to City standards for sight distance and other safety concerns. There would be no changes to the existing off-site circulation on City roads. Therefore, the project would not substantially increase hazards due to a roadway design feature or introduce incompatible uses during operation of the project. Impacts would be less than significant.

***d) Would the project result in inadequate emergency access?***

## Construction

Less-Than-Significant Impact. The project site is located in an established, developed area with sufficient access for emergency service providers. Emergency access is provided to the project site via existing roads, and the project would include a 12-foot-wide road that provides maintenance access to the stormwater capture system's hatches and fire truck/emergency vehicle circulation. Full or partial closures of any public roads for project construction are not anticipated. If temporary closures of Millicent Way or adjoining roadways are required for project construction, the temporary closures would be performed pursuant to a traffic control plan prepared by the contractor and subject to City approval. As part of the traffic control plan, the contractor would follow standard construction practices and ensure that adequate on-site circulation and access is always maintained for all users, including coordinating with local emergency response providers (local police, fire, and medical dispatch) regarding proposed construction activities. As such, construction of the project would have a less-than-significant impact related to emergency access.

## Operations

Less-Than-Significant Impact. As previously discussed, the project site is in an established, developed area with sufficient access for emergency service providers. Upon completion, the project site would be accessible via the parking lot at the north end of the site, the parking lot at the eastern side of the site, and the pedestrian bridge from Eaton Blanche Park. The proposed project would result in nominal new traffic, and the project driveways/parking lots would provide adequate access to the site during normal operations or any emergency. On-site circulation in the parking lots would include an internal roadway with adequate turn radii for all vehicles, including fire trucks with apparatus. Additionally, the 12-foot-wide road would provide emergency access throughout the project site. There would be no changes to the existing off-site circulation on City or County roads during project operations.

Therefore, the construction or operation of the project would not result in inadequate emergency access, and impacts would be less than significant.

# 3.18 Tribal Cultural Resources

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XVIII. TRIBAL CULTURAL RESOURCES** | | | | |
| a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | ☐ | ☒ | ☐ | ☐ |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☒ | ☐ | ☐ |

The evaluation of potential impacts to tribal cultural resources (TCRs) is primarily based on the findings resulting from tribal consultation conducted by the City, as the lead agency, as well as the findings of Section 3.5, Cultural Resources, in this IS/MND. Background research and fieldwork conducted to inform this analysis include an NAHC Sacred Lands File search, archival research and a CHRIS database records search, a pedestrian survey of the project site, and the results of formal tribal consultation pursuant to California AB 52.

The project is subject to compliance with AB 52 (PRC 21074), which requires consideration of impacts to TCRs as part of the CEQA process and requires that the lead agency notify California Native American tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the proposed project. All NAHC listed California Native American tribal representatives who have requested project notification pursuant to AB 52 were sent letters by the City on July 29, 2025. The notification letters contained a project description, an outline of AB 52 timing, an invitation to consult, a project site figure, and contact information for the appropriate lead agency representative. To date, one response has been received by the City from the Gabrieleño Band of Mission Indians–Kizh Nation, which requested consultation pursuant to AB 52.

***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

***a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?***

Less-Than-Significant Impact with Mitigation Incorporated. As discussed in Section 3.5, no previously recorded archaeological resources of Native American origin or TCRs listed in the CRHR or a local register were identified in the project area as a result of the SCCIC records search, the NAHC Sacred Lands File results, or the pedestrian survey. Additionally, the City notified California Native American tribal representatives who are traditionally or culturally affiliated with the geographic area of the project pursuant to AB 52. A response was received from the Gabrieleño Band of Mission Indians-Kizh Nation on August 11, 2025, requesting AB 52 consultation for the project. Mitigation measures for cultural resources monitoring and unanticipated discovery of TCR objects and human remains were provided on December 15, 2025. The City agreed to the mitigation measures and consultation was concluded on December 15, 2025. No TCRs were identified as a result of information provided from the Gabrieleño Band of Mission Indians-Kizh Nation. Therefore, the project would not adversely affect TCRs that are listed or eligible for listing in the state or local register.

Although the potential for encountering subsurface TCRs are low, it is possible previously unknown TCRs could be inadvertently discovered during construction. As such, MM-TCR-1 through MM-TCR-3 would be implemented to prevent impacts to potential TCRs.

## Mitigation Measures

### MM-TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians–Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.
B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.
C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native

American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

MM-TCR-2 Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/ Non-Ceremonial)

A. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural, and/or historic purposes.

MM-TCR-3 Unanticipated Discovery of Human Remains and Associated Funerary Objects or Ceremonial Objects

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.
B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resources Code section 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.
C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).
D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.
E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

*b)* ***A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

Less-Than-Significant Impact with Mitigation Incorporated**.** The project is subject to compliance with AB 52 (PRC 21074), which requires consideration of impacts to TCRs as part of the CEQA process and requires lead agencies to provide notification of proposed projects to California Native American tribal representatives that have requested such notifications.

No TCRs were identified as a result of the response provided by the Gabrieleño Band of Mission Indians–Kizh Nation. Therefore, the project would not adversely affect TCRs that are listed or

eligible for listing in the state or local register. Although potential for encountering subsurface TCRs is low, it is possible previously unknown TCRs could be inadvertently discovered during construction. As such, MM- TCR-1 through MM-TCR-3 would be implemented to prevent impacts to potential TCRs.

# 3.19 Utilities and Service Systems

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XIX. UTILITIES AND SERVICE SYSTEMS** – Would the project: | | | | |
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | ☐ | ☐ | ☒ | ☐ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | ☐ | ☐ | ☒ | ☐ |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

***a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

Less-Than-Significant Impact. The project would entail constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses, a dog park, and a community garden within the project site, and constructing a pedestrian bridge over the channel connecting the new features east of Eaton Wash to Eaton Blanche Park. The stormwater capture and treatment facility would intercept stormwater and dry-weather flow from the Eaton Wash Channel and divert it into a subterranean concrete basin. The proposed pump station and new irrigation system would be electrically powered, thus requiring an additional connection to the electrical power that currently serves the project site. Connection to these existing distribution facilities would be sufficient for providing power to the project and would not require any other relocation or construction of electrical power facilities. These minor improvements are features of the project that would be subject to engineering design

to ensure that adjacent facilities and users are not negatively affected. Any relocation of existing facilities would not be substantial enough to result in a significant impact pursuant to CEQA. Impacts would be less than significant.

*b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

Less-Than-Significant Impact. Project construction would temporarily require a minor amount of water, primarily associated with site watering in compliance with SCAQMD Rule 403 to prevent, reduce, or mitigate fugitive dust emissions from construction activities. Once construction is complete, operational changes in water use would include installation of a new irrigation system and drinking fountains. The water supply demand associated with the project would be minimal as landscaping of the site would primarily feature native and drought-tolerant species that require minimal watering. As such, operation of the project would not result in a substantial significant increase in demand for water supplies. Therefore, impacts would be less than significant.

*c) Would the project result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

No Impact. Construction of the project and operation of the stormwater capture infrastructure would not generate wastewater demand. The park development would not include any uses, such as restrooms, that would generate wastewater demand. Therefore, no impact would occur.

*d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less-Than-Significant Impact. During construction, the project would generate solid waste such as residual wastes, plastics, and soils. Construction-generated solid waste would be temporary and would cease once construction is completed. Solid waste generated by project construction would be properly disposed of at designated landfill facilities for construction and demolition debris. In 2011, California AB 341 was passed, establishing a state goal to reduce, recycle, or compost no less than 75% of waste generated by the year 2020. Operation of the project, including stormwater capture and park operations, would not generate a significant amount of solid waste that would be beyond the capacity of local infrastructure. The closest solid waste disposal site would be the Scholl Canyon Landfill, approximately 6.13 miles west of the project site. Solid waste generated by the project would not exceed state or local standards or the capacity of local infrastructure. Impacts would be less than significant.

*e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

No Impact. As discussed in Section 3.19(d), construction-generated solid waste would be temporary, and operation of the project would not generate substantially more solid waste than is generated under existing conditions. Solid waste generated by the project construction would be disposed of at designated landfill facilities in compliance with federal, state, and local regulations. Additionally, the project would be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, no impacts related to state and local statutes governing solid waste are anticipated.

# 3.20 Wildfire

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XX. WILDFIRE** – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☒ | ☐ |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | ☐ | ☐ | ☒ | ☐ |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | ☐ | ☐ | ☒ | ☐ |

***a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?***

Less-Than-Significant Impact. Please see Section 3.9(f) in Section 3.9, Hazards and Hazardous Materials, of this IS/MND. According to CAL FIRE, the project site is not located in a Local Responsibility Area and or in a Very High Fire Hazard Severity Zone (City of Pasadena 2025d; CAL FIRE 2025). The City has prepared a Draft Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan is a document that contains information to assist communities in reducing risk from hazards by identifying resources, information, and strategies for risk reduction (City of Pasadena 2025c). The proposed project would involve construction within the project site and small portions of Eaton Blanche Park and the Eaton Wash Channel. Construction equipment, vehicles, and material would be staged and stored overnight on the project site with adequate site security. Construction staging for the underground storage reservoir modules would be located off site at the Kinneloa Yard or the City-owned property south of the Vina Vieja Dog Park, and the modules would remain on staged delivery truck beds until ready to be installed. Full or partial closures of any public roads for project construction are not anticipated. If temporary closures of Millicent Way or adjoining roadways are required for project construction, the temporary closures would be performed pursuant to a traffic control plan prepared by the contractor and subject to City approval, which would demonstrate that emergency access or evacuation would not be impeded. Traffic would revert to existing conditions upon

completion of the project. Because the project would be uninhabited, future emergency response and evacuation planning would not change from current conditions. Impacts would be less than significant.

*b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Less-Than-Significant Impact. Construction of the project would comply with Chapter 14.28 of the PMC, which adopts the California Fire Code by reference. Chapter 33 of the California Fire Code outlines general fire safety precautions during construction and demolition that are intended to maintain minimum levels of fire protection and limit the spread of fire. The project would not include structures intended for long-term occupancy. Further, the project site is relatively flat and would not influence prevailing winds or other factors that could exacerbate wildfire risk. As such, the project would not exacerbate wildfire risks such that project users would be exposed to pollutant concentrations. Impacts would be less than significant.

*c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less-Than-Significant Impact. As discussed previously, the project overall would not exacerbate fire risk. Construction would comply with California Fire Code requirements to manage and minimize fire risk during construction. Operation of the project would not include potential sources of fire risk. As such, the project would not result in installation or maintenance of associated infrastructure that may exacerbate fire risk. Impacts would be less than significant.

*d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Less-Than-Significant Impact. For reasons described previously in Sections 3.9(g) and 3.20(a)–(c), the project would not pose a substantial risk of wildfire. The project site is on relatively flat land and no changes to site topography associated with project implementation are planned. As such, implementation of the project would not expose people or structures to significant risks from post-fire slope instability or drainage changes. Impacts would be less than significant.

# 3.21 Mandatory Findings of Significance

| | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XXI. MANDATORY FINDINGS OF SIGNIFICANCE** | | | | |
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) | ☐ | ☒ | ☐ | ☐ |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

***a)*** ***Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?***

Less-Than-Significant Impact with Mitigation Incorporated. Potential impacts related to sensitive and special-status habitat, wildlife species, and plant species are discussed in Section 3.4, Biological Resources. As discussed in Section 3.4, all potentially significant impacts to biological resources would be reduced to a level below significance with incorporation of mitigation measures. The proposed project would not substantially degrade the quality of the environment or impact fish or wildlife species or plant communities. As discussed in Section 3.5, potential impacts to cultural resources would be reduced to a level below significance with incorporation of mitigation measures. The proposed project would not eliminate important examples of the major periods of California history or prehistory. Overall, impacts would be less than significant with incorporation of mitigation measures.

*b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

Less-Than-Significant Impact with Mitigation Incorporated. As indicated in the analysis presented throughout Chapter 3, Initial Study Checklist, of this IS/MND, the proposed project would not result in significant and unavoidable impacts in any issue area. Mitigation measures would reduce any potentially significant impacts to below a level of significance.

Cumulative projects in the City include the Lamanda Park Specific Plan; the Central District Specific Plan; the East Colorado Specific Plan; the Pasadena Rusnak Porsche Project located at 2915 East Walnut Street, approximately 0.5 miles northwest of the project site; the Viña Vieja Park Pickleball Court Project located at 3026 East Orange Grove Boulevard, approximately 1.21 miles north of the project site; the Patton Reservoir Replacement Project located at 1100 Arden Road, approximately 2.45 miles southwest of the project site; the Planned Development No. 39 Affinity Project located at 465–577 South Arroyo Parkway, approximately 3.49 miles west of the project site; the Glenarm BESS Project located at 52 East Glenarm Street, approximately 3.68 miles southwest of the project site; the Central Park Apartments Project located at 86 South Fair Oaks Avenue, approximately 3.72 miles west of the project site; the Planned Development No. 40 Project located at 444 North Fair Oaks Avenue and 425 North Raymond Avenue, approximately 3.76 miles west of the project site; the Sunset Complex Project located at 201 West Mountain Street, approximately 4.29 miles northwest of the project site; the Mayberry Parker Bridge Access Improvements Project located at 1 South Arroyo Seco and 845 West Colorado Boulevard, approximately 4.47 miles west of the project site; and the Holly Street Bridge Seismic Retrofit Project located near the intersection of Holly Street and Linda Vista Avenue, approximately 4.55 miles west of the project site.

Cumulative projects in the County include the West San Gabriel Valley Area Plan and the Altadena Main Library Renovation Project located at 600 East Mariposa Street in Altadena, approximately 4.46 miles northwest of the project site. The proposed project, as with potential cumulative projects, would incorporate mitigation measures to reduce impacts, as applicable, particularly during construction. Upon completion of construction, the proposed project would have no potential to contribute to a cumulative impact. Impacts would be less than significant with mitigation measures incorporated.

*c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less-Than-Significant Impact with Mitigation Incorporated. The potential for adverse direct or indirect impacts to human beings was considered throughout Chapter 3 of this IS/MND. Based on this evaluation, there is no substantial evidence that construction or operation of the project with the proposed mitigation measures incorporated would result in a substantial adverse effect on human beings. Impacts would be less than significant with mitigation measures incorporated.

# 4 References and Preparers

## 4.1 References Cited


Applied EarthWorks Inc. 2009. *Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project*. On file at the South Central Coastal Information Center.

CAL FIRE (California Department of Forestry and Fire Protection). 2025. Fire Hazard Severity Zone Viewer. Accessed March July 25, 2025. https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008.

Caltrans (California Department of Transportation). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Caltrans. 2014. *Combined Paleontological Identification and Paleontological Evaluation Report Interstate 10 Corridor Project, San Bernardino and Los Angeles Counties*. December 2014.

Caltrans. 2020. *Transportation and Construction Vibration Guidance Manual*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office, Sacramento. April 2020.

Caltrans. 2025. "California State Scenic Highway System Map." Accessed July 2025. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. Accessed June 19, 2025. https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf.

CARB (California Air Resources Board). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Accessed October 2025. https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf.

CARB. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. Accessed October 2025. https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

CDFW (California Department of Fish and Wildlife). 2024. Survey of California Vegetation Classification and Mapping Standards, March 6, 2024. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=102342&inline.

CDFW. 2025a. California Natural Diversity Database (CNDDB). RareFind 5.3.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2025. https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2025b. Biogeographic Information and Observation System; online database viewer. Accessed March 2025. https://apps.wildlife.ca.gov/bios6/.

CDFW. 2025c. California Natural Community List. February 27, 2025. Accessed March 2025. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities.

CDFW. 2025d. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Accessed March 2025. https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2025e. State and Federally Listed Endangered and Threatened Animals of California. January 2025. Accessed March 2025. https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2025f. California Wildlife Habitat Relationships Life History Accounts and Range Maps (online). Accessed March 2025. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

City of Pasadena. 2010. Municipal Code: Chapter 8.52 – City Trees and Tree Protection Ordinance. Accessed October 2025. https://www.cityofpasadena.net/wp-content/uploads/sites/29/TPO_2-Pasadena-Tree-Ordinance-Municipal-Code-8.52.pdf.

City of Pasadena. 2012. "Open Space and Conservation Element." In *City of Pasadena General Plan Update*. Accessed July 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/General-Plan-Open-Space-and-Conservation-Element-2012.pdf?v=1753218930695.

City of Pasadena. 2015a. "Mobility Element." In *City of Pasadena General Plan*. Accessed July 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Adopted-Mobility-Element-2015-08-18.pdf?v=1753732348584.

City of Pasadena. 2015b. *City of Pasadena Bicycle Transportation Action Plan*. August 2015. Accessed October 2025. https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/Pasadena-Bike-Action-Plan-08-17-2015.pdf.

City of Pasadena. 2016. "City of Pasadena Truck Route Map." January 2016. Accessed October 2025. https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/Truck-Routes-Map-PDF.pdf.

City of Pasadena. 2017a. "Climate Action Plan Consistency Checklist." Appendix D in *Pasadena Climate Action Plan*. December 28, 2017. Accessed October 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/D-CAP-Consistency-Checklist.pdf?v=1756232681388.

City of Pasadena. 2017b. Municipal Code Section 9.36.090. Accessed October 2025. https://library.municode.com/ca/pasadena/codes/code_of_ordinances?nodeId=TIT9PUPEMOWE_ARTIVOFAGPUPE_CH9.36NORE_9.36.060INNOSTULREPR#:~:text=9.36.090%20-%20Machinery%2C%20equipment%2C%20fans%20and%20air%20conditioning.,ambient%20noise%20level%20by%20more%20than%205%20decibels.

City of Pasadena. 2018. *Pasadena Climate Action Plan.* March 5, 2018. Accessed October 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Final-Pasadena-Climate-Action-Plan_3.5.2018.pdf?v=1756232681388.

City of Pasadena. 2022. *City of Pasadena Transportation Impact Analysis Guidelines*. April 2022. Accessed October 2025. https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/City-of-Pasadena-TIA-Guidelines.pdf.

City of Pasadena. 2024. *City of Pasadena Pedestrian Transportation Action Plan*. Revised March 2024. Accessed October 2025. https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/2024-Revised-Pasadena-Pedestrian-Transportation-Action-Plan.pdf.

City of Pasadena. 2025a. "City of Pasadena Land Use Diagram." Accessed July 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Land-Use-Diagram.pdf?v=1752778032089.

City of Pasadena. 2025b. "City of Pasadena Zoning Map." Accessed July 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Zoning-Map.pdf?v=1752778455562.

City of Pasadena. 2025c. *City of Pasadena Local Hazard Mitigation Plan*. 2025 Final Draft. Accessed July 2025. https://www.cityofpasadena.net/wp-content/uploads/sites/25/2025-Local-Hazard-Mitigation-Plan-Draft.pdf#:~:text=The%20City%20of%20Pasadena%20%28City%29%20has%20prepared%20the,impact%20of%20these%20hazards%20by%20creating%20mitigation%20strategies.

City of Pasadena 2025d. "City of Pasadena Fire Hazard Severity Zone Map (FHSZ)." Accessed July 2025. https://www.cityofpasadena.net/fire/fire-hazard-severity-zones/

City of Pasadena. 2025e. "Pasadena Transit Route 60." Accessed October 2025. https://www.cityofpasadena.net/pasadena-transit/wp-content/uploads/sites/19/PT-RT-60-Schedule.pdf.

CNPS (California Native Plant Society). 2025a. *Rare Plant Inventory*, online ed. Version 9.5.1. CNPS, Rare Plant Program. Accessed March 2025. http://www.rareplants.cnps.org.

CNPS. 2025b. *A Manual of California Vegetation Online*. Accessed March 2025. https://vegetation.cnps.org.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2024. "The ICS International Chronostratigraphic Chart." *Episodes* 36:199–204. Accessed September 2025. https://stratigraphy.org/ICSchart/ChronostratChart2024-12.pdf.

Council for Watershed Health. 2023. *Upper Los Angeles River Watershed Area Strategic Outreach and Engagement Plan, Fiscal Year 2023–2024*. Accessed July 2025. https://safecleanwaterla.org/content/uploads/2023/07/FY2023-2024-ULAR-Draft-SOEP-2023-06-30.pdf.

County of Los Angeles. 1978. Los Angeles County Code of Ordinances, Chapter 12.08.

County of Los Angeles. 2014. Los Angeles County Land Use Policy, East Pasadena – East San Gabriel / San Pasqual. Accessed November 2025. https://planning.lacounty.gov/wp-content/uploads/2022/11/A.7-gp_2035_LUP_2014_E_Pasadena_E_San_Gabriel_San_Pasqual.pdf.

County of Los Angeles. 2017. "County of Los Angeles Parkland Standards and Classifications." Appendix in *Park Design Guidelines and Standards*, 169. Accessed October 2025. https://file.lacounty.gov/SDSInter/dpr/1029701_ParkDesignGuideline2017.pdf.

County of Los Angeles. 2025. Z-Net. Accessed November 2025. https://experience.arcgis.com/experience/0eecc2d2d0b944a787f282420c8b290c/#data_s=id%3AdataSource_3-18d80ecc2df-layer-15%3A1439455.

Craftwater. 2025. "Preliminary Design Report, Eaton Wash Stormwater Capture Project." April 2025.

Dibblee, T.W. Jr., and H.E. Ehrenspeck. 1998. "Geologic Map of the Mt. Wilson and Azusa Quadrangles, Los Angeles County, California" [map]: 1:24,000. Edited by H.E. Ehrenspeck. Dibblee Geological Foundation, Dibblee Foundation Map DF-67. https://ngmdb.usgs.gov/Prodesc/proddesc_71696.htm.

DOC (California Department of Conservation). 2018. *Earthquake Fault Zones: A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California*. Accessed July 2025. https://www.conservation.ca.gov/cgs/documents/publications/special-publications/SP_042-a11y.pdf.

DOC. 2025a. *California Important Farmland Finder*. Accessed July 25th, 2025. https://maps.conservation.ca.gov/DLRP/CIFF/.

DOC. 2025b. "Earthquake Zones of Required Investigation." EQZapp [web application]. DOC, California Geological Survey. Accessed July 2025.https://maps.conservation.ca.gov/cgs/EQZApp/app/.

DOC. 2025c. "Tsunami Hazard Area Map, Los Angeles County." Accessed July 2025. https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/.

DTSC (Department of Toxic Substances Control). 2025. *EnviroStor Database*. Accessed July 25th, 2025. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Search.

EPA (U.S. Environmental Protection Agency). 2016. "Health and Environmental Effects of Particulate Matter (PM)." Accessed October 2025. https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

EPA. 2025. "Monitor Values Report." Last updated March 28, 2025. Accessed October 2025. https://www.epa.gov/outdoor-air-quality-data/monitor-values-report.

FEMA (Federal Emergency Management Agency). 2008. "FEMA's National Flood Hazard Layer (NFHL) Viewer" Effective September 25, 2008. Accessed October 2025. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd.

FHWA (Federal Highway Administration). December 8, 2008. *Roadway Construction Noise Model (RCNM)*, Software Version 1.1. Prepared by John A. Volpe National Transportation Systems Center. Washington, DC: U.S. Department of Transportation, Research and Innovative Technology Administration, Environmental Measurement and Modeling Division.

FTA (Federal Transit Administration). 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. Prepared by John A. Volpe National Transportation Systems Center. Washington, DC: U.S. Department of Transportation, Office of Planning and Environment, FTA. September 2018.

Google Earth. 2025. Google Earth; desktop application; centered on the project site. Accessed March 2025. https://www.google.com/earth/.

IPCC (Intergovernmental Panel on Climate Change). 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*. September 2007. https://www.ipcc.ch/report/ar4/syr/.

Jefferson, G.T. 2012. "A Catalog of Late Quaternary Vertebrates from California." Natural History Museum of Los Angeles County Technical Report No. 7. Published 1991; revised May 18, 2012.

Metro (Los Angeles County Metropolitan Transportation Authority). 2025. "Line 267." Accessed October 2025. https://cdn.beta.metro.net/wp-content/uploads/2025/06/20101421/267_TT_06-22-25.pdf.

NASEM (National Academies of Sciences, Engineering, and Medicine). 2022. *Development of a Highway Construction Noise Prediction Model*. Prepared for National Cooperative Highway Research Program, Project 25-49 (NCHRP 25-49). https://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-49/nchrp_25-49RCNM2.0finalreport.pdf.

NETR (Nationwide Environmental Title Research). 2025b. Historical Topographic Maps dating from 1894, 1896, 1898, 1900, 1904, 1907, 1908, 1910, 1913, 1915, 1920, 1927, 1928, 1931, 1940, 1941, 1955, 1960, 1968, 1975, 1988, 1994, 1999, 2012, 2015, 2018, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

NETR. 2025a. Historical Aerial Photographs of the City of Pasadena, CA, dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

NHMLA (Natural History Museum of Los Angeles County). 2019. Vertebrate Paleontology Records Check for paleontological resources for the proposed Arroyo Seco Project, Dudek Project No. 11884, in the City of Pasadena, Los Angeles County, project area. Unpublished records search results letter from A. Bell of the Natural History Museum of Los Angeles County, Los Angeles, California. October 1, 2019.

NHMLA. 2022. Paleontological resources for the 6821 Fairlynn Boulevard Project, Kimley-Horn. Unpublished records search results letter from A. Bell of the Natural History Museum of Los Angeles County, Los Angeles, California. March 29, 2022.

NHMLA. 2025a. Paleontological resources records search for the Eaton Wash Stormwater Capture Project (Project No. 16537 phase 07.2-05)." Unpublished records search results letter from A. Bell of the Natural History Museum of Los Angeles County, Los Angeles, California. August 3, 2025.

NHMLA. 2025b. Paleontological resources records search for the 234 S. Marguerita Avenue Project (Project Number 9907.0007. Unpublished records search results letter from A. Bell of the Natural History Museum of Los Angeles County, Los Angeles, California. April 20, 2025.

NHMLA. 2025c. Paleontological resources records search for the Mauna Loa Ave Project (PN:18193.02.01.05). Unpublished records search results letter from A. Bell of the Natural History Museum of Los Angeles County, Los Angeles, California. July 20, 2025.

Ninyo & Moore. 2025. Geotechnical Evaluation for the Eaton Wash Stormwater Capture Project, 3160 East Del Mar Boulevard, Pasadena, California. March 2025.

OPR (California Governor's Office of Planning and Research). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. Accessed July 2025. https://lci.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

Pacific Legacy Inc. 2007. *Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California, ARR #05-01-01046*. On file at the South Central Coastal Information Center.

SCAG (Southern California Association of Governments). 2020. *Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Government*. Adopted September 3, 2020.

SCAQMD (South Coast Air Quality Management District). 1993. *CEQA Air Quality Handbook*. Accessed October 2025. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993).

SCAQMD. 2003. "Modeling and Attainment Demonstrations." Appendix V in *Final 2003 AQMP*. August 2003. Accessed October 2025. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SCAQMD. 2009. *Final Localized Significance Threshold Methodology*. July 2009. Accessed October 2025. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2.

SCAQMD. 2014. "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds." Accessed October 2025. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf.

SCAQMD. 2022. *2022 Air Quality Management Plan*. Accessed October 2025. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16.

SCAQMD. 2023. "SCAQMD Air Quality Significance Thresholds." Originally published in CEQA Air Quality Handbook, Table A9-11-A. Revised March 2023. https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

SVP (Society of Vertebrate Paleontology). 2010. "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources." Accessed September 2024. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.

SWRCB (State Water Resources Control Board). 2025. GeoTracker. Accessed July 2025. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Search+GeoTracker.

The Climate Registry. 2025. *2025 Default Emission Factors*. February 2025. Accessed June 2025. https://theclimateregistry.org/wp-content/uploads/2025/03/2025-Default-Emission-Factors-03-2025.pdf.

ULAR Watershed Management Group (Upper Los Angeles River Watershed Management Group). 2015. *Draft Enhanced Watershed Management Program (EWMP) for the Upper Los Angeles River EWMP Group*. Accessed July 2025. https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/upper_losangeles/UpperLARiver_DraftEWMP.pdf.

U.S. Census Bureau. 2020. "Quick Facts, Pasadena city, California; United States." April 1, 2020. Accessed July 2025. https://www.census.gov/quickfacts/fact/table/pasadenacitycalifornia/AGE295223.

USDA (U.S. Department of Agriculture). 2025. *Web Soil Survey*. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed July 2025. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

USFWS (U.S. Fish and Wildlife Service). 2025. *Information, Planning, and Conservation System (IPaC)*. Accessed July 2025. https://ecos.fws.gov/ipac/.

## 4.2 List of Preparers

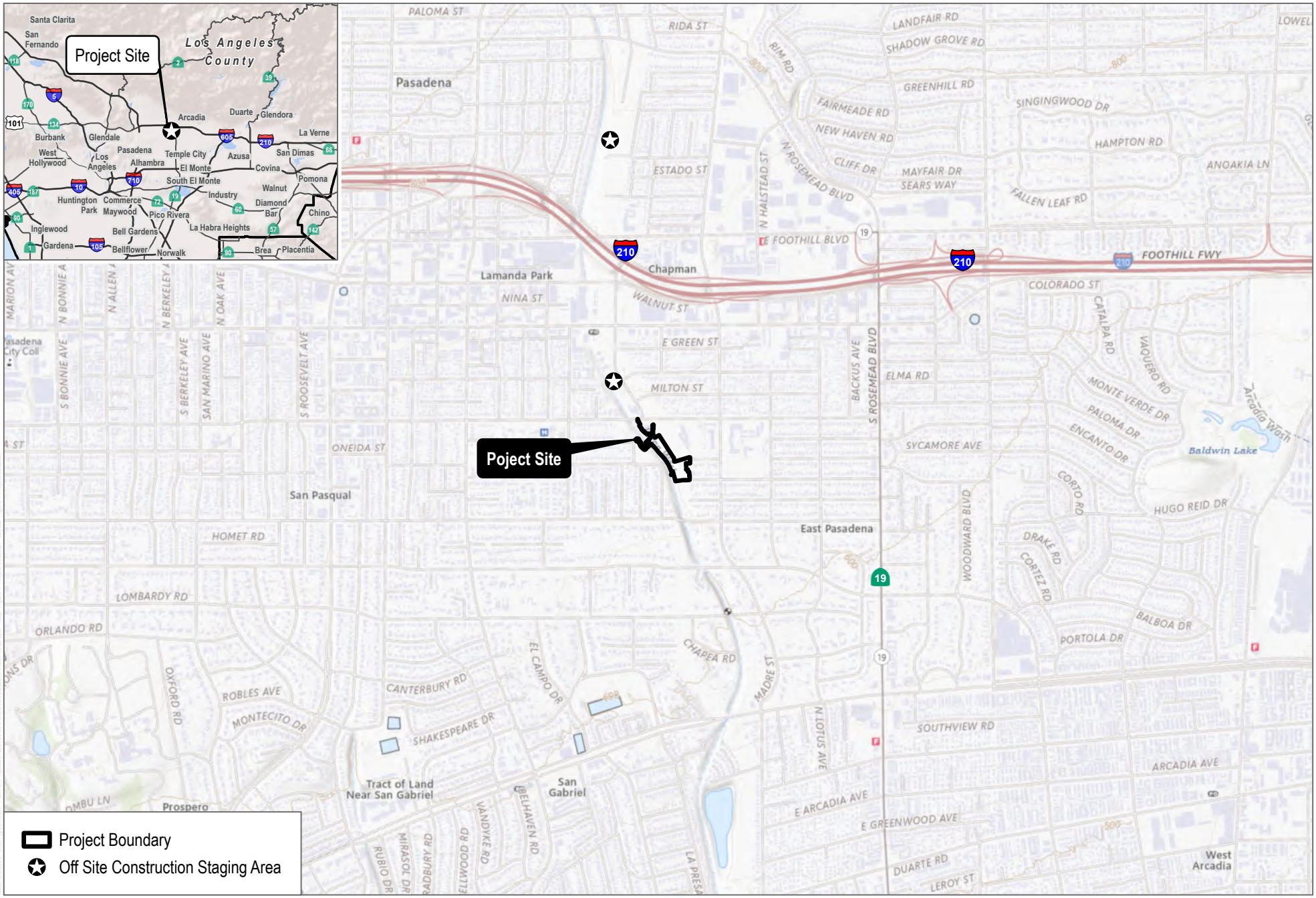
### City of Pasadena

Dawn Petschauer – Stormwater Program Administrator

### Dudek

Alex Hardy – Senior Project Manager
Hayley Rundle – Deputy Project Manager/Environmental Planner
Claire Alfano – Environmental Planner
Jason Greenstein – Geospatial Analyst
Shawna Johnson – Paleontologist
Collin Paludi – Air Quality Specialist
Nick Segovia – Environmental Acoustician
Sarah Siren – Paleontologist

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SOURCE: USGS National Map 2026

DUDEK

0 1,000 2,000 Feet

**FIGURE 1**

Project Location

Eaton Wash Stormwater Capture Project

INTENTIONALLY LEFT BLANK




SOURCE: ESRI Maps 2024; Open Street Map 2024; Los Angeles County

DUDEK

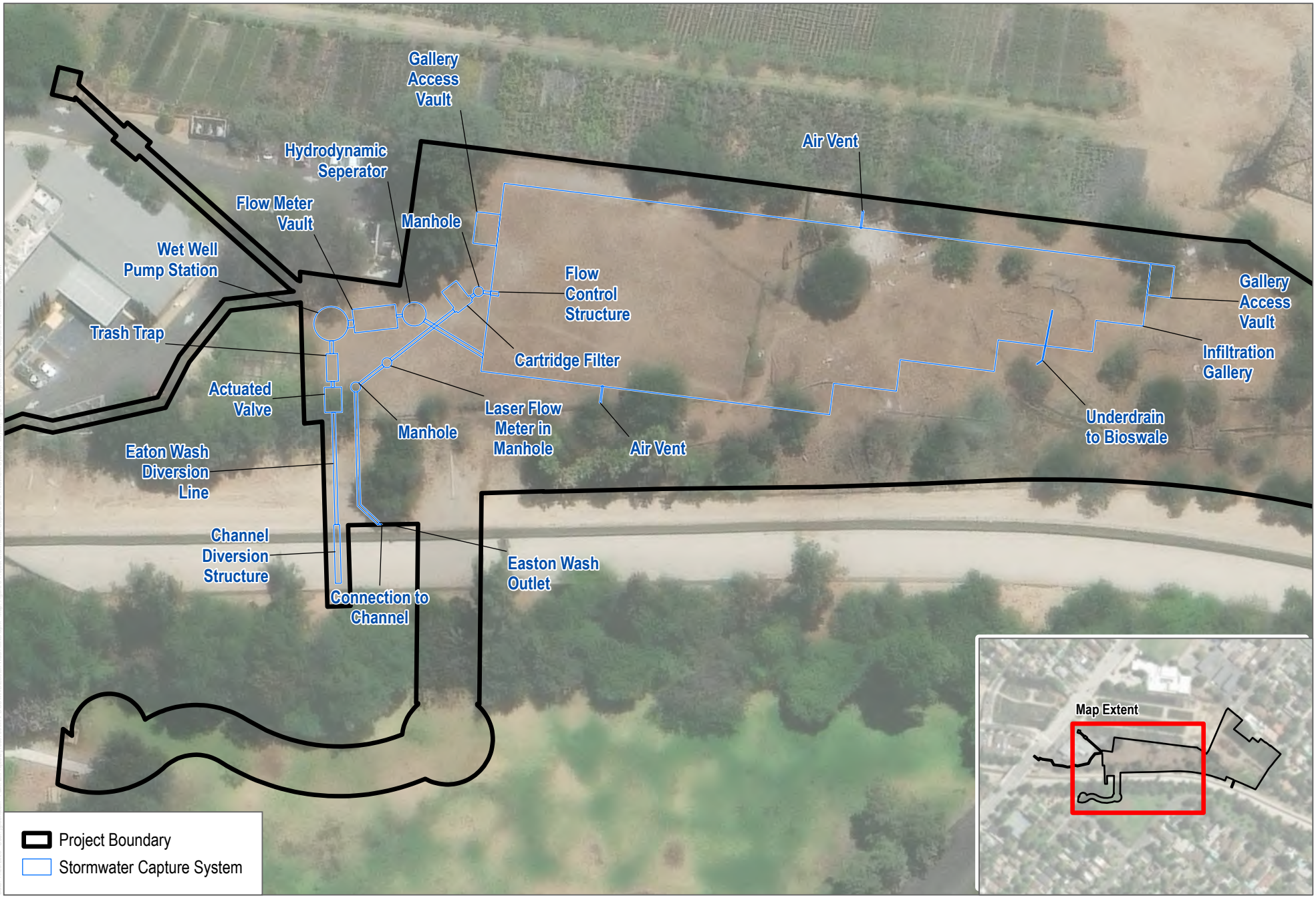
0 75 150 Feet

**FIGURE 2**

Project Site

Eaton Wash Stormwater Capture Project

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SOURCE: Vantor 2024; Open Street Map 2024; Craftwater 2025

DUDEK

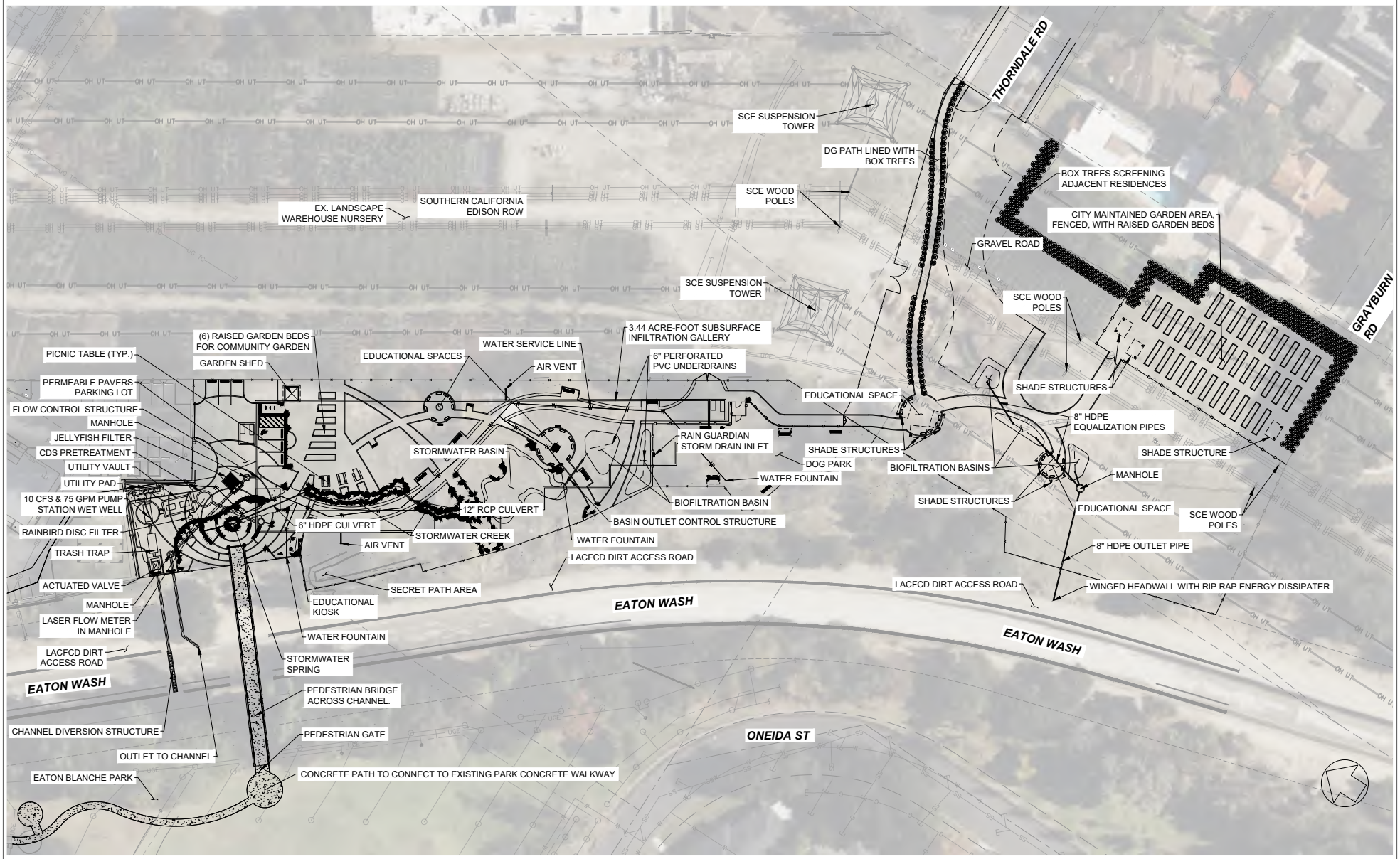
0 25 50 Feet

**FIGURE 3**

Project Stormwater Capture and Treatment System

Eaton Wash Stormwater Capture Project

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SOURCE: Craftwater 2025

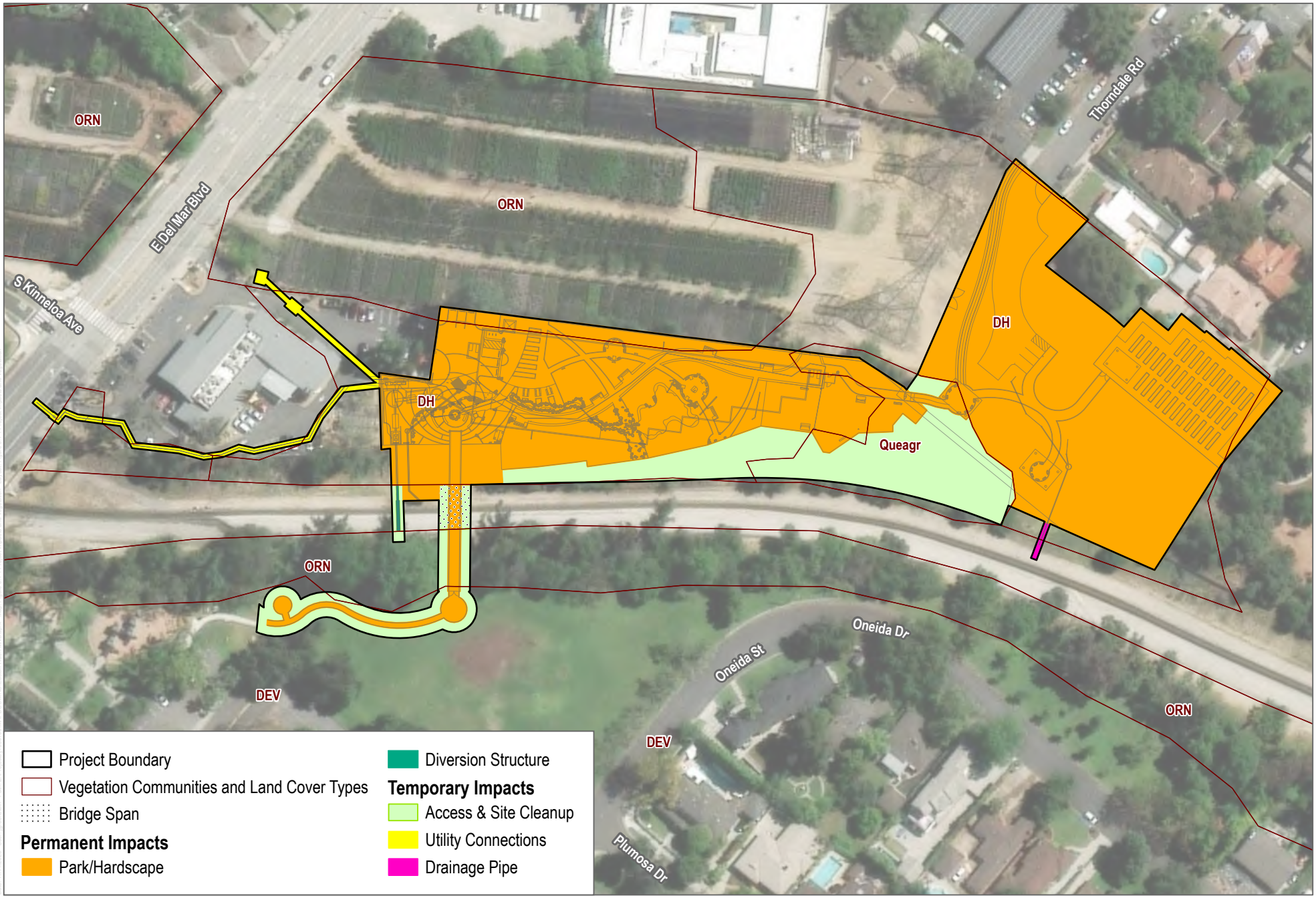
DUDEK

**FIGURE 4**

Site Plan Exhibit

Eaton Wash Stormwater Capture Project

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SOURCE: Vantor 2024; Open Street Map 2024; Craftwater 2025

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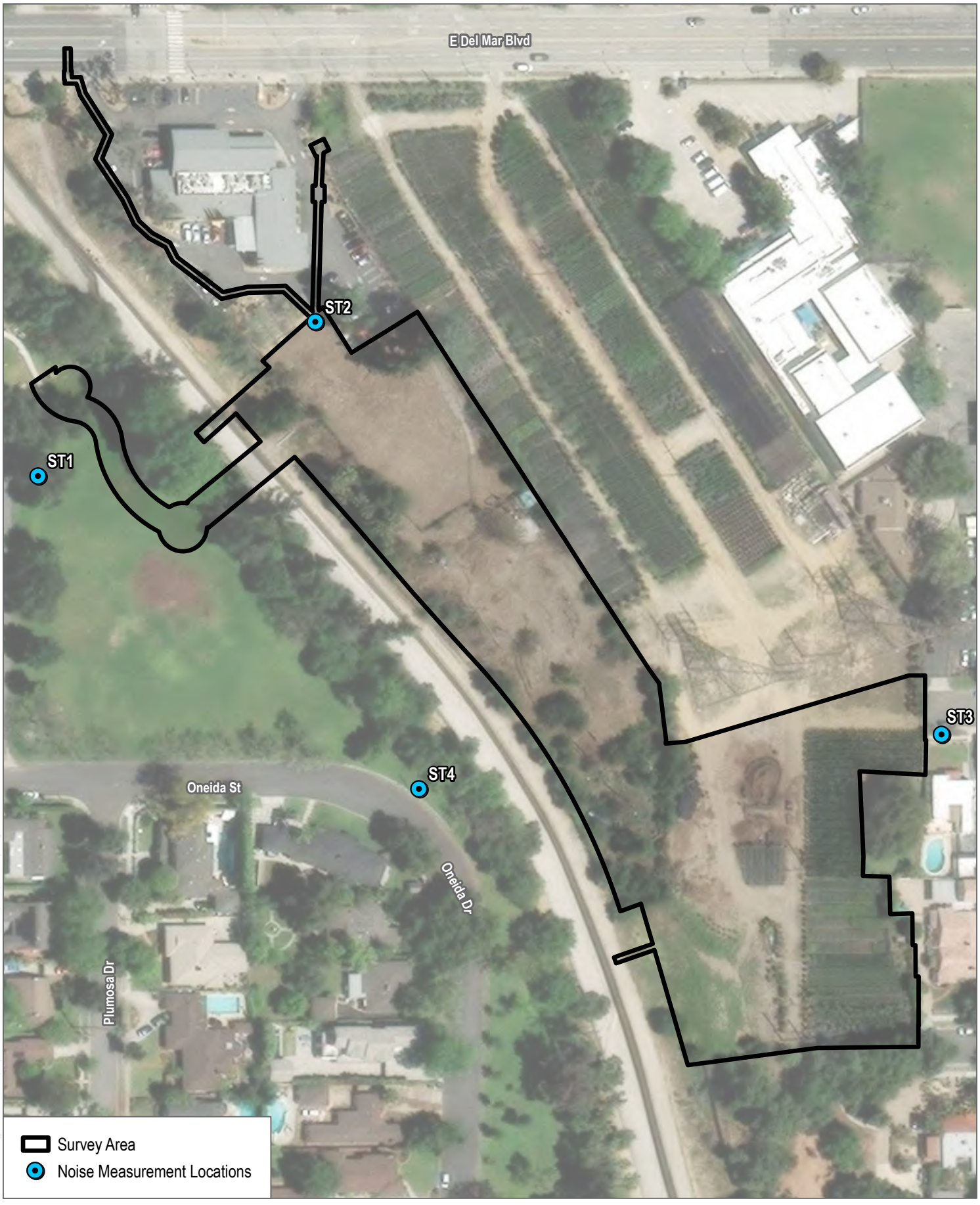
0 50 100 Feet

**FIGURE 3.4-1**

Project Impacts & Vegetation Communities

Eaton Wash Stormwater Capture Project

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SOURCE: Vantor 2024; Open Street Maps 2019

**FIGURE 3.13-1**

Baseline Sound Pressure Level Measurement Locations

Eaton Wash Stormwater Capture Project

DUDEK

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# Appendix A

Air Quality and Greenhouse Gas Emissions Modeling

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# Eaton Wash Detailed 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 | Eaton Wash |
| Construction Start Date | 7/1/2027 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 0.50 |
| Precipitation (days) | 19.6 |
| Location | 34.169645957296936, -118.08973754480081 |
| County | Los Angeles-South Coast |
| City | Pasadena |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 4993 |
| EDFZ | 7 |
| Electric Utility | Pasadena Water & Power |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.30 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| City Park | 0.57 | Acre | 3.85 | 0.00 | 56,830 | 56,830 | — | — |
| Parking Lot | 8.00 | Space | 0.07 | 0.00 | 0.00 | — | — | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 2.00 | 1000sqft | 0.05 | 0.00 | 0.00 | — | — | — |

### 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. | 4.50 | 3.77 | 33.9 | 42.9 | 0.08 | 1.26 | 8.04 | 9.24 | 1.16 | 4.03 | 5.14 | — | 9,044 | 9,044 | 0.35 | 0.18 | 3.00 | 9,108 |
| Mit. | 1.18 | 1.09 | 9.12 | 47.0 | 0.08 | 0.21 | 8.04 | 8.17 | 0.21 | 4.03 | 4.16 | — | 9,044 | 9,044 | 0.35 | 0.18 | 3.00 | 9,108 |
| % Reduced | 74% | 71% | 73% | -9% | — | 83% | — | 12% | 82% | — | 19% | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.86 | 2.31 | 23.9 | 24.7 | 0.06 | 0.88 | 6.09 | 6.95 | 0.81 | 2.88 | 3.69 | — | 7,002 | 7,002 | 0.30 | 0.47 | 0.17 | 7,151 |
| Mit. | 0.75 | 0.57 | 6.74 | 24.7 | 0.06 | 0.15 | 6.09 | 6.23 | 0.14 | 2.88 | 3.03 | — | 7,002 | 7,002 | 0.30 | 0.47 | 0.17 | 7,151 |
| % Reduced | 74% | 76% | 72% | > -0.5% | — | 83% | — | 10% | 82% | — | 18% | — | — | — | — | — | — | — |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.50 | 1.25 | 11.2 | 13.7 | 0.02 | 0.43 | 1.21 | 1.50 | 0.40 | 0.58 | 0.84 | — | 2,820 | 2,820 | 0.11 | 0.07 | 0.43 | 2,838 |
| Mit. | 0.42 | 0.39 | 3.06 | 14.8 | 0.02 | 0.08 | 1.21 | 1.25 | 0.08 | 0.58 | 0.62 | — | 2,820 | 2,820 | 0.11 | 0.07 | 0.43 | 2,838 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Reduced | 72% | 69% | 73% | -8% | — | 82% | — | 17% | 81% | — | 27% | — | — | — | — | — | — | — |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.27 | 0.23 | 2.05 | 2.49 | < 0.005 | 0.08 | 0.22 | 0.27 | 0.07 | 0.11 | 0.15 | — | 467 | 467 | 0.02 | 0.01 | 0.07 | 470 |
| Mit. | 0.08 | 0.07 | 0.56 | 2.69 | < 0.005 | 0.01 | 0.22 | 0.23 | 0.01 | 0.11 | 0.11 | — | 467 | 467 | 0.02 | 0.01 | 0.07 | 470 |
| % Reduced | 72% | 69% | 73% | -8% | — | 82% | — | 17% | 81% | — | 27% | — | — | — | — | — | — | — |

## 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 | 3.86 | 3.23 | 29.3 | 30.2 | 0.05 | 1.21 | 8.04 | 9.24 | 1.11 | 4.03 | 5.14 | — | 6,056 | 6,056 | 0.25 | 0.11 | 1.71 | 6,098 |
| 2028 | 4.50 | 3.77 | 33.9 | 42.9 | 0.08 | 1.26 | 0.73 | 1.99 | 1.16 | 0.18 | 1.34 | — | 9,044 | 9,044 | 0.35 | 0.18 | 3.00 | 9,108 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 2.86 | 2.31 | 23.9 | 24.7 | 0.06 | 0.88 | 6.09 | 6.95 | 0.81 | 2.88 | 3.69 | — | 7,002 | 7,002 | 0.30 | 0.47 | 0.17 | 7,151 |
| 2028 | 2.73 | 2.29 | 20.5 | 20.6 | 0.04 | 0.86 | 0.27 | 1.07 | 0.79 | 0.06 | 0.84 | — | 4,532 | 4,532 | 0.18 | 0.06 | 0.03 | 4,554 |
| 2029 | 1.11 | 0.94 | 8.15 | 13.2 | 0.02 | 0.28 | 0.27 | 0.55 | 0.26 | 0.06 | 0.33 | — | 2,242 | 2,242 | 0.08 | 0.04 | 0.02 | 2,256 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.91 | 0.75 | 7.13 | 7.31 | 0.01 | 0.29 | 1.21 | 1.50 | 0.26 | 0.58 | 0.84 | — | 1,732 | 1,732 | 0.07 | 0.07 | 0.43 | 1,756 |
| 2028 | 1.50 | 1.25 | 11.2 | 13.7 | 0.02 | 0.43 | 0.21 | 0.65 | 0.40 | 0.05 | 0.45 | — | 2,820 | 2,820 | 0.11 | 0.05 | 0.37 | 2,838 |
| 2029 | 0.20 | 0.16 | 1.44 | 2.33 | < 0.005 | 0.05 | 0.05 | 0.10 | 0.05 | 0.01 | 0.06 | — | 395 | 395 | 0.01 | 0.01 | 0.07 | 398 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.17 | 0.14 | 1.30 | 1.33 | < 0.005 | 0.05 | 0.22 | 0.27 | 0.05 | 0.11 | 0.15 | — | 287 | 287 | 0.01 | 0.01 | 0.07 | 291 |
| 2028 | 0.27 | 0.23 | 2.05 | 2.49 | < 0.005 | 0.08 | 0.04 | 0.12 | 0.07 | 0.01 | 0.08 | — | 467 | 467 | 0.02 | 0.01 | 0.06 | 470 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2029 | 0.04 | 0.03 | 0.26 | 0.43 | < 0.005 | 0.01 | 0.01 | 0.02 | 0.01 | < 0.005 | 0.01 | — | 65.5 | 65.5 | < 0.005 | < 0.005 | 0.01 | 65.9 |

## 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 | 0.72 | 0.68 | 3.89 | 30.2 | 0.05 | 0.14 | 8.04 | 8.17 | 0.13 | 4.03 | 4.16 | — | 6,056 | 6,056 | 0.25 | 0.11 | 1.71 | 6,098 |
| 2028 | 1.18 | 1.09 | 9.12 | 47.0 | 0.08 | 0.21 | 0.73 | 0.94 | 0.21 | 0.18 | 0.39 | — | 9,044 | 9,044 | 0.35 | 0.18 | 3.00 | 9,108 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.75 | 0.57 | 6.74 | 24.7 | 0.06 | 0.15 | 6.09 | 6.23 | 0.14 | 2.88 | 3.03 | — | 7,002 | 7,002 | 0.30 | 0.47 | 0.17 | 7,151 |
| 2028 | 0.65 | 0.56 | 4.37 | 22.1 | 0.04 | 0.11 | 0.27 | 0.38 | 0.11 | 0.06 | 0.17 | — | 4,532 | 4,532 | 0.18 | 0.06 | 0.03 | 4,554 |
| 2029 | 0.62 | 0.54 | 4.32 | 13.8 | 0.02 | 0.11 | 0.27 | 0.38 | 0.10 | 0.06 | 0.16 | — | 2,242 | 2,242 | 0.08 | 0.04 | 0.02 | 2,256 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.20 | 0.17 | 1.44 | 7.43 | 0.01 | 0.04 | 1.21 | 1.25 | 0.04 | 0.58 | 0.62 | — | 1,732 | 1,732 | 0.07 | 0.07 | 0.43 | 1,756 |
| 2028 | 0.42 | 0.39 | 3.06 | 14.8 | 0.02 | 0.08 | 0.21 | 0.29 | 0.08 | 0.05 | 0.13 | — | 2,820 | 2,820 | 0.11 | 0.05 | 0.37 | 2,838 |
| 2029 | 0.11 | 0.10 | 0.76 | 2.44 | < 0.005 | 0.02 | 0.05 | 0.07 | 0.02 | 0.01 | 0.03 | — | 395 | 395 | 0.01 | 0.01 | 0.07 | 398 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.04 | 0.03 | 0.26 | 1.36 | < 0.005 | 0.01 | 0.22 | 0.23 | 0.01 | 0.11 | 0.11 | — | 287 | 287 | 0.01 | 0.01 | 0.07 | 291 |
| 2028 | 0.08 | 0.07 | 0.56 | 2.69 | < 0.005 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.02 | — | 467 | 467 | 0.02 | 0.01 | 0.06 | 470 |
| 2029 | 0.02 | 0.02 | 0.14 | 0.45 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | 0.01 | — | 65.5 | 65.5 | < 0.005 | < 0.005 | 0.01 | 65.9 |

# 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 | 2.94 | 2.47 | 21.7 | 22.5 | 0.04 | 1.00 | — | 1.00 | 0.92 | — | 0.92 | — | 4,140 | 4,140 | 0.17 | 0.03 | — | 4,154 |
| Demolition | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| 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 | 0.18 | 0.15 | 1.31 | 1.36 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 250 | 250 | 0.01 | < 0.005 | — | 250 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.24 | 0.25 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.5 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.05 | 0.84 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 186 | 186 | 0.01 | 0.01 | 0.58 | 189 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.32 | 128 |
| Hauling | 0.02 | < 0.005 | 0.32 | 0.13 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 267 | 267 | 0.01 | 0.04 | 0.57 | 281 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.8 | 10.8 | < 0.005 | < 0.005 | 0.02 | 10.9 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.37 | 7.37 | < 0.005 | < 0.005 | 0.01 | 7.69 |
| Hauling | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 16.1 | 16.1 | < 0.005 | < 0.005 | 0.01 | 16.9 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.79 | 1.79 | < 0.005 | < 0.005 | < 0.005 | 1.81 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.22 | 1.22 | < 0.005 | < 0.005 | < 0.005 | 1.27 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.66 | 2.66 | < 0.005 | < 0.005 | < 0.005 | 2.80 |

## 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 | 0.44 | 0.43 | 2.72 | 22.9 | 0.04 | 0.09 | — | 0.09 | 0.09 | — | 0.09 | — | 4,140 | 4,140 | 0.17 | 0.03 | — | 4,154 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.16 | 1.38 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 250 | 250 | 0.01 | < 0.005 | — | 250 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.25 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.5 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.05 | 0.84 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 186 | 186 | 0.01 | 0.01 | 0.58 | 189 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.32 | 128 |
| Hauling | 0.02 | < 0.005 | 0.32 | 0.13 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 267 | 267 | 0.01 | 0.04 | 0.57 | 281 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.8 | 10.8 | < 0.005 | < 0.005 | 0.02 | 10.9 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.37 | 7.37 | < 0.005 | < 0.005 | 0.01 | 7.69 |
| Hauling | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 16.1 | 16.1 | < 0.005 | < 0.005 | 0.01 | 16.9 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.79 | 1.79 | < 0.005 | < 0.005 | < 0.005 | 1.81 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.22 | 1.22 | < 0.005 | < 0.005 | < 0.005 | 1.27 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.66 | 2.66 | < 0.005 | < 0.005 | < 0.005 | 2.80 |

## 3.3. Site preparation, clearing and grubbing (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 | 3.75 | 3.15 | 28.8 | 28.8 | 0.05 | 1.20 | — | 1.20 | 1.11 | — | 1.11 | — | 5,402 | 5,402 | 0.22 | 0.04 | — | 5,420 |
| Dust From Material Movement | — | — | — | — | — | — | 7.67 | 7.67 | — | 3.94 | 3.94 | — | — | — | — | — | — | — |
| 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 | 0.22 | 0.18 | 1.65 | 1.66 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |
| Dust From Material Movement | — | — | — | — | — | — | 0.44 | 0.44 | — | 0.23 | 0.23 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.30 | 0.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 51.5 | 51.5 | < 0.005 | < 0.005 | — | 51.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| 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 | 0.08 | 0.07 | 0.07 | 1.20 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 266 | 266 | 0.01 | 0.01 | 0.83 | 270 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.32 | 128 |
| Hauling | 0.02 | < 0.005 | 0.32 | 0.13 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 267 | 267 | 0.01 | 0.04 | 0.57 | 281 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.06 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 14.7 | 14.7 | < 0.005 | < 0.005 | 0.02 | 14.9 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.04 | 7.04 | < 0.005 | < 0.005 | 0.01 | 7.34 |
| Hauling | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 15.3 | 15.3 | < 0.005 | < 0.005 | 0.01 | 16.1 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 2.44 | 2.44 | < 0.005 | < 0.005 | < 0.005 | 2.47 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.17 | 1.17 | < 0.005 | < 0.005 | < 0.005 | 1.22 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.54 | 2.54 | < 0.005 | < 0.005 | < 0.005 | 2.67 |

## 3.4. Site preparation, clearing and grubbing (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 | 0.62 | 0.60 | 3.38 | 28.8 | 0.05 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 5,402 | 5,402 | 0.22 | 0.04 | — | 5,420 |
| Dust From Material Movement | — | — | — | — | — | — | 7.67 | 7.67 | — | 3.94 | 3.94 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.19 | 1.66 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | 0.44 | 0.44 | — | 0.23 | 0.23 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.01 | 0.04 | 0.30 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 51.5 | 51.5 | < 0.005 | < 0.005 | — | 51.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| 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 | 0.08 | 0.07 | 0.07 | 1.20 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 266 | 266 | 0.01 | 0.01 | 0.83 | 270 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.32 | 128 |
| Hauling | 0.02 | < 0.005 | 0.32 | 0.13 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 267 | 267 | 0.01 | 0.04 | 0.57 | 281 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.06 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 14.7 | 14.7 | < 0.005 | < 0.005 | 0.02 | 14.9 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.04 | 7.04 | < 0.005 | < 0.005 | 0.01 | 7.34 |
| Hauling | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 15.3 | 15.3 | < 0.005 | < 0.005 | 0.01 | 16.1 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 2.44 | 2.44 | < 0.005 | < 0.005 | < 0.005 | 2.47 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.17 | 1.17 | < 0.005 | < 0.005 | < 0.005 | 1.22 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.54 | 2.54 | < 0.005 | < 0.005 | < 0.005 | 2.67 |

## 3.5. Reservoir excavation (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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.60 | 2.19 | 20.6 | 22.5 | 0.04 | 0.83 | — | 0.83 | 0.77 | — | 0.77 | — | 4,119 | 4,119 | 0.17 | 0.03 | — | 4,133 |
| Dust From Material Movement | — | — | — | — | — | — | 5.11 | 5.11 | — | 2.63 | 2.63 | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.31 | 0.26 | 2.43 | 2.65 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 485 | 485 | 0.02 | < 0.005 | — | 487 |
| Dust From Material Movement | — | — | — | — | — | — | 0.60 | 0.60 | — | 0.31 | 0.31 | — | — | — | — | — | — | — |
| 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 | 0.06 | 0.05 | 0.44 | 0.48 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 80.3 | 80.3 | < 0.005 | < 0.005 | — | 80.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.11 | 0.11 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.08 | 0.92 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 227 | 227 | < 0.005 | 0.01 | 0.02 | 229 |
| Vendor | 0.01 | < 0.005 | 0.14 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.01 | 128 |
| Hauling | 0.18 | 0.04 | 3.13 | 1.20 | 0.02 | 0.03 | 0.70 | 0.74 | 0.03 | 0.19 | 0.23 | — | 2,535 | 2,535 | 0.13 | 0.41 | 0.14 | 2,661 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.11 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 27.1 | 27.1 | < 0.005 | < 0.005 | 0.04 | 27.5 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 14.4 | 14.4 | < 0.005 | < 0.005 | 0.02 | 15.0 |
| Hauling | 0.02 | < 0.005 | 0.37 | 0.14 | < 0.005 | < 0.005 | 0.08 | 0.09 | < 0.005 | 0.02 | 0.03 | — | 299 | 299 | 0.01 | 0.05 | 0.27 | 314 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.49 | 4.49 | < 0.005 | < 0.005 | 0.01 | 4.55 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.39 | 2.39 | < 0.005 | < 0.005 | < 0.005 | 2.49 |
| Hauling | < 0.005 | < 0.005 | 0.07 | 0.03 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | < 0.005 | — | 49.4 | 49.4 | < 0.005 | 0.01 | 0.05 | 51.9 |

## 3.6. Reservoir excavation (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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.48 | 0.46 | 3.40 | 22.6 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,119 | 4,119 | 0.17 | 0.03 | — | 4,133 |
| Dust From Material Movement | — | — | — | — | — | — | 5.11 | 5.11 | — | 2.63 | 2.63 | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.40 | 2.66 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 485 | 485 | 0.02 | < 0.005 | — | 487 |
| Dust From Material Movement | — | — | — | — | — | — | 0.60 | 0.60 | — | 0.31 | 0.31 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.01 | 0.07 | 0.48 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 80.3 | 80.3 | < 0.005 | < 0.005 | — | 80.6 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | 0.11 | 0.11 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.08 | 0.92 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 227 | 227 | < 0.005 | 0.01 | 0.02 | 229 |
| Vendor | 0.01 | < 0.005 | 0.14 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.01 | 128 |
| Hauling | 0.18 | 0.04 | 3.13 | 1.20 | 0.02 | 0.03 | 0.70 | 0.74 | 0.03 | 0.19 | 0.23 | — | 2,535 | 2,535 | 0.13 | 0.41 | 0.14 | 2,661 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.11 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 27.1 | 27.1 | < 0.005 | < 0.005 | 0.04 | 27.5 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 14.4 | 14.4 | < 0.005 | < 0.005 | 0.02 | 15.0 |
| Hauling | 0.02 | < 0.005 | 0.37 | 0.14 | < 0.005 | < 0.005 | 0.08 | 0.09 | < 0.005 | 0.02 | 0.03 | — | 299 | 299 | 0.01 | 0.05 | 0.27 | 314 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.49 | 4.49 | < 0.005 | < 0.005 | 0.01 | 4.55 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.39 | 2.39 | < 0.005 | < 0.005 | < 0.005 | 2.49 |
| Hauling | < 0.005 | < 0.005 | 0.07 | 0.03 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | < 0.005 | — | 49.4 | 49.4 | < 0.005 | 0.01 | 0.05 | 51.9 |

## 3.7. Reservoir 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.69 | 2.26 | 20.9 | 19.8 | 0.04 | 0.88 | — | 0.88 | 0.81 | — | 0.81 | — | 4,238 | 4,238 | 0.17 | 0.03 | — | 4,252 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.16 | 0.14 | 1.27 | 1.20 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 257 | 257 | 0.01 | < 0.005 | — | 258 |
| 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 | 0.03 | 0.03 | 0.23 | 0.22 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 42.6 | 42.6 | < 0.005 | < 0.005 | — | 42.7 |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.06 | 0.71 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 176 | 176 | < 0.005 | 0.01 | 0.02 | 178 |
| Vendor | 0.01 | < 0.005 | 0.14 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.01 | 128 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.9 | 10.9 | < 0.005 | < 0.005 | 0.02 | 11.0 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.42 | 7.42 | < 0.005 | < 0.005 | 0.01 | 7.74 |
| 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 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.80 | 1.80 | < 0.005 | < 0.005 | < 0.005 | 1.82 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.28 |
| 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 |

## 3.8. Reservoir 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.50 | 0.47 | 3.46 | 21.3 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,238 | 4,238 | 0.17 | 0.03 | — | 4,252 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.03 | 0.21 | 1.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 257 | 257 | 0.01 | < 0.005 | — | 258 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 0.01 | 0.01 | 0.04 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 42.6 | 42.6 | < 0.005 | < 0.005 | — | 42.7 |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.06 | 0.71 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 176 | 176 | < 0.005 | 0.01 | 0.02 | 178 |
| Vendor | 0.01 | < 0.005 | 0.14 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 122 | 122 | 0.01 | 0.02 | 0.01 | 128 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.9 | 10.9 | < 0.005 | < 0.005 | 0.02 | 11.0 |
| Vendor | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.42 | 7.42 | < 0.005 | < 0.005 | 0.01 | 7.74 |
| 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 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.80 | 1.80 | < 0.005 | < 0.005 | < 0.005 | 1.82 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.28 |
| 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 |

## 3.9. Reservoir construction (2028) - 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.67 | 2.24 | 20.3 | 19.9 | 0.04 | 0.86 | — | 0.86 | 0.79 | — | 0.79 | — | 4,240 | 4,240 | 0.17 | 0.03 | — | 4,254 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.47 | 0.40 | 3.62 | 3.54 | 0.01 | 0.15 | — | 0.15 | 0.14 | — | 0.14 | — | 755 | 755 | 0.03 | 0.01 | — | 758 |
| 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 | 0.09 | 0.07 | 0.66 | 0.65 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 125 | 125 | 0.01 | < 0.005 | — | 125 |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.05 | 0.67 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 173 | 173 | < 0.005 | 0.01 | 0.01 | 175 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 120 | 120 | < 0.005 | 0.02 | 0.01 | 125 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 31.3 | 31.3 | < 0.005 | < 0.005 | 0.04 | 31.7 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.18 | 5.18 | < 0.005 | < 0.005 | 0.01 | 5.25 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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. Reservoir construction (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.49 | 0.47 | 3.42 | 21.4 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,240 | 4,240 | 0.17 | 0.03 | — | 4,254 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.09 | 0.08 | 0.61 | 3.80 | 0.01 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 755 | 755 | 0.03 | 0.01 | — | 758 |
| 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 | 0.02 | 0.02 | 0.11 | 0.69 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 125 | 125 | 0.01 | < 0.005 | — | 125 |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.05 | 0.67 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 173 | 173 | < 0.005 | 0.01 | 0.01 | 175 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 120 | 120 | < 0.005 | 0.02 | 0.01 | 125 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 31.3 | 31.3 | < 0.005 | < 0.005 | 0.04 | 31.7 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.18 | 5.18 | < 0.005 | < 0.005 | 0.01 | 5.25 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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. Installation of pipes, pump etc. (2028) - 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 | 0.93 | 0.78 | 6.99 | 8.88 | 0.02 | 0.24 | — | 0.24 | 0.22 | — | 0.22 | — | 1,896 | 1,896 | 0.08 | 0.02 | — | 1,902 |
| 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 | 0.17 | 0.14 | 1.24 | 1.58 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 338 | 338 | 0.01 | < 0.005 | — | 339 |
| 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 | 0.03 | 0.03 | 0.23 | 0.29 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 55.9 | 55.9 | < 0.005 | < 0.005 | — | 56.1 |
| 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 | 0.05 | 0.05 | 0.05 | 0.79 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 183 | 183 | < 0.005 | 0.01 | 0.52 | 185 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| Hauling | 0.02 | < 0.005 | 0.31 | 0.12 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 261 | 261 | 0.01 | 0.04 | 0.53 | 274 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 31.3 | 31.3 | < 0.005 | < 0.005 | 0.04 | 31.7 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| Hauling | < 0.005 | < 0.005 | 0.06 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 46.4 | 46.4 | < 0.005 | 0.01 | 0.04 | 48.7 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.18 | 5.18 | < 0.005 | < 0.005 | 0.01 | 5.25 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| Hauling | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.69 | 7.69 | < 0.005 | < 0.005 | 0.01 | 8.07 |

## 3.12. Installation of pipes, pump etc. (2028) - 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 | 0.30 | 0.27 | 4.01 | 10.8 | 0.02 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 1,896 | 1,896 | 0.08 | 0.02 | — | 1,902 |
| 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 | 0.05 | 0.05 | 0.71 | 1.92 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 338 | 338 | 0.01 | < 0.005 | — | 339 |
| 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 | 0.01 | 0.01 | 0.13 | 0.35 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 55.9 | 55.9 | < 0.005 | < 0.005 | — | 56.1 |
| 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 | 0.05 | 0.05 | 0.05 | 0.79 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.04 | 0.04 | — | 183 | 183 | < 0.005 | 0.01 | 0.52 | 185 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| Hauling | 0.02 | < 0.005 | 0.31 | 0.12 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 261 | 261 | 0.01 | 0.04 | 0.53 | 274 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 31.3 | 31.3 | < 0.005 | < 0.005 | 0.04 | 31.7 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| Hauling | < 0.005 | < 0.005 | 0.06 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 46.4 | 46.4 | < 0.005 | 0.01 | 0.04 | 48.7 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.18 | 5.18 | < 0.005 | < 0.005 | 0.01 | 5.25 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| Hauling | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.69 | 7.69 | < 0.005 | < 0.005 | 0.01 | 8.07 |

## 3.13. Installation of outlet line etc. (2028) - 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 | 2.59 | 2.17 | 20.2 | 22.5 | 0.04 | 0.81 | — | 0.81 | 0.75 | — | 0.75 | — | 4,120 | 4,120 | 0.17 | 0.03 | — | 4,134 |
| Architectural Coatings | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.46 | 0.39 | 3.60 | 4.02 | 0.01 | 0.14 | — | 0.14 | 0.13 | — | 0.13 | — | 734 | 734 | 0.03 | 0.01 | — | 736 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.08 | 0.07 | 0.66 | 0.73 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 121 | 121 | < 0.005 | < 0.005 | — | 122 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.06 | 1.02 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 235 | 235 | < 0.005 | 0.01 | 0.67 | 238 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| 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 | 0.01 | 0.01 | 0.01 | 0.16 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 40.3 | 40.3 | < 0.005 | < 0.005 | 0.05 | 40.8 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.66 | 6.66 | < 0.005 | < 0.005 | 0.01 | 6.75 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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 |

## 3.14. Installation of outlet line etc. (2028) - 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 | 0.48 | 0.46 | 3.36 | 22.6 | 0.04 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 4,120 | 4,120 | 0.17 | 0.03 | — | 4,134 |
| Architectural Coatings | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.09 | 0.08 | 0.60 | 4.02 | 0.01 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 734 | 734 | 0.03 | 0.01 | — | 736 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.01 | 0.11 | 0.73 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 121 | 121 | < 0.005 | < 0.005 | — | 122 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.06 | 1.02 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 235 | 235 | < 0.005 | 0.01 | 0.67 | 238 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| 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 | 0.01 | 0.01 | 0.01 | 0.16 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 40.3 | 40.3 | < 0.005 | < 0.005 | 0.05 | 40.8 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.66 | 6.66 | < 0.005 | < 0.005 | 0.01 | 6.75 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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 |

## 3.15. Pedestrian Bridge Construction (2028) - 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-Roa Equipment | 0.76 | 0.64 | 5.88 | 8.80 | 0.02 | 0.20 | — | 0.20 | 0.19 | — | 0.19 | — | 1,862 | 1,862 | 0.08 | 0.02 | — | 1,868 |
| 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-Roa d Equipm ent | 0.13 | 0.11 | 1.05 | 1.57 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 332 | 332 | 0.01 | < 0.005 | — | 333 |
| 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-Roa d Equipm ent | 0.02 | 0.02 | 0.19 | 0.29 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 54.9 | 54.9 | < 0.005 | < 0.005 | — | 55.1 |
| 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 | 0.04 | 0.03 | 0.03 | 0.56 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 131 | 131 | < 0.005 | < 0.005 | 0.37 | 132 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| 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 | 0.01 | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.01 | — | 22.4 | 22.4 | < 0.005 | < 0.005 | 0.03 | 22.6 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.70 | 3.70 | < 0.005 | < 0.005 | < 0.005 | 3.75 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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 |

## 3.16. Pedestrian Bridge Construction (2028) - 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 | 0.18 | 0.18 | 0.92 | 11.0 | 0.02 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 1,862 | 1,862 | 0.08 | 0.02 | — | 1,868 |
| 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 | 0.03 | 0.03 | 0.16 | 1.95 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 332 | 332 | 0.01 | < 0.005 | — | 333 |
| 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 | 0.01 | 0.01 | 0.03 | 0.36 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 54.9 | 54.9 | < 0.005 | < 0.005 | — | 55.1 |
| 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 | 0.04 | 0.03 | 0.03 | 0.56 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 131 | 131 | < 0.005 | < 0.005 | 0.37 | 132 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 119 | 119 | < 0.005 | 0.02 | 0.30 | 125 |
| 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 | 0.01 | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.01 | — | 22.4 | 22.4 | < 0.005 | < 0.005 | 0.03 | 22.6 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.3 | 21.3 | < 0.005 | < 0.005 | 0.02 | 22.2 |
| 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 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.70 | 3.70 | < 0.005 | < 0.005 | < 0.005 | 3.75 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.52 | 3.52 | < 0.005 | < 0.005 | < 0.005 | 3.68 |
| 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 |

## 3.17. Site Improvements (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.08 | 0.90 | 8.28 | 12.3 | 0.02 | 0.31 | — | 0.31 | 0.28 | — | 0.28 | — | 1,907 | 1,907 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.49 | 2.22 | < 0.005 | 0.06 | — | 0.06 | 0.05 | — | 0.05 | — | 343 | 343 | 0.01 | < 0.005 | — | 344 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.27 | 0.41 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 56.8 | 56.8 | < 0.005 | < 0.005 | — | 57.0 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.07 | 0.86 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 223 | 223 | < 0.005 | 0.01 | 0.02 | 225 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 120 | 120 | < 0.005 | 0.02 | 0.01 | 125 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.16 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 40.7 | 40.7 | < 0.005 | < 0.005 | 0.05 | 41.2 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.5 | 21.5 | < 0.005 | < 0.005 | 0.02 | 22.5 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.74 | 6.74 | < 0.005 | < 0.005 | 0.01 | 6.82 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.56 | 3.56 | < 0.005 | < 0.005 | < 0.005 | 3.72 |
| 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 |

## 3.18. Site Improvements (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.57 | 0.49 | 4.17 | 13.0 | 0.02 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 1,907 | 1,907 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 0.10 | 0.09 | 0.75 | 2.34 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 343 | 343 | 0.01 | < 0.005 | — | 344 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.02 | 0.14 | 0.43 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 56.8 | 56.8 | < 0.005 | < 0.005 | — | 57.0 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.07 | 0.86 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 223 | 223 | < 0.005 | 0.01 | 0.02 | 225 |
| Vendor | 0.01 | < 0.005 | 0.13 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 120 | 120 | < 0.005 | 0.02 | 0.01 | 125 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.16 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 40.7 | 40.7 | < 0.005 | < 0.005 | 0.05 | 41.2 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 21.5 | 21.5 | < 0.005 | < 0.005 | 0.02 | 22.5 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.74 | 6.74 | < 0.005 | < 0.005 | 0.01 | 6.82 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.56 | 3.56 | < 0.005 | < 0.005 | < 0.005 | 3.72 |
| 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 |

## 3.19. Site Improvements (2029) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.04 | 0.87 | 7.96 | 12.3 | 0.02 | 0.28 | — | 0.28 | 0.26 | — | 0.26 | — | 1,906 | 1,906 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.40 | 2.17 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 336 | 336 | 0.01 | < 0.005 | — | 337 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.26 | 0.40 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 55.6 | 55.6 | < 0.005 | < 0.005 | — | 55.8 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.06 | 0.80 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 219 | 219 | < 0.005 | 0.01 | 0.02 | 222 |
| Vendor | 0.01 | < 0.005 | 0.12 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 116 | 116 | < 0.005 | 0.02 | 0.01 | 122 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.15 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 39.1 | 39.1 | < 0.005 | < 0.005 | 0.05 | 39.6 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 20.5 | 20.5 | < 0.005 | < 0.005 | 0.02 | 21.4 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.48 | 6.48 | < 0.005 | < 0.005 | 0.01 | 6.56 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.39 | 3.39 | < 0.005 | < 0.005 | < 0.005 | 3.54 |
| 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 |

## 3.20. Site Improvements (2029) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.56 | 0.48 | 4.13 | 13.0 | 0.02 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 1,906 | 1,906 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.73 | 2.28 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 336 | 336 | 0.01 | < 0.005 | — | 337 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.02 | 0.13 | 0.42 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 55.6 | 55.6 | < 0.005 | < 0.005 | — | 55.8 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.06 | 0.80 | 0.00 | 0.00 | 0.24 | 0.24 | 0.00 | 0.06 | 0.06 | — | 219 | 219 | < 0.005 | 0.01 | 0.02 | 222 |
| Vendor | 0.01 | < 0.005 | 0.12 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 116 | 116 | < 0.005 | 0.02 | 0.01 | 122 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | 0.01 | 0.15 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 39.1 | 39.1 | < 0.005 | < 0.005 | 0.05 | 39.6 |
| Vendor | < 0.005 | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 20.5 | 20.5 | < 0.005 | < 0.005 | 0.02 | 21.4 |
| 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 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 6.48 | 6.48 | < 0.005 | < 0.005 | 0.01 | 6.56 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.39 | 3.39 | < 0.005 | < 0.005 | < 0.005 | 3.54 |
| 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 7/1/2027 | 7/31/2027 | 5.00 | 22.0 | — |

| | | | | | | |
|---|---|---|---|---|---|---|
| Site preparation, clearing and grubbing | Site Preparation | 8/1/2027 | 8/30/2027 | 5.00 | 21.0 | — |
| Reservoir excavation | Grading | 10/1/2027 | 11/30/2027 | 5.00 | 43.0 | — |
| Reservoir construction | Building Construction | 12/1/2027 | 3/31/2028 | 5.00 | 88.0 | — |
| Installation of pipes, pump etc. | Building Construction | 5/1/2028 | 7/30/2028 | 5.00 | 65.0 | — |
| Installation of outlet line etc. | Building Construction | 5/1/2028 | 7/30/2028 | 5.00 | 65.0 | — |
| Pedestrian Bridge Construction | Building Construction | 7/1/2028 | 9/30/2028 | 5.00 | 65.0 | — |
| Site Improvements | Paving | 10/1/2028 | 3/31/2029 | 5.00 | 130 | — |

## 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 | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Demolition | Graders | Diesel | Average | 2.00 | 8.00 | 148 | 0.41 |
| Site preparation, clearing and grubbing | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site preparation, clearing and grubbing | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Site preparation, clearing and grubbing | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Reservoir excavation | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir excavation | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Reservoir excavation | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Reservoir construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Reservoir construction | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Reservoir construction | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of pipes, pump etc. | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Installation of pipes, pump etc. | Trenchers | Diesel | Average | 2.00 | 8.00 | 40.0 | 0.50 |
| Installation of pipes, pump etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Installation of outlet line etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Site Improvements | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Site Improvements | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Site Improvements | Pavers | Diesel | Average | 1.00 | 8.00 | 81.0 | 0.42 |
| Site Improvements | Paving Equipment | Diesel | Average | 1.00 | 8.00 | 89.0 | 0.36 |
| Site Improvements | Rollers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Site Improvements | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Site Improvements | Aerial Lifts | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.31 |
| Site Improvements | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

### 5.2.2. Mitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Demolition | Graders | Diesel | Tier 4 Final | 2.00 | 8.00 | 148 | 0.41 |
| Site preparation, clearing and grubbing | Rubber Tired Dozers | Diesel | Tier 4 Final | 3.00 | 8.00 | 367 | 0.40 |
| Site preparation, clearing and grubbing | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Site preparation, clearing and grubbing | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 4.00 | 8.00 | 84.0 | 0.37 |
| Reservoir excavation | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir excavation | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Reservoir excavation | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Reservoir construction | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Reservoir construction | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir construction | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of pipes, pump etc. | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Installation of pipes, pump etc. | Trenchers | Diesel | Tier 4 Final | 2.00 | 8.00 | 40.0 | 0.50 |
| Installation of pipes, pump etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Installation of outlet line etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Site Improvements | Graders | Diesel | Tier 4 Final | 1.00 | 8.00 | 148 | 0.41 |
| Site Improvements | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Site Improvements | Pavers | Diesel | Tier 4 Final | 1.00 | 8.00 | 81.0 | 0.42 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Site Improvements | Paving Equipment | Diesel | Tier 4 Final | 1.00 | 8.00 | 89.0 | 0.36 |
| Site Improvements | Rollers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Site Improvements | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Site Improvements | Aerial Lifts | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.31 |
| Site Improvements | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 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 | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Demolition | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Demolition | Hauling | 4.00 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site preparation, clearing and grubbing | — | — | — | — |
| Site preparation, clearing and grubbing | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Site preparation, clearing and grubbing | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Site preparation, clearing and grubbing | Hauling | 4.00 | 20.0 | HHDT |
| Site preparation, clearing and grubbing | Onsite truck | — | — | HHDT |
| Reservoir excavation | — | — | — | — |
| Reservoir excavation | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Reservoir excavation | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Reservoir excavation | Hauling | 38.0 | 20.0 | HHDT |

| | | | | |
|---|---|---|---|---|
| Reservoir excavation | Onsite truck | — | — | HHDT |
| Reservoir construction | — | — | — | — |
| Reservoir construction | Worker | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Reservoir construction | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Reservoir construction | Hauling | 0.00 | 20.0 | HHDT |
| Reservoir construction | Onsite truck | — | — | HHDT |
| Installation of pipes, pump etc. | — | — | — | — |
| Installation of pipes, pump etc. | Worker | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Installation of pipes, pump etc. | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Installation of pipes, pump etc. | Hauling | 4.00 | 20.0 | HHDT |
| Installation of pipes, pump etc. | Onsite truck | — | — | HHDT |
| Installation of outlet line etc. | — | — | — | — |
| Installation of outlet line etc. | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Installation of outlet line etc. | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Installation of outlet line etc. | Hauling | 0.00 | 20.0 | HHDT |
| Installation of outlet line etc. | Onsite truck | — | — | HHDT |
| Pedestrian Bridge Construction | — | — | — | — |
| Pedestrian Bridge Construction | Worker | 10.0 | 18.5 | LDA,LDT1,LDT2 |
| Pedestrian Bridge Construction | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Pedestrian Bridge Construction | Hauling | 0.00 | 20.0 | HHDT |
| Pedestrian Bridge Construction | Onsite truck | — | — | HHDT |
| Site Improvements | — | — | — | — |
| Site Improvements | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Site Improvements | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Site Improvements | Hauling | 0.00 | 20.0 | HHDT |
| Site Improvements | Onsite truck | — | — | HHDT |

### 5.3.2. Mitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Demolition | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Demolition | Hauling | 4.00 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site preparation, clearing and grubbing | — | — | — | — |
| Site preparation, clearing and grubbing | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Site preparation, clearing and grubbing | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Site preparation, clearing and grubbing | Hauling | 4.00 | 20.0 | HHDT |
| Site preparation, clearing and grubbing | Onsite truck | — | — | HHDT |
| Reservoir excavation | — | — | — | — |
| Reservoir excavation | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Reservoir excavation | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Reservoir excavation | Hauling | 38.0 | 20.0 | HHDT |
| Reservoir excavation | Onsite truck | — | — | HHDT |
| Reservoir construction | — | — | — | — |
| Reservoir construction | Worker | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Reservoir construction | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Reservoir construction | Hauling | 0.00 | 20.0 | HHDT |
| Reservoir construction | Onsite truck | — | — | HHDT |
| Installation of pipes, pump etc. | — | — | — | — |
| Installation of pipes, pump etc. | Worker | 14.0 | 18.5 | LDA,LDT1,LDT2 |
| Installation of pipes, pump etc. | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Installation of pipes, pump etc. | Hauling | 4.00 | 20.0 | HHDT |

| | | | | |
|---|---|---|---|---|
| Installation of pipes, pump etc. | Onsite truck | — | — | HHDT |
| Installation of outlet line etc. | — | — | — | — |
| Installation of outlet line etc. | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Installation of outlet line etc. | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Installation of outlet line etc. | Hauling | 0.00 | 20.0 | HHDT |
| Installation of outlet line etc. | Onsite truck | — | — | HHDT |
| Pedestrian Bridge Construction | — | — | — | — |
| Pedestrian Bridge Construction | Worker | 10.0 | 18.5 | LDA,LDT1,LDT2 |
| Pedestrian Bridge Construction | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Pedestrian Bridge Construction | Hauling | 0.00 | 20.0 | HHDT |
| Pedestrian Bridge Construction | Onsite truck | — | — | HHDT |
| Site Improvements | — | — | — | — |
| Site Improvements | Worker | 18.0 | 18.5 | LDA,LDT1,LDT2 |
| Site Improvements | Vendor | 4.00 | 10.2 | HHDT,MHDT |
| Site Improvements | Hauling | 0.00 | 20.0 | HHDT |
| Site Improvements | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 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) |
|---|---|---|---|---|---|
| Installation of outlet line etc. | 0.00 | 0.00 | 0.00 | 0.00 | 308 |

## 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) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | 135 | — |
| Site preparation, clearing and grubbing | — | — | 31.5 | 0.00 | — |
| Reservoir excavation | — | 12,510 | 43.0 | 0.00 | — |
| Site Improvements | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 |

### 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

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| City Park | 0.00 | 0% |
| Parking Lot | 0.07 | 100% |
| Other Non-Asphalt Surfaces | 0.05 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2028 | 0.00 | 1,028 | 0.03 | < 0.005 |
| 2029 | 0.00 | 1,028 | 0.03 | < 0.005 |
| 2027 | 0.00 | 1,028 | 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 |
|---|---|---|---|

### 5.18.1.2. Mitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

## 5.18.1. Biomass Cover Type

### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.1.2. Mitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

## 5.18.2. Sequestration

### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

### 5.18.2.2. Mitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 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 | 20.8 | annual days of extreme heat |
| Extreme Precipitation | 7.85 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 6.20 | 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 | 84.6 |

| | |
|---|---|
| AQ-PM | 61.6 |
| AQ-DPM | 14.4 |
| Drinking Water | 87.7 |
| Lead Risk Housing | 57.2 |
| Pesticides | 41.7 |
| Toxic Releases | 67.5 |
| Traffic | 16.4 |
| Effect Indicators | — |
| CleanUp Sites | 61.4 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 1.80 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 35.7 |
| Sensitive Population | — |
| Asthma | 11.4 |
| Cardio-vascular | 8.28 |
| Low Birth Weights | 1.01 |
| Socioeconomic Factor Indicators | — |
| Education | 20.9 |
| Housing | 39.2 |
| Linguistic | 46.0 |
| Poverty | 9.85 |
| Unemployment | 52.5 |

## 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 | 91.55652509 |
| Employed | 66.62389324 |
| Median HI | 93.46849737 |
| Education | — |
| Bachelor's or higher | 81.99666367 |
| High school enrollment | 100 |
| Preschool enrollment | 95.7141024 |
| Transportation | — |
| Auto Access | 81.29090209 |
| Active commuting | 28.7950725 |
| Social | — |
| 2-parent households | 61.81188246 |
| Voting | 85.88476838 |
| Neighborhood | — |
| Alcohol availability | 81.62453484 |
| Park access | 49.90375978 |
| Retail density | 20.12062107 |
| Supermarket access | 12.33157962 |
| Tree canopy | 87.66842038 |
| Housing | — |
| Homeownership | 87.77107661 |
| Housing habitability | 91.27422045 |
| Low-inc homeowner severe housing cost burden | 52.23918902 |
| Low-inc renter severe housing cost burden | 80.48248428 |
| Uncrowded housing | 96.93314513 |
| Health Outcomes | — |
| Insured adults | 81.97099962 |
| Arthritis | 17.5 |

| | |
|---|---|
| Asthma ER Admissions | 85.4 |
| High Blood Pressure | 16.4 |
| Cancer (excluding skin) | 6.6 |
| Asthma | 83.3 |
| Coronary Heart Disease | 17.4 |
| Chronic Obstructive Pulmonary Disease | 56.7 |
| Diagnosed Diabetes | 52.6 |
| Life Expectancy at Birth | 88.2 |
| Cognitively Disabled | 56.3 |
| Physically  Disabled | 47.8 |
| Heart Attack ER Admissions | 82.4 |
| Mental Health Not Good | 85.8 |
| Chronic Kidney Disease | 35.4 |
| Obesity | 78.7 |
| Pedestrian Injuries | 51.7 |
| Physical Health Not Good | 68.2 |
| Stroke | 34.3 |
| Health Risk Behaviors | — |
| Binge Drinking | 71.2 |
| Current Smoker | 86.5 |
| No Leisure Time for Physical Activity | 79.7 |
| Climate Change Exposures | — |
| Wildfire Risk | 46.9 |
| SLR Inundation Area | 0.0 |
| Children | 71.1 |
| Elderly | 13.2 |
| English Speaking | 80.3 |
| Foreign-born | 61.2 |

| | |
|---|---|
| Outdoor Workers | 72.8 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 84.1 |
| Traffic Density | 14.1 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 16.5 |
| Other Decision Support | — |
| 2016 Voting | 68.0 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 15.0 |
| Healthy Places Index Score for Project Location (b) | 91.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| 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 |
|---|---|
| Land Use | Based on applicant provided information. |
| Construction: Construction Phases | Based on applicant schedule. |
| Construction: Off-Road Equipment | applicant provided information |
| Construction: Trips and VMT | Trips based on applicant provided information. Vendor trucks added to represent water trucks, other materials transported to site. Haul truck trip length changed to 9 miles to reflect the project specific distance to the disposal site. |
| Operations: Vehicle Data | Up to 3 staff would visit site on a daily basis, reflected in Parking Lot use. |
| Operations: Off-Road Equipment | Wash operations would include a pump (or 2) to move water. Based on preliminary project info, pump(s) would be electrically powered and assumed to 75 hp, operated year-round. |

# Eaton Wash LST Analysis Detailed 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 | Eaton Wash LST Analysis |
| Construction Start Date | 7/1/2027 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 0.50 |
| Precipitation (days) | 19.6 |
| Location | 34.169645957296936, -118.08973754480081 |
| County | Los Angeles-South Coast |
| City | Pasadena |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 4993 |
| EDFZ | 7 |
| Electric Utility | Pasadena Water & Power |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.30 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| City Park | 0.57 | Acre | 3.85 | 0.00 | 56,830 | 56,830 | — | — |
| Parking Lot | 8.00 | Space | 0.07 | 0.00 | 0.00 | — | — | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 2.00 | 1000sqft | 0.05 | 0.00 | 0.00 | — | — | — |

### 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. | 4.43 | 3.73 | 33.3 | 40.7 | 0.07 | 1.26 | 5.12 | 6.32 | 1.16 | 2.63 | 3.73 | — | 7,922 | 7,922 | 0.33 | 0.07 | 0.05 | 7,951 |
| Mit. | 1.42 | 1.30 | 8.95 | 44.6 | 0.07 | 0.28 | 5.12 | 5.25 | 0.27 | 2.63 | 2.76 | — | 7,922 | 7,922 | 0.33 | 0.07 | 0.05 | 7,951 |
| % Reduced | 68% | 65% | 73% | -10% | — | 78% | — | 17% | 77% | — | 26% | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.73 | 2.30 | 21.2 | 23.1 | 0.04 | 0.88 | 3.42 | 4.26 | 0.81 | 1.75 | 2.52 | — | 4,251 | 4,251 | 0.20 | 0.05 | < 0.005 | 4,267 |
| Mit. | 0.62 | 0.54 | 4.22 | 23.2 | 0.04 | 0.11 | 3.42 | 3.53 | 0.11 | 1.75 | 1.86 | — | 4,251 | 4,251 | 0.20 | 0.05 | < 0.005 | 4,267 |
| % Reduced | 77% | 76% | 80% | > -0.5% | — | 87% | — | 17% | 86% | — | 26% | — | — | — | — | — | — | — |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.47 | 1.24 | 11.1 | 13.1 | 0.02 | 0.43 | 0.70 | 0.98 | 0.40 | 0.36 | 0.62 | — | 2,513 | 2,513 | 0.11 | 0.02 | 0.01 | 2,523 |
| Mit. | 0.46 | 0.42 | 2.97 | 14.2 | 0.02 | 0.09 | 0.70 | 0.74 | 0.09 | 0.36 | 0.39 | — | 2,513 | 2,513 | 0.11 | 0.02 | 0.01 | 2,523 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Reduced | 69% | 66% | 73% | -8% | — | 79% | — | 25% | 79% | — | 37% | — | — | — | — | — | — | — |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.27 | 0.23 | 2.02 | 2.38 | < 0.005 | 0.08 | 0.13 | 0.18 | 0.07 | 0.07 | 0.11 | — | 416 | 416 | 0.02 | < 0.005 | < 0.005 | 418 |
| Mit. | 0.08 | 0.08 | 0.54 | 2.58 | < 0.005 | 0.02 | 0.13 | 0.13 | 0.02 | 0.07 | 0.07 | — | 416 | 416 | 0.02 | < 0.005 | < 0.005 | 418 |
| % Reduced | 69% | 66% | 73% | -8% | — | 79% | — | 25% | 79% | — | 37% | — | — | — | — | — | — | — |

## 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 | 3.82 | 3.21 | 28.9 | 29.0 | 0.05 | 1.20 | 5.12 | 6.32 | 1.11 | 2.63 | 3.73 | — | 5,425 | 5,425 | 0.23 | 0.05 | 0.03 | 5,445 |
| 2028 | 4.43 | 3.73 | 33.3 | 40.7 | 0.07 | 1.26 | 0.01 | 1.27 | 1.16 | < 0.005 | 1.16 | — | 7,922 | 7,922 | 0.33 | 0.07 | 0.05 | 7,951 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 2.73 | 2.30 | 21.2 | 23.1 | 0.04 | 0.88 | 3.42 | 4.26 | 0.81 | 1.75 | 2.52 | — | 4,249 | 4,249 | 0.20 | 0.05 | < 0.005 | 4,265 |
| 2028 | 2.71 | 2.28 | 20.4 | 20.0 | 0.04 | 0.86 | < 0.005 | 0.86 | 0.79 | < 0.005 | 0.79 | — | 4,251 | 4,251 | 0.18 | 0.04 | < 0.005 | 4,267 |
| 2029 | 1.09 | 0.92 | 8.01 | 12.5 | 0.02 | 0.28 | < 0.005 | 0.29 | 0.26 | < 0.005 | 0.26 | — | 1,919 | 1,919 | 0.08 | 0.02 | < 0.005 | 1,926 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.88 | 0.74 | 6.75 | 6.97 | 0.01 | 0.28 | 0.70 | 0.98 | 0.26 | 0.36 | 0.62 | — | 1,319 | 1,319 | 0.06 | 0.01 | 0.01 | 1,324 |
| 2028 | 1.47 | 1.24 | 11.1 | 13.1 | 0.02 | 0.43 | < 0.005 | 0.43 | 0.40 | < 0.005 | 0.40 | — | 2,513 | 2,513 | 0.11 | 0.02 | 0.01 | 2,523 |
| 2029 | 0.19 | 0.16 | 1.41 | 2.20 | < 0.005 | 0.05 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.05 | — | 338 | 338 | 0.01 | < 0.005 | < 0.005 | 339 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.16 | 0.14 | 1.23 | 1.27 | < 0.005 | 0.05 | 0.13 | 0.18 | 0.05 | 0.07 | 0.11 | — | 218 | 218 | 0.01 | < 0.005 | < 0.005 | 219 |
| 2028 | 0.27 | 0.23 | 2.02 | 2.38 | < 0.005 | 0.08 | < 0.005 | 0.08 | 0.07 | < 0.005 | 0.07 | — | 416 | 416 | 0.02 | < 0.005 | < 0.005 | 418 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2029 | 0.04 | 0.03 | 0.26 | 0.40 | < 0.005 | 0.01 | < 0.005 | 0.01 | 0.01 | < 0.005 | 0.01 | — | 56.0 | 56.0 | < 0.005 | < 0.005 | < 0.005 | 56.2 |

## 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 | 0.68 | 0.66 | 3.49 | 29.0 | 0.05 | 0.13 | 5.12 | 5.25 | 0.13 | 2.63 | 2.76 | — | 5,425 | 5,425 | 0.23 | 0.05 | 0.03 | 5,445 |
| 2028 | 1.42 | 1.30 | 8.95 | 44.6 | 0.07 | 0.28 | 0.01 | 0.29 | 0.27 | < 0.005 | 0.27 | — | 7,922 | 7,922 | 0.33 | 0.07 | 0.05 | 7,951 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.59 | 0.53 | 4.03 | 23.2 | 0.04 | 0.11 | 3.42 | 3.53 | 0.11 | 1.75 | 1.86 | — | 4,249 | 4,249 | 0.20 | 0.05 | < 0.005 | 4,265 |
| 2028 | 0.62 | 0.54 | 4.22 | 21.5 | 0.04 | 0.11 | < 0.005 | 0.11 | 0.11 | < 0.005 | 0.11 | — | 4,251 | 4,251 | 0.18 | 0.04 | < 0.005 | 4,267 |
| 2029 | 0.61 | 0.53 | 4.18 | 13.1 | 0.02 | 0.11 | < 0.005 | 0.11 | 0.10 | < 0.005 | 0.10 | — | 1,919 | 1,919 | 0.08 | 0.02 | < 0.005 | 1,926 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.17 | 0.16 | 1.06 | 7.10 | 0.01 | 0.03 | 0.70 | 0.74 | 0.03 | 0.36 | 0.39 | — | 1,319 | 1,319 | 0.06 | 0.01 | 0.01 | 1,324 |
| 2028 | 0.46 | 0.42 | 2.97 | 14.2 | 0.02 | 0.09 | < 0.005 | 0.09 | 0.09 | < 0.005 | 0.09 | — | 2,513 | 2,513 | 0.11 | 0.02 | 0.01 | 2,523 |
| 2029 | 0.11 | 0.09 | 0.74 | 2.31 | < 0.005 | 0.02 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.02 | — | 338 | 338 | 0.01 | < 0.005 | < 0.005 | 339 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2027 | 0.03 | 0.03 | 0.19 | 1.29 | < 0.005 | 0.01 | 0.13 | 0.13 | 0.01 | 0.07 | 0.07 | — | 218 | 218 | 0.01 | < 0.005 | < 0.005 | 219 |
| 2028 | 0.08 | 0.08 | 0.54 | 2.58 | < 0.005 | 0.02 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.02 | — | 416 | 416 | 0.02 | < 0.005 | < 0.005 | 418 |
| 2029 | 0.02 | 0.02 | 0.13 | 0.42 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 56.0 | 56.0 | < 0.005 | < 0.005 | < 0.005 | 56.2 |

# 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 | 2.94 | 2.47 | 21.7 | 22.5 | 0.04 | 1.00 | — | 1.00 | 0.92 | — | 0.92 | — | 4,140 | 4,140 | 0.17 | 0.03 | — | 4,154 |
| Demolition | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| 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 | 0.18 | 0.15 | 1.31 | 1.36 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 250 | 250 | 0.01 | < 0.005 | — | 250 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.24 | 0.25 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.5 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.04 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.80 | 4.80 | < 0.005 | < 0.005 | 0.01 | 5.17 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.02 | 7.02 | < 0.005 | < 0.005 | 0.01 | 7.40 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.85 | 9.85 | < 0.005 | < 0.005 | 0.01 | 10.4 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.42 | 0.42 | < 0.005 | < 0.005 | < 0.005 | 0.45 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.60 | 0.60 | < 0.005 | < 0.005 | < 0.005 | 0.63 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.05 | 0.05 | < 0.005 | < 0.005 | < 0.005 | 0.05 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.10 | 0.10 | < 0.005 | < 0.005 | < 0.005 | 0.10 |

## 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 | 0.44 | 0.43 | 2.72 | 22.9 | 0.04 | 0.09 | — | 0.09 | 0.09 | — | 0.09 | — | 4,140 | 4,140 | 0.17 | 0.03 | — | 4,154 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.16 | 1.38 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 250 | 250 | 0.01 | < 0.005 | — | 250 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.25 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 41.3 | 41.3 | < 0.005 | < 0.005 | — | 41.5 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.04 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.80 | 4.80 | < 0.005 | < 0.005 | 0.01 | 5.17 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.02 | 7.02 | < 0.005 | < 0.005 | 0.01 | 7.40 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.85 | 9.85 | < 0.005 | < 0.005 | 0.01 | 10.4 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.42 | 0.42 | < 0.005 | < 0.005 | < 0.005 | 0.45 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.60 | 0.60 | < 0.005 | < 0.005 | < 0.005 | 0.63 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.05 | 0.05 | < 0.005 | < 0.005 | < 0.005 | 0.05 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.10 | 0.10 | < 0.005 | < 0.005 | < 0.005 | 0.10 |

## 3.3. Site preparation, clearing and grubbing (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 | 3.75 | 3.15 | 28.8 | 28.8 | 0.05 | 1.20 | — | 1.20 | 1.11 | — | 1.11 | — | 5,402 | 5,402 | 0.22 | 0.04 | — | 5,420 |
| Dust From Material Movement | — | — | — | — | — | — | 5.11 | 5.11 | — | 2.63 | 2.63 | — | — | — | — | — | — | — |
| 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 | 0.22 | 0.18 | 1.65 | 1.66 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |
| Dust From Material Movement | — | — | — | — | — | — | 0.29 | 0.29 | — | 0.15 | 0.15 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.30 | 0.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 51.5 | 51.5 | < 0.005 | < 0.005 | — | 51.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.03 | 0.03 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.15 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.86 | 6.86 | < 0.005 | < 0.005 | 0.01 | 7.38 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.02 | 7.02 | < 0.005 | < 0.005 | 0.01 | 7.40 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.85 | 9.85 | < 0.005 | < 0.005 | 0.01 | 10.4 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.39 | 0.39 | < 0.005 | < 0.005 | < 0.005 | 0.42 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.41 | 0.41 | < 0.005 | < 0.005 | < 0.005 | 0.43 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.57 | 0.57 | < 0.005 | < 0.005 | < 0.005 | 0.60 |
| 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 | 0.07 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.09 | 0.09 | < 0.005 | < 0.005 | < 0.005 | 0.10 |

## 3.4. Site preparation, clearing and grubbing (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 | 0.62 | 0.60 | 3.38 | 28.8 | 0.05 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 5,402 | 5,402 | 0.22 | 0.04 | — | 5,420 |
| Dust From Material Movement | — | — | — | — | — | — | 5.11 | 5.11 | — | 2.63 | 2.63 | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.19 | 1.66 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | 0.29 | 0.29 | — | 0.15 | 0.15 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.01 | 0.04 | 0.30 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 51.5 | 51.5 | < 0.005 | < 0.005 | — | 51.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.03 | 0.03 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.15 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.86 | 6.86 | < 0.005 | < 0.005 | 0.01 | 7.38 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.02 | 7.02 | < 0.005 | < 0.005 | 0.01 | 7.40 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.85 | 9.85 | < 0.005 | < 0.005 | 0.01 | 10.4 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.39 | 0.39 | < 0.005 | < 0.005 | < 0.005 | 0.42 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.41 | 0.41 | < 0.005 | < 0.005 | < 0.005 | 0.43 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.57 | 0.57 | < 0.005 | < 0.005 | < 0.005 | 0.60 |
| 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 | 0.07 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.09 | 0.09 | < 0.005 | < 0.005 | < 0.005 | 0.10 |

## 3.5. Reservoir excavation (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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.60 | 2.19 | 20.6 | 22.5 | 0.04 | 0.83 | — | 0.83 | 0.77 | — | 0.77 | — | 4,119 | 4,119 | 0.17 | 0.03 | — | 4,133 |
| Dust From Material Movement | — | — | — | — | — | — | 3.41 | 3.41 | — | 1.75 | 1.75 | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.31 | 0.26 | 2.43 | 2.65 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 485 | 485 | 0.02 | < 0.005 | — | 487 |
| Dust From Material Movement | — | — | — | — | — | — | 0.40 | 0.40 | — | 0.21 | 0.21 | — | — | — | — | — | — | — |
| 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 | 0.06 | 0.05 | 0.44 | 0.48 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 80.3 | 80.3 | < 0.005 | < 0.005 | — | 80.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.07 | 0.07 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.01 | 0.16 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.06 | 6.06 | < 0.005 | < 0.005 | < 0.005 | 6.52 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.09 | 7.09 | < 0.005 | < 0.005 | < 0.005 | 7.46 |
| Hauling | 0.05 | 0.02 | 0.58 | 0.43 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 94.7 | 94.7 | 0.03 | 0.02 | < 0.005 | 100 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.72 | 0.72 | < 0.005 | < 0.005 | < 0.005 | 0.77 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.87 |
| Hauling | 0.01 | < 0.005 | 0.07 | 0.05 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 11.1 | 11.1 | < 0.005 | < 0.005 | < 0.005 | 11.7 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.12 | 0.12 | < 0.005 | < 0.005 | < 0.005 | 0.13 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.14 |
| Hauling | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.83 | 1.83 | < 0.005 | < 0.005 | < 0.005 | 1.94 |

## 3.6. Reservoir excavation (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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.48 | 0.46 | 3.40 | 22.6 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,119 | 4,119 | 0.17 | 0.03 | — | 4,133 |
| Dust From Material Movement | — | — | — | — | — | — | 3.41 | 3.41 | — | 1.75 | 1.75 | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.40 | 2.66 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 485 | 485 | 0.02 | < 0.005 | — | 487 |
| Dust From Material Movement | — | — | — | — | — | — | 0.40 | 0.40 | — | 0.21 | 0.21 | — | — | — | — | — | — | — |
| 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 | 0.01 | 0.01 | 0.07 | 0.48 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 80.3 | 80.3 | < 0.005 | < 0.005 | — | 80.6 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | 0.07 | 0.07 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.01 | 0.16 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.06 | 6.06 | < 0.005 | < 0.005 | < 0.005 | 6.52 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.09 | 7.09 | < 0.005 | < 0.005 | < 0.005 | 7.46 |
| Hauling | 0.05 | 0.02 | 0.58 | 0.43 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 94.7 | 94.7 | 0.03 | 0.02 | < 0.005 | 100 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.72 | 0.72 | < 0.005 | < 0.005 | < 0.005 | 0.77 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.87 |
| Hauling | 0.01 | < 0.005 | 0.07 | 0.05 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 11.1 | 11.1 | < 0.005 | < 0.005 | < 0.005 | 11.7 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.12 | 0.12 | < 0.005 | < 0.005 | < 0.005 | 0.13 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.14 |
| Hauling | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.83 | 1.83 | < 0.005 | < 0.005 | < 0.005 | 1.94 |

## 3.7. Reservoir 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.69 | 2.26 | 20.9 | 19.8 | 0.04 | 0.88 | — | 0.88 | 0.81 | — | 0.81 | — | 4,238 | 4,238 | 0.17 | 0.03 | — | 4,252 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.16 | 0.14 | 1.27 | 1.20 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 257 | 257 | 0.01 | < 0.005 | — | 258 |
| 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 | 0.03 | 0.03 | 0.23 | 0.22 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 42.6 | 42.6 | < 0.005 | < 0.005 | — | 42.7 |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.01 | 0.12 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | < 0.005 | 5.07 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.09 | 7.09 | < 0.005 | < 0.005 | < 0.005 | 7.46 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.43 | 0.43 | < 0.005 | < 0.005 | < 0.005 | 0.45 |
| 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 | — | 0.05 | 0.05 | < 0.005 | < 0.005 | < 0.005 | 0.05 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| 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 |

## 3.8. Reservoir 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.50 | 0.47 | 3.46 | 21.3 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,238 | 4,238 | 0.17 | 0.03 | — | 4,252 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.03 | 0.21 | 1.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 257 | 257 | 0.01 | < 0.005 | — | 258 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 0.01 | 0.01 | 0.04 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 42.6 | 42.6 | < 0.005 | < 0.005 | — | 42.7 |
| 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 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.01 | 0.12 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | < 0.005 | 5.07 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.09 | 7.09 | < 0.005 | < 0.005 | < 0.005 | 7.46 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.43 | 0.43 | < 0.005 | < 0.005 | < 0.005 | 0.45 |
| 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 | — | 0.05 | 0.05 | < 0.005 | < 0.005 | < 0.005 | 0.05 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.07 | 0.07 | < 0.005 | < 0.005 | < 0.005 | 0.07 |
| 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 |

## 3.9. Reservoir construction (2028) - 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.67 | 2.24 | 20.3 | 19.9 | 0.04 | 0.86 | — | 0.86 | 0.79 | — | 0.79 | — | 4,240 | 4,240 | 0.17 | 0.03 | — | 4,254 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.47 | 0.40 | 3.62 | 3.54 | 0.01 | 0.15 | — | 0.15 | 0.14 | — | 0.14 | — | 755 | 755 | 0.03 | 0.01 | — | 758 |
| 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 | 0.09 | 0.07 | 0.66 | 0.65 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 125 | 125 | 0.01 | < 0.005 | — | 125 |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.01 | 0.11 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.62 | 4.62 | < 0.005 | < 0.005 | < 0.005 | 4.97 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.97 | 6.97 | < 0.005 | < 0.005 | < 0.005 | 7.34 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.89 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.15 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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. Reservoir construction (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.49 | 0.47 | 3.42 | 21.4 | 0.04 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 4,240 | 4,240 | 0.17 | 0.03 | — | 4,254 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.09 | 0.08 | 0.61 | 3.80 | 0.01 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 755 | 755 | 0.03 | 0.01 | — | 758 |
| 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 | 0.02 | 0.02 | 0.11 | 0.69 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 125 | 125 | 0.01 | < 0.005 | — | 125 |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.01 | 0.11 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.62 | 4.62 | < 0.005 | < 0.005 | < 0.005 | 4.97 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.97 | 6.97 | < 0.005 | < 0.005 | < 0.005 | 7.34 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.89 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.15 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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. Installation of pipes, pump etc. (2028) - 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 | 0.93 | 0.78 | 6.99 | 8.88 | 0.02 | 0.24 | — | 0.24 | 0.22 | — | 0.22 | — | 1,896 | 1,896 | 0.08 | 0.02 | — | 1,902 |
| 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 | 0.17 | 0.14 | 1.24 | 1.58 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 338 | 338 | 0.01 | < 0.005 | — | 339 |
| 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 | 0.03 | 0.03 | 0.23 | 0.29 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 55.9 | 55.9 | < 0.005 | < 0.005 | — | 56.1 |
| 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 | 0.04 | 0.04 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | 0.01 | 5.06 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.68 | 9.68 | < 0.005 | < 0.005 | 0.01 | 10.2 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.89 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| Hauling | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.73 | 1.73 | < 0.005 | < 0.005 | < 0.005 | 1.83 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.15 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.30 |

## 3.12. Installation of pipes, pump etc. (2028) - 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 | 0.61 | 0.53 | 4.47 | 10.7 | 0.02 | 0.14 | — | 0.14 | 0.13 | — | 0.13 | — | 1,896 | 1,896 | 0.08 | 0.02 | — | 1,902 |
| 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 | 0.11 | 0.09 | 0.80 | 1.91 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 338 | 338 | 0.01 | < 0.005 | — | 339 |
| 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 | 0.02 | 0.02 | 0.15 | 0.35 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 55.9 | 55.9 | < 0.005 | < 0.005 | — | 56.1 |
| 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 | 0.04 | 0.04 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | 0.01 | 5.06 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| Hauling | 0.01 | < 0.005 | 0.06 | 0.04 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 9.68 | 9.68 | < 0.005 | < 0.005 | 0.01 | 10.2 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.89 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| Hauling | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.73 | 1.73 | < 0.005 | < 0.005 | < 0.005 | 1.83 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.14 | 0.14 | < 0.005 | < 0.005 | < 0.005 | 0.15 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.30 |

## 3.13. Installation of outlet line etc. (2028) - 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 | 2.59 | 2.17 | 20.2 | 22.5 | 0.04 | 0.81 | — | 0.81 | 0.75 | — | 0.75 | — | 4,120 | 4,120 | 0.17 | 0.03 | — | 4,134 |
| Architectural Coatings | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.46 | 0.39 | 3.60 | 4.02 | 0.01 | 0.14 | — | 0.14 | 0.13 | — | 0.13 | — | 734 | 734 | 0.03 | 0.01 | — | 736 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.08 | 0.07 | 0.66 | 0.73 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 121 | 121 | < 0.005 | < 0.005 | — | 122 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.05 | 0.05 | 0.01 | 0.12 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.06 | 6.06 | < 0.005 | < 0.005 | 0.01 | 6.51 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| 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 | 0.01 | 0.01 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.06 | 1.06 | < 0.005 | < 0.005 | < 0.005 | 1.15 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.18 | 0.18 | < 0.005 | < 0.005 | < 0.005 | 0.19 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.14. Installation of outlet line etc. (2028) - 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 | 0.48 | 0.46 | 3.36 | 22.6 | 0.04 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 4,120 | 4,120 | 0.17 | 0.03 | — | 4,134 |
| Architectural Coatings | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.09 | 0.08 | 0.60 | 4.02 | 0.01 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 734 | 734 | 0.03 | 0.01 | — | 736 |
| Architectural Coatings | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.01 | 0.11 | 0.73 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 121 | 121 | < 0.005 | < 0.005 | — | 122 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.05 | 0.05 | 0.01 | 0.12 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 6.06 | 6.06 | < 0.005 | < 0.005 | 0.01 | 6.51 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| 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 | 0.01 | 0.01 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.06 | 1.06 | < 0.005 | < 0.005 | < 0.005 | 1.15 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.18 | 0.18 | < 0.005 | < 0.005 | < 0.005 | 0.19 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.15. Pedestrian Bridge Construction (2028) - 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-Roa Equipment | 0.76 | 0.64 | 5.88 | 8.80 | 0.02 | 0.20 | — | 0.20 | 0.19 | — | 0.19 | — | 1,862 | 1,862 | 0.08 | 0.02 | — | 1,868 |
| 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-Roa d Equipm ent | 0.13 | 0.11 | 1.05 | 1.57 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 332 | 332 | 0.01 | < 0.005 | — | 333 |
| 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-Roa d Equipm ent | 0.02 | 0.02 | 0.19 | 0.29 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 54.9 | 54.9 | < 0.005 | < 0.005 | — | 55.1 |
| 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 | 0.03 | 0.03 | 0.01 | 0.07 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.37 | 3.37 | < 0.005 | < 0.005 | 0.01 | 3.62 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| 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 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.59 | 0.59 | < 0.005 | < 0.005 | < 0.005 | 0.64 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.10 | 0.10 | < 0.005 | < 0.005 | < 0.005 | 0.11 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.16. Pedestrian Bridge Construction (2028) - 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 | 0.18 | 0.18 | 0.92 | 11.0 | 0.02 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 1,862 | 1,862 | 0.08 | 0.02 | — | 1,868 |
| 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 | 0.03 | 0.03 | 0.16 | 1.95 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 332 | 332 | 0.01 | < 0.005 | — | 333 |
| 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 | 0.01 | 0.01 | 0.03 | 0.36 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 54.9 | 54.9 | < 0.005 | < 0.005 | — | 55.1 |
| 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 | 0.03 | 0.03 | 0.01 | 0.07 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.37 | 3.37 | < 0.005 | < 0.005 | 0.01 | 3.62 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.90 | 6.90 | < 0.005 | < 0.005 | 0.01 | 7.25 |
| 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 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.59 | 0.59 | < 0.005 | < 0.005 | < 0.005 | 0.64 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.23 | 1.23 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| 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 | — | 0.10 | 0.10 | < 0.005 | < 0.005 | < 0.005 | 0.11 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.17. Site Improvements (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.08 | 0.90 | 8.28 | 12.3 | 0.02 | 0.31 | — | 0.31 | 0.28 | — | 0.28 | — | 1,907 | 1,907 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.49 | 2.22 | < 0.005 | 0.06 | — | 0.06 | 0.05 | — | 0.05 | — | 343 | 343 | 0.01 | < 0.005 | — | 344 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.04 | 0.03 | 0.27 | 0.41 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 56.8 | 56.8 | < 0.005 | < 0.005 | — | 57.0 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.01 | 0.15 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 5.94 | 5.94 | < 0.005 | < 0.005 | < 0.005 | 6.39 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.97 | 6.97 | < 0.005 | < 0.005 | < 0.005 | 7.34 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.08 | 1.08 | < 0.005 | < 0.005 | < 0.005 | 1.16 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.25 | 1.25 | < 0.005 | < 0.005 | < 0.005 | 1.31 |
| 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 | — | 0.18 | 0.18 | < 0.005 | < 0.005 | < 0.005 | 0.19 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.21 | 0.21 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.18. Site Improvements (2028) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.57 | 0.49 | 4.17 | 13.0 | 0.02 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 1,907 | 1,907 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 0.10 | 0.09 | 0.75 | 2.34 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 343 | 343 | 0.01 | < 0.005 | — | 344 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.02 | 0.14 | 0.43 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 56.8 | 56.8 | < 0.005 | < 0.005 | — | 57.0 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.01 | 0.15 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 5.94 | 5.94 | < 0.005 | < 0.005 | < 0.005 | 6.39 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.97 | 6.97 | < 0.005 | < 0.005 | < 0.005 | 7.34 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.08 | 1.08 | < 0.005 | < 0.005 | < 0.005 | 1.16 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.25 | 1.25 | < 0.005 | < 0.005 | < 0.005 | 1.31 |
| 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 | — | 0.18 | 0.18 | < 0.005 | < 0.005 | < 0.005 | 0.19 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.21 | 0.21 | < 0.005 | < 0.005 | < 0.005 | 0.22 |
| 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 |

## 3.19. Site Improvements (2029) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.04 | 0.87 | 7.96 | 12.3 | 0.02 | 0.28 | — | 0.28 | 0.26 | — | 0.26 | — | 1,906 | 1,906 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.40 | 2.17 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 336 | 336 | 0.01 | < 0.005 | — | 337 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.03 | 0.03 | 0.26 | 0.40 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 55.6 | 55.6 | < 0.005 | < 0.005 | — | 55.8 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.04 | 0.01 | 0.14 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 5.83 | 5.83 | < 0.005 | < 0.005 | < 0.005 | 6.28 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.85 | 6.85 | < 0.005 | < 0.005 | < 0.005 | 7.21 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.03 | 1.03 | < 0.005 | < 0.005 | < 0.005 | 1.11 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.20 | 1.20 | < 0.005 | < 0.005 | < 0.005 | 1.26 |
| 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 | 0.18 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.21 |
| 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 |

## 3.20. Site Improvements (2029) - 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.56 | 0.48 | 4.13 | 13.0 | 0.02 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | — | 1,906 | 1,906 | 0.08 | 0.02 | — | 1,913 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.73 | 2.28 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 336 | 336 | 0.01 | < 0.005 | — | 337 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 0.02 | 0.02 | 0.13 | 0.42 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 55.6 | 55.6 | < 0.005 | < 0.005 | — | 55.8 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.04 | 0.01 | 0.14 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 5.83 | 5.83 | < 0.005 | < 0.005 | < 0.005 | 6.28 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.85 | 6.85 | < 0.005 | < 0.005 | < 0.005 | 7.21 |
| 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.03 | 1.03 | < 0.005 | < 0.005 | < 0.005 | 1.11 |
| Vendor | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.20 | 1.20 | < 0.005 | < 0.005 | < 0.005 | 1.26 |
| 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 | 0.18 |
| Vendor | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.21 |
| 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 7/1/2027 | 7/31/2027 | 5.00 | 22.0 | — |

| | | | | | | |
|---|---|---|---|---|---|---|
| Site preparation, clearing and grubbing | Site Preparation | 8/1/2027 | 8/30/2027 | 5.00 | 21.0 | — |
| Reservoir excavation | Grading | 10/1/2027 | 11/30/2027 | 5.00 | 43.0 | — |
| Reservoir construction | Building Construction | 12/1/2027 | 3/31/2028 | 5.00 | 88.0 | — |
| Installation of pipes, pump etc. | Building Construction | 5/1/2028 | 7/30/2028 | 5.00 | 65.0 | — |
| Installation of outlet line etc. | Building Construction | 5/1/2028 | 7/30/2028 | 5.00 | 65.0 | — |
| Pedestrian Bridge Construction | Building Construction | 7/1/2028 | 9/30/2028 | 5.00 | 65.0 | — |
| Site Improvements | Paving | 10/1/2028 | 3/31/2029 | 5.00 | 130 | — |

## 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 | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Demolition | Graders | Diesel | Average | 2.00 | 8.00 | 148 | 0.41 |
| Site preparation, clearing and grubbing | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site preparation, clearing and grubbing | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Site preparation, clearing and grubbing | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Reservoir excavation | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir excavation | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Reservoir excavation | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Reservoir construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Reservoir construction | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Reservoir construction | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of pipes, pump etc. | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Installation of pipes, pump etc. | Trenchers | Diesel | Average | 2.00 | 8.00 | 40.0 | 0.50 |
| Installation of pipes, pump etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Installation of outlet line etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Site Improvements | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Site Improvements | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Site Improvements | Pavers | Diesel | Average | 1.00 | 8.00 | 81.0 | 0.42 |
| Site Improvements | Paving Equipment | Diesel | Average | 1.00 | 8.00 | 89.0 | 0.36 |
| Site Improvements | Rollers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Site Improvements | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Site Improvements | Aerial Lifts | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.31 |
| Site Improvements | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

### 5.2.2. Mitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Demolition | Graders | Diesel | Tier 4 Final | 2.00 | 8.00 | 148 | 0.41 |
| Site preparation, clearing and grubbing | Rubber Tired Dozers | Diesel | Tier 4 Final | 3.00 | 8.00 | 367 | 0.40 |
| Site preparation, clearing and grubbing | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Site preparation, clearing and grubbing | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 4.00 | 8.00 | 84.0 | 0.37 |
| Reservoir excavation | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir excavation | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Reservoir excavation | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Reservoir construction | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Reservoir construction | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Reservoir construction | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of pipes, pump etc. | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Installation of pipes, pump etc. | Trenchers | Diesel | Average | 2.00 | 8.00 | 40.0 | 0.50 |
| Installation of pipes, pump etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Rubber Tired Dozers | Diesel | Tier 4 Final | 2.00 | 8.00 | 367 | 0.40 |
| Installation of outlet line etc. | Skid Steer Loaders | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Installation of outlet line etc. | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 3.00 | 8.00 | 84.0 | 0.37 |
| Pedestrian Bridge Construction | Cranes | Diesel | Tier 4 Final | 1.00 | 8.00 | 367 | 0.29 |
| Site Improvements | Graders | Diesel | Tier 4 Final | 1.00 | 8.00 | 148 | 0.41 |
| Site Improvements | Skid Steer Loaders | Diesel | Average | 1.00 | 8.00 | 71.0 | 0.37 |
| Site Improvements | Pavers | Diesel | Tier 4 Final | 1.00 | 8.00 | 81.0 | 0.42 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Site Improvements | Paving Equipment | Diesel | Tier 4 Final | 1.00 | 8.00 | 89.0 | 0.36 |
| Site Improvements | Rollers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Site Improvements | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Site Improvements | Aerial Lifts | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.31 |
| Site Improvements | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 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 | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Demolition | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Demolition | Hauling | 4.00 | 0.25 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site preparation, clearing and grubbing | — | — | — | — |
| Site preparation, clearing and grubbing | Worker | 20.0 | 0.25 | LDA,LDT1,LDT2 |
| Site preparation, clearing and grubbing | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Site preparation, clearing and grubbing | Hauling | 4.00 | 0.25 | HHDT |
| Site preparation, clearing and grubbing | Onsite truck | — | — | HHDT |
| Reservoir excavation | — | — | — | — |
| Reservoir excavation | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Reservoir excavation | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Reservoir excavation | Hauling | 38.0 | 0.25 | HHDT |

| | | | | |
|---|---|---|---|---|
| Reservoir excavation | Onsite truck | — | — | HHDT |
| Reservoir construction | — | — | — | — |
| Reservoir construction | Worker | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Reservoir construction | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Reservoir construction | Hauling | 0.00 | 0.25 | HHDT |
| Reservoir construction | Onsite truck | — | — | HHDT |
| Installation of pipes, pump etc. | — | — | — | — |
| Installation of pipes, pump etc. | Worker | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Installation of pipes, pump etc. | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Installation of pipes, pump etc. | Hauling | 4.00 | 0.25 | HHDT |
| Installation of pipes, pump etc. | Onsite truck | — | — | HHDT |
| Installation of outlet line etc. | — | — | — | — |
| Installation of outlet line etc. | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Installation of outlet line etc. | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Installation of outlet line etc. | Hauling | 0.00 | 0.25 | HHDT |
| Installation of outlet line etc. | Onsite truck | — | — | HHDT |
| Pedestrian Bridge Construction | — | — | — | — |
| Pedestrian Bridge Construction | Worker | 10.0 | 0.25 | LDA,LDT1,LDT2 |
| Pedestrian Bridge Construction | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Pedestrian Bridge Construction | Hauling | 0.00 | 0.25 | HHDT |
| Pedestrian Bridge Construction | Onsite truck | — | — | HHDT |
| Site Improvements | — | — | — | — |
| Site Improvements | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Site Improvements | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Site Improvements | Hauling | 0.00 | 0.25 | HHDT |
| Site Improvements | Onsite truck | — | — | HHDT |

### 5.3.2. Mitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Demolition | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Demolition | Hauling | 4.00 | 0.25 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site preparation, clearing and grubbing | — | — | — | — |
| Site preparation, clearing and grubbing | Worker | 20.0 | 0.25 | LDA,LDT1,LDT2 |
| Site preparation, clearing and grubbing | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Site preparation, clearing and grubbing | Hauling | 4.00 | 0.25 | HHDT |
| Site preparation, clearing and grubbing | Onsite truck | — | — | HHDT |
| Reservoir excavation | — | — | — | — |
| Reservoir excavation | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Reservoir excavation | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Reservoir excavation | Hauling | 38.0 | 0.25 | HHDT |
| Reservoir excavation | Onsite truck | — | — | HHDT |
| Reservoir construction | — | — | — | — |
| Reservoir construction | Worker | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Reservoir construction | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Reservoir construction | Hauling | 0.00 | 0.25 | HHDT |
| Reservoir construction | Onsite truck | — | — | HHDT |
| Installation of pipes, pump etc. | — | — | — | — |
| Installation of pipes, pump etc. | Worker | 14.0 | 0.25 | LDA,LDT1,LDT2 |
| Installation of pipes, pump etc. | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Installation of pipes, pump etc. | Hauling | 4.00 | 0.25 | HHDT |

| | | | | |
|---|---|---|---|---|
| Installation of pipes, pump etc. | Onsite truck | — | — | HHDT |
| Installation of outlet line etc. | — | — | — | — |
| Installation of outlet line etc. | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Installation of outlet line etc. | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Installation of outlet line etc. | Hauling | 0.00 | 0.25 | HHDT |
| Installation of outlet line etc. | Onsite truck | — | — | HHDT |
| Pedestrian Bridge Construction | — | — | — | — |
| Pedestrian Bridge Construction | Worker | 10.0 | 0.25 | LDA,LDT1,LDT2 |
| Pedestrian Bridge Construction | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Pedestrian Bridge Construction | Hauling | 0.00 | 0.25 | HHDT |
| Pedestrian Bridge Construction | Onsite truck | — | — | HHDT |
| Site Improvements | — | — | — | — |
| Site Improvements | Worker | 18.0 | 0.25 | LDA,LDT1,LDT2 |
| Site Improvements | Vendor | 4.00 | 0.25 | HHDT,MHDT |
| Site Improvements | Hauling | 0.00 | 0.25 | HHDT |
| Site Improvements | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 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) |
|---|---|---|---|---|---|
| Installation of outlet line etc. | 0.00 | 0.00 | 0.00 | 0.00 | 308 |

## 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) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | 135 | — |
| Site preparation, clearing and grubbing | — | — | 31.5 | 0.00 | — |
| Reservoir excavation | — | 12,510 | 43.0 | 0.00 | — |
| Site Improvements | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 3 | 74% | 74% |
| Water Demolished Area | 2 | 36% | 36% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| City Park | 0.00 | 0% |
| Parking Lot | 0.07 | 100% |
| Other Non-Asphalt Surfaces | 0.05 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2028 | 0.00 | 1,028 | 0.03 | < 0.005 |
| 2029 | 0.00 | 1,028 | 0.03 | < 0.005 |
| 2027 | 0.00 | 1,028 | 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 |
|---|---|---|---|

### 5.18.1.2. Mitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

## 5.18.1. Biomass Cover Type

### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.1.2. Mitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

## 5.18.2. Sequestration

### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

### 5.18.2.2. Mitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 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 | 20.8 | annual days of extreme heat |
| Extreme Precipitation | 7.85 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 6.20 | 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 | 84.6 |

| | |
|---|---|
| AQ-PM | 61.6 |
| AQ-DPM | 14.4 |
| Drinking Water | 87.7 |
| Lead Risk Housing | 57.2 |
| Pesticides | 41.7 |
| Toxic Releases | 67.5 |
| Traffic | 16.4 |
| Effect Indicators | — |
| CleanUp Sites | 61.4 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 1.80 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 35.7 |
| Sensitive Population | — |
| Asthma | 11.4 |
| Cardio-vascular | 8.28 |
| Low Birth Weights | 1.01 |
| Socioeconomic Factor Indicators | — |
| Education | 20.9 |
| Housing | 39.2 |
| Linguistic | 46.0 |
| Poverty | 9.85 |
| Unemployment | 52.5 |

## 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 | 91.55652509 |
| Employed | 66.62389324 |
| Median HI | 93.46849737 |
| Education | — |
| Bachelor's or higher | 81.99666367 |
| High school enrollment | 100 |
| Preschool enrollment | 95.7141024 |
| Transportation | — |
| Auto Access | 81.29090209 |
| Active commuting | 28.7950725 |
| Social | — |
| 2-parent households | 61.81188246 |
| Voting | 85.88476838 |
| Neighborhood | — |
| Alcohol availability | 81.62453484 |
| Park access | 49.90375978 |
| Retail density | 20.12062107 |
| Supermarket access | 12.33157962 |
| Tree canopy | 87.66842038 |
| Housing | — |
| Homeownership | 87.77107661 |
| Housing habitability | 91.27422045 |
| Low-inc homeowner severe housing cost burden | 52.23918902 |
| Low-inc renter severe housing cost burden | 80.48248428 |
| Uncrowded housing | 96.93314513 |
| Health Outcomes | — |
| Insured adults | 81.97099962 |
| Arthritis | 17.5 |

| | |
|---|---|
| Asthma ER Admissions | 85.4 |
| High Blood Pressure | 16.4 |
| Cancer (excluding skin) | 6.6 |
| Asthma | 83.3 |
| Coronary Heart Disease | 17.4 |
| Chronic Obstructive Pulmonary Disease | 56.7 |
| Diagnosed Diabetes | 52.6 |
| Life Expectancy at Birth | 88.2 |
| Cognitively Disabled | 56.3 |
| Physically  Disabled | 47.8 |
| Heart Attack ER Admissions | 82.4 |
| Mental Health Not Good | 85.8 |
| Chronic Kidney Disease | 35.4 |
| Obesity | 78.7 |
| Pedestrian Injuries | 51.7 |
| Physical Health Not Good | 68.2 |
| Stroke | 34.3 |
| Health Risk Behaviors | — |
| Binge Drinking | 71.2 |
| Current Smoker | 86.5 |
| No Leisure Time for Physical Activity | 79.7 |
| Climate Change Exposures | — |
| Wildfire Risk | 46.9 |
| SLR Inundation Area | 0.0 |
| Children | 71.1 |
| Elderly | 13.2 |
| English Speaking | 80.3 |
| Foreign-born | 61.2 |

| | |
|---|---|
| Outdoor Workers | 72.8 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 84.1 |
| Traffic Density | 14.1 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 16.5 |
| Other Decision Support | — |
| 2016 Voting | 68.0 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 15.0 |
| Healthy Places Index Score for Project Location (b) | 91.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| 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 |
|---|---|
| Land Use | Based on applicant provided information. |
| Construction: Construction Phases | Based on applicant schedule. |
| Construction: Off-Road Equipment | applicant provided information |
| Construction: Trips and VMT | Trips based on applicant provided information. Vendor trucks added to represent water trucks, other materials transported to site. Trip length for all types adjusted to 0.25 to reflect localized emissions. |
| Operations: Vehicle Data | Up to 3 staff would visit site on a daily basis, reflected in Parking Lot use. |
| Operations: Off-Road Equipment | Wash operations would include a pump (or 2) to move water. Based on preliminary project info, pump(s) would be electrically powered and assumed to 75 hp, operated year-round. |

# Appendix B
Biological Resources Assessment

DUDEK
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SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

April 15, 2025 16537

Courtney Semlow, Director of Civil Design
Craftwater Engineering Inc.
11026 Camanito Vista Pacifica
San Diego, California 92131

**Subject: Biological Resources Assessment for the Eaton Wash Stormwater Capture Project in Pasadena, California**

Dear Courtney Semlow:

Craftwater Engineering Inc., the contract operator for the City of Pasadena's (City) Eaton Wash Stormwater Capture Project (project), is proposing to establish infrastructure for a multi-benefit stormwater capture site aimed at improving water quality and efficiently managing stormwater runoff. The project would involve usable public infrastructure that will be used to capture, treat, and enhance water flowing through Eaton Wash and ultimately into the Rio Hondo River, Los Angeles River, and the Pacific Ocean. Water will be stored subsurface as well as in surface ponds and treated using various methods. Although finalized plans are dependent upon community feedback, which were not available at the time of this report, the project will also include an above-ground park space with community amenities.

This letter report details the methodology and results of Dudek's field reconnaissance survey and analysis of biological resources along the proposed Eaton Wash project site, within the City of Pasadena, California (Attachment A – Figures: Figure 1, Project Location; all figures are provided in Attachment A). For the purposes of this report, the project site is defined as Eaton Canyon Wash and the area of land immediately adjacent to the west and partially (approximately 100 feet) into Eaton Balance Park, and a larger portion of land to the east within the Southern California Edison right-of-way (ROW), a total project site footprint of approximately 4 acres. This report also reviews potential biological constrains within a 500-foot buffer around the project site, encompassing an approximately 59-acre study area.

# 1 Project Location

The project site is located within southeastern Pasadena within Los Angeles County, just west of the City of Arcadia. The project site is situated within Township 1 North, Ranges 12 and 11 West,[1] of the Mt. Wilson, California, 7.5-minute U.S. Geological Survey (USGS) quadrangle. (Attachment A – Figures: Figure 1, Project Location). The site is south of Del Mar Boulevard and north of San Pasqual Street, between Eaton Blanche Park and Madre Street.

[1] Per the Public Land Survey System.

# 2 Methodology

## 2.1 Literature Review

Prior to conducting the field investigation, a literature search and database review was conducted by Dudek biologists to evaluate the natural resources found or potentially occurring within the study area. The database review included queries of the most recent versions of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) and the California Native Plant Society's (CNPS) Rare Plant Inventory (CDFW 2025a; CNPS 2025a). These databases were reviewed to identify sensitive biological resources present or potentially present for the USGS 7.5-minute quadrangle on which the study area is located (i.e., Mt. Wilson) and the eight surrounding quadrangles (i.e., Condor Peak, Chilao Flat, Waterman Mtn., Pasadena, Azusa, Los Angeles, El Monte, and Baldwin Park) (USGS 2022). The review also includes the resource list returned in the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool query for the study area (USFWS 2025a).

Other literature reviewed included U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025a); CDFW Biogeographic Information and Observation System (CDFW 2025b); A Manual of California Vegetation, Online Edition (CNPS 2025b); the CDFW California Natural Community list (CDFW 2025c); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2025d); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2025e); and the CDFW California Wildlife Habitat Relationships (CWHR) Life History Accounts and Range Maps (CDFW 2025f).

The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2025; NETR 2025); the subject USGS 7.5-minute topographic quadrangle map (USGS 2022); the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025); and the USFWS National Wetland Inventory (USFWS 2025b).

## 2.2 Field Reconnaissance Survey

Dudek biologists Eilleen Salas and Ryan Stanley performed the field survey on February 11, 2025. Temperatures during the survey were between 58°F and 62°F, under 40% to 90% cloud cover, and wind speeds ranging between 0 and 2 miles per hour. The biological survey included vegetation mapping, the mapping of sensitive biological resources, if present, within the project site, and an evaluation of the potential for special-status species to occur.

### 2.2.1 Vegetation Community and Land Cover Mapping

Methods for vegetation mapping followed CDFW's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (CDFW 2018) and the Survey of California Vegetation Classification and Mapping Standards (CDFW 2024). Where feasible, vegetation communities within the study area were mapped using CDFW's List of Vegetation Alliances and Associations (or California Natural Community List) (CDFW 2025c), which is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009) and A Manual of California Vegetation, Online Edition (CNPS 2025b). Vegetation communities and land covers were delineated to the vegetation association level. In cases where the vegetation classification standards from the CDFW Natural Communities List did not apply, classification standards from Draft Vegetation Communities of San

Diego County (Oberbauer et al. 2008) or Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property (Jones and Stokes 1993) were incorporated to accommodate the lack of conformity of conditions observed on site (e.g., developed/disturbed land cover types).

Special-status vegetation communities are those communities identified as high priority for inventory in the California Natural Communities List (CDFW 2025c) by a state (S) rarity ranking of S1, S2, S3, or have been separately identified in the list as sensitive. In addition, communities that are regulated by CDFW under California Fish and Game Code Sections 1600–1616, and/or that provide suitable habitat for special-status species may also be considered special status under the California Environmental Quality Act (CEQA).

Vegetation communities and other land cover types within the study area were mapped in the field using the Esri Field Maps, a mobile data collection application, on a digital aerial-based background (Esri 2025). Communities were classified based on dominant species and associated cover classes, site factors, stand descriptions (e.g., slope aspect, canopy structure), geographic setting, and characteristic species present within an area. Following completion of the fieldwork, all vegetation linework was finalized using Esri ArcGIS software and geographic information system coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover type within the study area was determined.

### 2.2.2 Plants

All native and naturalized plant species encountered within the study area during the survey were identified and recorded to the extent feasible given the available plant phenology. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the names provided in the CNPS Rare Plant Inventory (CNPS 2025a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2025), and common names follow the USDA NRCS Plants Database (USDA 2025b).

### 2.2.3 Wildlife

Dudek biologists walked portions of the study area to identify and record all wildlife species as detected during field surveys by sight, calls, tracks, scat, or other signs. In addition to species observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. No trapping or focused surveys for nocturnal species were conducted. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithological Society (AOS 2025) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA 2025) for butterflies, and Moyle (2002) for fish.

### 2.2.4 Jurisdictional Aquatic Resources

A formal delineation of aquatic resources was conducted following the methodology described in U.S. Army Corps of Engineers (USACE) A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a), 1987 Wetlands Delineation Manual (USACE 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008b).

## 2.3 Special-Status Species Assessment

Endangered, rare, or threatened plant species as defined in Section 15380(b) of the CEQA Guidelines (14 CCR 15000 et seq.) are referred to as "special-status plant species" and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of the California Endangered Species Act and federal Endangered Species Act (CDFW 2025d); and/or (2) plant species with a CRPR of 1 or 2 as designated by CNPS (2025a). Species with a CRPR or 3 or 4 generally do not qualify for protection under CEQA; therefore, they are not considered special-status and impacts to these species are not analyzed in this biological resources technical report.

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of the California Endangered Species Act and federal Endangered Species Act (CDFW 2025e); (2) California Species of Special Concern as designated by CDFW (2025g); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2025h).

The potential for special-status plant species to occur within the study area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region. Potential for special-status wildlife species to occur within the study area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence. After completion of the reconnaissance surveys, the potential for special-status plant and wildlife species to occur on or near the project site was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided:

- Known to occur: the species has been documented on the property by a reliable source
- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity and suitable habitat is present
- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present
- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality
- Not expected to occur: the property is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species

# 3 Environmental Setting

## 3.1 Climate

The study area is located in Los Angeles County, approximately 11 miles northeast of downtown Los Angeles. Pasadena has a Mediterranean climate with cool, wet winters and warm, dry summers. Based on climate summaries from the nearest climate weather station, August is the average warmest month with an average

maximum temperature of 89.2˚F and January is the coolest month with an average minimum of 42.6˚F (WRCC 2025). Rainfall occurs primarily between October and April, with the maximum average precipitation occurring in February (WRCC 2025). The mean annual rainfall for the region is 20.24 inches of rain per year (WRCC 2025).

## 3.2 Topography

The topography of the study area varies slightly between the Eaton Wash portion of the project site and the developed or actively landscaped areas. The topography within the wash consists of a concrete storm channel bordered by dirt access roads. There are short and steep slopes to the east and west, with a park on the western side and a sparsely developed/undeveloped area to the west with a working plant nursery. The remainder of the study area consists of residential development with no changes in topography. Elevations on site range between 633 feet above mean sea level and 702 feet above mean sea level (Google Earth 2025).

## 3.3 Surrounding Land Use

The study area is located within a suburban residential neighborhood typical of Pasadena. Residential housing tracts are prevalent throughout the area surrounding the project site, along with a community park, a middle school, and business tracts to the north. The vegetation and landscaping are typical of residential and business areas. Additionally, a transmission line ROW follows alongside Eaton Wash immediately to the east, where the ROW is being used as a commercial nursery (Google Earth 2025).

## 3.4 Soils

According to the USDA NRCS Web Soil Survey (USDA 2025a), three soil map unit types were identified within the study area: Palmview, 0% to 5% slopes; Tujunga, 0% to 5% slopes; and Soboba, 0% to 5% slopes. All soil types occur within the undeveloped portion of the project site (Attachment A – Figures: Figure 2, Soils). None of these map units are included in the U.S. Department of Agriculture NRCS hydric soils list (USDA 2025c). Based on historic aerial imagery (NETR 2025), the study area has remained relatively unchanged since at least 1952, with a gradual increase in development of the surrounding residential tracts.

### Palmview, 0% to 5% Slopes

This soil series is characterized by very deep, well drained soils that formed in alluvium on alluvial fans and flood plains. These soils consist of coarse-loamy and mixed material. Typical vegetation includes annual grasses and forbs. This soil series exhibits very low runoff and is used for urban residential and commercial development, as a result, ornamental plants and turn-grass are common users of this soil (USDA 1978).

### Tujunga, 0% to 5% Slopes

This soil series consists of very deep, somewhat excessively drained soils that formed in alluvium on alluvial fans and flood plains. These soils consist of mixed sources. Vegetation is primarily made up of shrubs, annual grasses and forbs, but also includes ornamentals and turfgrass in developed areas. This soil unit exhibits efficient drainage with low runoff and is used for urban and commercial development (USDA 1978).

### Soboba, 0% to 5% Slopes

This soil type is composed of deep and excessively drained soils that formed in alluvium on alluvial fans and flood plains. These soils are comprised of a sandy-skeletal mixture and exhibits very slow runoff and rapid permeability. Vegetation is primarily made up of annual grasses, forbs, and chapparal shrubs, and is used mostly for pasture (USDA 1978).

# 4 Results

## 4.1 Vegetation Communities and Land Covers

One vegetation community and three land cover types were identified within the study area during the survey: coast live oak woodland and forest (*Quercus agrifolia* association), Urban/Developed land, Ornamental Plantings, and Disturbed Habitat. These vegetation communities and land cover types are described below, their acreages are presented in Table 1, and their spatial distributions are presented in Attachment A – Figures: Figure 4, Vegetation Communities and Land Cover Types. Representative photos of the study area are included in Attachment B, Photo Exhibit.

**Table 1. Vegetation Communities and Land Cover Types in the Study Area**

| Vegetation Community/ Land Cover Type | Alliance | Association | Acreage within the Project Site | Acreage within the Study Area (Project Site Plus 500-Foot Buffer) |
|---|---|---|---|---|
| Coast Live Oak Woodland and Forest | *Quercus agrifolia* Forest and Woodland Alliance[1] | *Quercus agrifolia* | 0.46 | 0.53 |
| Urban/Developed | N/A | N/A | 0.28 | 45.59 |
| Ornamental Plantings | N/A | N/A | 0.17 | 7.27 |
| Disturbed Habitat | N/A | N/A | 3.02 | 5.10 |
| | | **Total[2]** | **3.93** | **58.50** |

**Notes:** N/A = not applicable.
1 Semi-natural alliances do not have conservation status rankings and are not considered sensitive.
2 Totals may differ due to rounding.

### 4.1.1 Coast Live Oak Woodland and Forest

Coast live oak woodland and forest (*Quercus agrifolia* Forest and woodland alliance) includes coast live oak (*Quercus agrifolia*) as the dominant species or co-dominant in the upland tree canopy with bigleaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii*), southern California black walnut (*Juglans californica*), blue oak (*Quercus douglasii*), Engelmann oak (*Quercus engelmannii*), black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), *and* California bay (*Umbellularia californica*). The shrub layer is sparse to intermittent, and the herbaceous layer is sparse or grassy (CNPS 2025b). The coast live oak woodland and forest vegetation community within the study area (Attachment A – Figures: Figure 4, Vegetation Communities and Land Cover Types) is dominated by coast live oak and was therefore mapped as the *Quercus agrifolia* association. The coast live oak woodland and forest is not considered sensitive by CDFW (2025c), though coast live oak does fall under the City's tree protection ordinance (City of Pasadena 2010).

### 4.1.2 Urban/Developed Land

Although not recognized by the Manual of California Vegetation (CNPS 2025b) or the CDFW California Natural Community List (CDFW 2025c), the urban/developed land cover type is described in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). According to Oberbauer et al. (2008), urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally includes permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large accumulation of debris or other materials (Oberbauer et al. 2008). Typically, this land cover type is unvegetated or only supports a variety of ornamental plants and landscaping. Paved ROWs, residential properties, the middle school, and the community park were mapped as urban/developed land within the study area. This land cover type is primarily found on the eastern side of the project site and includes the Eaton Wash channel and the adjacent dirt access road.

### 4.1.3 Ornamental Plantings

Although not recognized by the Manual of California Vegetation (CNPS 2025b) or the CDFW California Natural Community List (CDFW 2025c), the parks and ornamental plantings (or ornamental vegetation) land cover type is described in Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property (Jones and Stokes 1993). This mapping unit is described as vegetation comprised of non-native trees, shrubs, flowers, and turf grass introduced for landscaping purposes. This mapping unit type typically occurs in greenbelts, parks, and horticultural plantings (Jones and Stokes 1993). Ornamental plantings were mapped where non-native ornamental plant species were present at a cover of 75% or higher and did not occur in an assemblage described in the California Natural Community List. This land cover type was found on the west slope adjacent to Eaton Wash and the transmission line ROW where the commercial nursery is operating, as well as the western side of Eaton Wash within the community park grounds (Attachment A – Figures: Figure 4, Vegetation Communities and Land Cover Types).

### 4.1.4 Disturbed Habitat

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2025b), or the Natural Communities List (CDFW 2025c), disturbed habitat is described in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and no longer recognizable as a native or naturalized vegetation association. Areas mapped as disturbed habitat may include unpaved roads, trails, and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Disturbed habitat consists of unpaved roads and areas where vehicles have regularly gone off-road.

## 4.2 Plants

A total of 18 plant species, 10 native (56%) and 8 non-native (44%), were recorded on the site. Plant species observed within the study area were predominantly composed of native species consisting of shrubs, small trees, and trees. The vegetation classified within the study area can be found in the vegetation community descriptions above and a list of plant species observed during the field survey is available in Attachment C, Species Compendium.

### 4.2.1 Special-Status Plant Species Assessment

Forty-seven plant species that meet the special-status definition (see Section 2.3, Special-Status Species Assessment) have recorded occurrences in the USGS Mt. Wilson 7.5-minute quadrangle and eight surrounding quadrangles (CDFW 2025a; CNPS 2025a) or are included in the IPaC report for the study area (USFWS 2025a). Each special-status plant species is assessed in Attachment D, Special-Status Plant Species Potential to Occur. The study area is not within any designated critical habitat (USFWS 2025c). No state or federally listed wildlife species were determined to have a potential to occur, and no non-listed special-status wildlife species were determined to have a moderate or high potential to occur within the study area due to lack of suitable habitat and microhabitat conditions.

## 4.3 Wildlife

Thirteen species of wildlife were observed during the survey. Wildlife species observed within the study area consisted solely of bird species. No amphibian species were observed. No reptile species were observed; however, western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stansburiana*) are common reptile species that could occur within the study area. No mammal species were observed but coyote (*Canis latrans*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*) are common mammal species that would be expected to occasionally pass through within the study area. A comprehensive list of wildlife species observed during the field survey is available in Attachment C, Species Compendium.

### 4.3.1 Special-Status Wildlife Species Assessment

Forty wildlife species that meet the special-status definition (see Section 2.3) have recorded occurrences in the USGS Mt. Wilson 7.5-minute quadrangle and eight surrounding quadrangles (CDFW 2025a) or are included in the IPaC report for the study area (USFWS 2025a). Each special-status wildlife species is assessed in Attachment E, Special-Status Wildlife Species Potential to Occur. The study area is not within any designated critical habitat (USFWS 2025c).

One sensitive bird species, Cooper's hawk (*Accipiter cooperii*), was determined to have a moderate potential to nest in the large trees adjacent to the Eaton Wash. Cooper's hawk is a CDFW Watch List[2] species. Three bat species, western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus frantzii*), and one invertebrate, Crotch's bumble bee (*Bombus crotchii*), were determined to have a low potential to occur. The bat species are CDFW Species of Special Concern.[3] and foraging habitat is present in the park and roosting could be supported by large trees, including palms, and the Del Mar Boulevard overpass that spans Eaton Wash. Crotch's bumble bee is a candidate for state listing and suitable floral resources and microhabitat nesting opportunities (i.e., small mammal burrows) were not identified in field surveys; however, there are numerous occurrences of this species in the nearby vicinity and the species could occur as a transient. Project actions are not expected to impact transitory individuals.

[2] Watch list species are taxa that were previously considered Species of Special Concern but do not currently meet Species of Special Concern criteria, and for which there is concern and a need for additional information to clarify status (CDFW 2025i).

[3] Species with declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction (CDFW 2025i).

## 4.4 Potential Jurisdictional Aquatic Resources

The Eaton Wash storm channel collects and conveys relatively permanent water from Eaton Canyon in the San Gabriel Mountains, along with nuisance water and storm runoff from the surrounding urban area. The ordinary high watermark was observed at the top of the storm channel and the wetted channel feature in the storm channel bottom (see Attachment B, Photo Exhibit). The Eaton Wash waters flow into the Rio Hondo, the Los Angeles River, and eventually to the Pacific Ocean. Based on a review of current and historic aerial photographs and USGS topographic maps, these features observed on site are remnant of a natural watercourse such as a river, stream, or lake, and contain hydrologic nexus with a Traditional Navigable Water. As such, the 1.5 acres of Eaton Wash in the study area are expected to fall under jurisdiction of the Regional Water Quality Control Board (RWQCB), CDFW, and the USACE.

## 4.5 Wildlife Movement, Wildlife Corridors, and Wildlife Nursery Sites

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spenser et al. 2010), as shown in the CDFW BIOS (CDFW 2025b). The project site provides no habitat connectivity with anything documented by the sources. Although the project site may provide live-in habitat for birds, reptiles, and small to medium mammals, the project site is isolated by surrounding urban development and does not provide connectivity to significant open space areas or to natural features. The study area is isolated from streams that do support habitat and therefore does not support fish movement.

Trees within the study area do not contain suitable cavities for bat maternities or overwintering roosts and are exposed to noise disturbance from traffic and urban development. In addition, no diagnostic signs of bird rookeries (e.g., numerous nests, whitewash) or large maternal or overwintering bat roosts (e.g., large concentrations of guano or guano odors) were identified in the study area. Therefore, it is unlikely for the study area to support wildlife nursery sites. The study area does contain vegetation and structure (e.g. Del Mar Blvd overpass) that could provide nesting habitat for bats along with nesting habitat for birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3513.

### Compliance with Migratory Bird Treaty Act and California Fish and Game Code

The proposed project will be conducted in compliance with all applicable regulations, including the MBTA and California Fish and Game Code regarding migratory birds. Pursuant to MBTA and California Fish and Game Code, a qualified biologist will conduct a pre-construction survey for nesting birds and raptors within the project site and a 500-foot buffer no more than three days prior to any vegetation disturbance during the general avian breeding season (February 1–September 30). The project will avoid take of nesting birds protected under the MBTA and California Fish and Game Code by establishing appropriate no-construction buffer zones around any nests identified

during the surveys. If the biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work would be allowed to proceed. If the biologist finds an active nest within or immediately adjacent to the vegetation removal area and determines that the nest may be impacted or breeding activities substantially disrupted, the biologist will delineate an appropriate no-work buffer zone around the nest depending on the sensitivity of the species, location of the nest, and the nature of the construction activity at their discretion. Construction personnel would be instructed on the sensitivity of nest areas and no-work buffers would remain in place until the nest is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest would be established in the field with flagging or fencing, and construction personnel shall be instructed on the sensitivity of nest areas.

## 4.6 Habitat Conservation Plans/Natural Community Conservation Plans

The study area does not occur in any Natural Community Conservation Plan/Habitat Conservation Plan, as identified by CDFW's Natural Community Conservation Planning (CDFW 2019). Construction of the project will not result in impacts to covered habitats or species. The project is not within any other habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (CDFW 2019).

## 4.7 Local Ordinances

The City defines tree protection in PMC Chapter 8.52 – City Trees and Tree Protection (City of Pasadena 2010).

Various species including the Coast live oak (*Quercus agrifolia*) found on the project site fall under the City's native tree ordinance as follows:

> Native tree: any tree with a trunk more than 8 inches in diameter at a height of 4 ½ feet above natural grade that is one of the following species: Quercus agrifolia (Coast live oak), Quercus engelmannii (Engelmann oak), Quercus chrysolepis (Canyon oak), Platanus racemosa (California sycamore), Juglans californica (California walnut), Quercus berberidifolia (Scrub oak), Quercus lobata (Valley oak), Umbellularia californica (California bay), Populus fremontii (Cottonwood), Alnus rhombifolia (California alder), Populus trichocarpa (Black cottonwood), Salix lasiolepis (Arroyo willow), and Aesculus californica (California buckeye).

# 5 Conclusion

At this time, project plans have not been finalized and total impacts have yet to be determined. No sensitive vegetation communities or special-status plant species were identified within the study area. Additionally, no special-status plant species are expected to occur in the project site and the project site also is not within a designated wildlife corridor or habitat linkage and is not expected to be used as a wildlife corridor, habitat linkage, or native wildlife nursery site. As noted in Section 4.5, Wildlife Movement, Wildlife Corridors, and Wildlife Nursery Sites, the project will comply with regulations under the MBTA and the California Fish and Game Code, along with the local policies or ordinances protecting biological resources. One species of bird has a moderate potential to occur on the project site, and three species of bat and one invertebrate species have a low potential to occur (see Section 4.3.1, Special-Status Wildlife Species Assessment).

Potential jurisdictional waters regulated by the RWQCB, CDFW, and the ACOE were identified within the Eaton Wash channel (Attachment A – Figures : Figure 3, Hydrologic Setting). Should dredging, filling, or discharging of materials occur within these potential RWQCB-jurisdictional features as part of project implementation, the proposed project will need to maintain compliance with the Clean Water Act and California Fish and Game Code Sections 1600–1616.

The project site has no value as habitat for endangered, rare, or threatened species. However, in order to identify any potential impacts to special-status biological resources, pre-construction surveys and project monitoring of vegetation removal and initial ground disturbance should be conducted to ensure project actions remain in compliance with state and federal regulations, and any potential impacts to special-status biological resources are identified.

Sincerely,



Ryan Stanley
Biologist

*Atts.:* *A – Figures*
*B – Photo Exhibit*
*C – Species Compendium*
*D – Special-Status Plant Species Potential to Occur*
*E – Special-Status Wildlife Species Potential to Occur*
*cc:* *Alex Hardy, Dudek*

# 6 References

AOS (American Ornithological Society). 2025. American Ornithological Society Checklist of North and Middle American Birds (Online). American Ornithological Society. Accessed March 2025. https://checklist.americanornithology.org/taxa/.

CDFW (California Department of Fish and Wildlife). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. March 20, 2018. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959.

CDFW. 2019. California Natural Community Conservation Plans. April 2019. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline.

CDFW. 2024. Survey of California Vegetation Classification and Mapping Standards, March 6, 2024. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=102342&inline.

CDFW. 2025a. California Natural Diversity Database (CNDDB). RareFind 5.3.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2025. https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2025b. Biogeographic Information and Observation System; online database viewer. Accessed March 2025. https://apps.wildlife.ca.gov/bios6/.

CDFW. 2025c. California Natural Community List, February 27, 2025. Accessed March 2025. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities.

CDFW. 2025d. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Accessed March 2025. https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2025e. State and Federally Listed Endangered and Threatened Animals of California, January 2025. Accessed March 2025. https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

CDFW. 2025f. California Wildlife Habitat Relationships Life History Accounts and Range Maps (online). Accessed March 2025. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

CDFW. 2025g. Species of Special Concern. Accessed March 2025. https://www.wildlife.ca.gov/Conservation/SSC.

CDFW. 2025h. Fully Protected Animals. Accessed March 2025. https://wildlife.ca.gov/Conservation/Fully-Protected.

CDFW. 2025i. Special Animal List. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406.

City of Pasadena. 2010. "Municipal Code: Chapter 8.52 – City Trees and Tree Protection Ordinance." Accessed March 2025. https://www.cityofpasadena.net/public-works/wp-content/uploads/sites/29/TPO_2-Pasadena-Tree-Ordinance-Municipal-Code-8.52.pdf.

CNPS (California Native Plant Society). 2025a. Rare Plant Inventory, online ed. Version 9.5.1. California Native Plant Society, Rare Plant Program. Accessed March 2025. http://www.rareplants.cnps.org.

CNPS. 2025b. A Manual of California Vegetation Online. Accessed March 2025. https://vegetation.cnps.org.

Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*, edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles; Herpetological Circular, No. 39. August 2012.

Esri. 2025. "World Imagery" [basemap]. Accessed March 2025. https://www.arcgis.com/home/item.html?id=10df2279f9684e4a9f6a7f08febac2a9.

Google Earth. 2025. Google Earth; desktop application; centered on the project site. Accessed March 2025. https://www.google.com/earth/.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed March 2025. https://ucjeps.berkeley.edu/eflora/.

Jones & Stokes Inc. 1993. *Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property*. JSA 92-032. February 10, 1993.

Moyle, P.B. 2002. *Inland Fishes of California*. Berkeley and Los Angeles, California: University of California Press.

NABA (North American Butterfly Association). 2025. NABA Checklist and English Names of North American Butterflies. Edited by Braby, M., Cassie, B., Edwards, A., Epstein, M., Glassberg, J., Hall, P.W., Heath, F., Hsu, Y.-F., Larsen, T., Lohman, D., Pierce, N., Scoble, M., Springer, J., Swengel, A., Tennent, J., Tudor, G., Vane-Wright, D., Viloria, A., West, J. and Yen, S.-H. Edition 2.6. North American Butterfly Association. Morristown, New Jersey. Accessed March 2025. https://naba.org/butterfly-names-checklist/.

NETR (National Environmental Title Research LLC). 2025. Historical Aerials Viewer. NETR Online. Accessed March 2025. https://www.historicaerials.com/viewer.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Robert F. Holland, Ph.D., October 1986.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Produced in cooperation with partners in the South Coast Missing Linkages Initiative. Accessed March 2025. http://www.scwildlands.org/reports/scmlregionalreport.pdf.

Spenser, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity (CEHC) Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18504.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetland Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed March 2025. https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/.

USACE. 2008a. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. Cold Region Research and Environmental Laboratory, ERDC/CRREL TR-08-12. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center. August 2008.

USACE. 2008b. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center, September 2008. Accessed March 2025. https://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/trel08-28.pdf.

USDA (U.S. Department of Agriculture). 1978. *Soil Survey of Orange County and Western Part of Riverside County, California*. Issued September 1978. United States Department of Agriculture, Soil Conservation Service and Forest Service, in cooperation with University of California Agricultural Experiment Station.

USDA. 2025a. Natural Resources Conservation Service Web Soil Survey. Accessed March 2025. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

USDA. 2025b. Natural Resources Conservation Service PLANTS Database. Accessed March 2025. https://plants.usda.gov/.

USDA. 2025c. Soil Survey Area Soil Data Access (SDA) Hydric Soils Rating by Map Unit. Accessed March 2025. https://www.nrcs.usda.gov/publications/Hydric%20Soils%20Rating%20by%20Map%20Unit%205%20class.html.

USFWS (U.S. Fish and Wildlife Service). 2025a. Information, Planning, and Conservation System (IPaC). Accessed March 2025. https://ecos.fws.gov/ipac/.

USFWS. 2025b. Wetlands Mapper. Accessed March 2025. https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper.

USFWS. 2025c. *USFWS Threatened & Endangered Species Active Critical Habitat Report*. Accessed March 2025. https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

USGS (U.S. Geologic Survey). 2022. Mt. Wilson, California Quadrangle [map]. 1:24,000. 7.5-minute Series. Washington D.C.

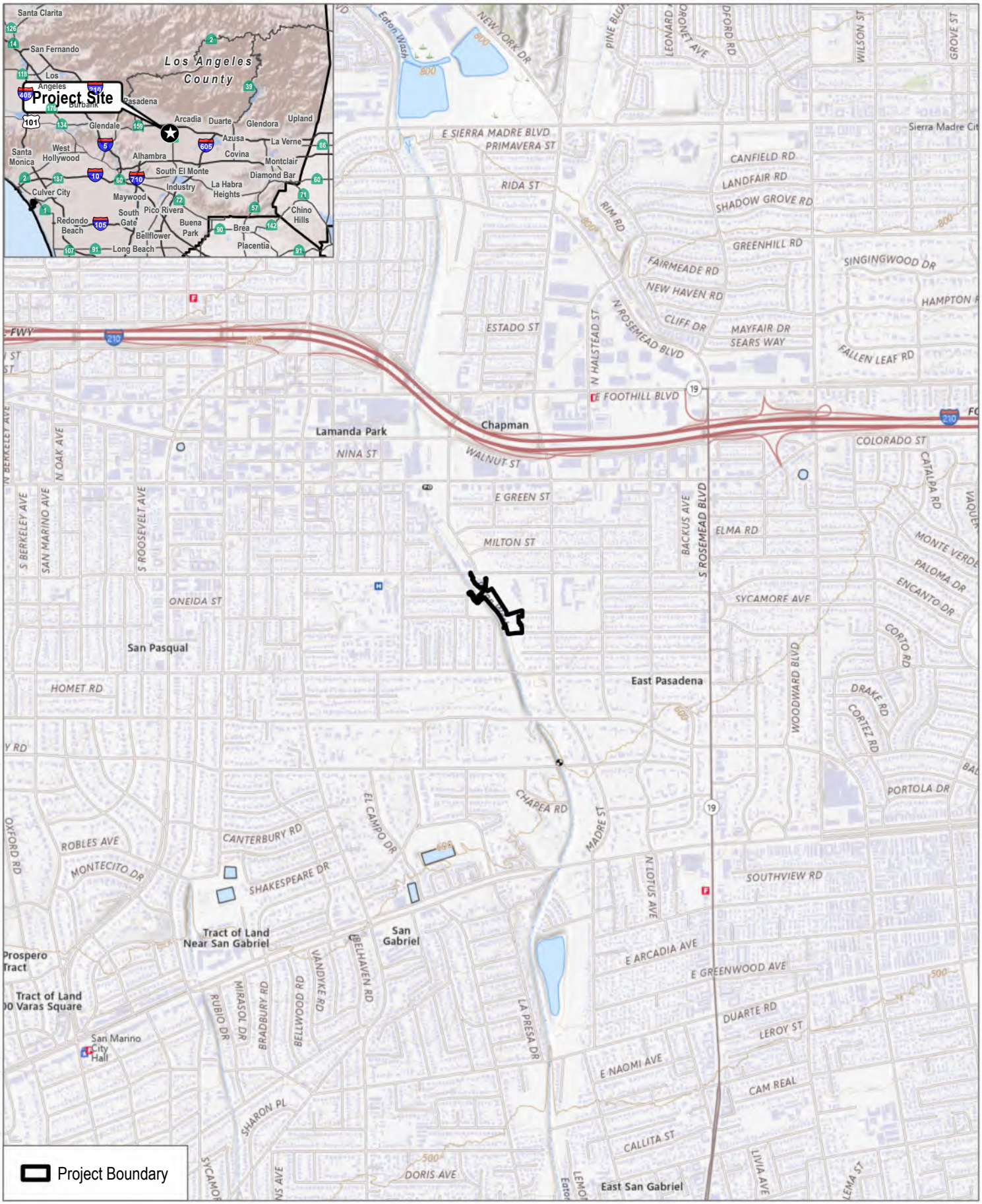
USGS. 2025. National Hydrography and Watershed Boundary Dataset. USGS National Hydrography Products. Accessed March 2025. https://www.usgs.gov/national-hydrography/about-national-hydrography-products.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. Baltimore, Maryland: Johns Hopkins University Press. Accessed March 2025. http://www.departments.bucknell.edu/biology/resources/msw3/browse.asp.

WRCC (Western Regional Climate Center). 2025. Period of Record Monthly Climate Summary for “Pasadena, California (046719).” Accessed March 2025. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4647.

# Attachment A

Figures




SOURCE: USGS National Map 2025

DUDEK

0 1,000 2,000 Feet

**FIGURE 1**

Project Location

Eaton Wash Stormwater Capture Project




SOURCE: Vantor 2023; Open Street Maps 2019; USDA

DUDEK

0 150 300 Feet

**FIGURE 2**

Soils

Eaton Wash Stormwater Capture Project




SOURCE: Bing Aerial Imagery 2021; OpenStreetMaps 2019; NHD; NWI; FEMA

DUDEK

0 1,000 2,000 Feet

**FIGURE 3**

Hydrologic Setting

Eaton Wash Stormwater Capture Project




SOURCE: Vantor 2023; Open Street Maps 2019

DUDEK

0 150 300 Feet

**FIGURE 4**

Vegetation Communities and Land Cover Types

Eaton Wash Stormwater Capture Project

# Attachment B

Photo Exhibit




**Photo 1.** View of Del Mar Blvd spanning Eaton Wash in the northern area of the project site.




**Photo 2.** Eaton Wash on the eastern dirt access road. View of vegetation mapped as Coast live oak association (*Quercus agrifolia)* on the right.




**Photo 3.** Facing northwest from the central portion of the project site. View of large trees, including oaks on both sides of the wash. Del Mar Boulevard overpass is in the distance.




**Photo 4.** View of open area in the southeastern portion of the project site. This area appeared to be actively maintained/mowed.




**Photo 5.** View of the nursery operations adjacent to the east of the project site.




**Photo 6.** Facing south; view of the nursery operation adjacent to the east of the project site.




**Photo 7.** View of the area between the nursery and Eaton Wash. This area was mapped as disturbed habitat




**Photo 8.** View from above of a portion of the area mapped as Coast live oak (*Quercus agrifolia*) association, with Eaton Wash in the distance.

# Attachment C

Species Compendium

# Plant Species

## Angiosperms (Dicots)

### ANACARDIACEAE – SUMAC FAMILY

*Rhus integrifolia* – lemondade berry

* *Schinus terebinthifolia* – Peruvian pepper tree

### CACTACEAE – CACTUS FAMILY

*Opuntia littoralis* – coast prickly pear

### EUPHORBIACEAE – SPURGE FAMILY

* *Ricinus communis* – castor bean

### FAGACEAE – OAK FAMILY

*Quercus agrifolia* – coast live oak

*Quercus berberidifolia* – Inland scrub oak

*Quercus engelmannii* – Engelmann oak

### LAURACEAE – LAUREL FAMILY

*Umbellularia californica* – California bay

### MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus camaldulensis* – river redgum

### PLATANACEAE – PLANE TREE, SYCAMORE FAMILY

*Platanus racemosa* – California sycamore

### RHAMNACEAE – BUCKTHORN FAMILY

*Ceanothus velutinus* – tobacco brush or snow bush

### ROSACEAE – ROSE FAMILY

*Cercocarpus betuloides* – birch leaf mountain mahogany

*Heteromeles arbutifolia* – toyon

### SIMAROUBACEAE – QUASSIA OR SIMAROUBA FAMILY

* *Ailanthus altissima* – tree of heaven

### ULMACEAE – ELM FAMILY

* *Ulmus parvifolia* – Chinese elm

## Gymnosperms and Gnetophytes

### PINACEAE – PINE FAMILY

* *Pinus canariensis* – Canary Island pine

## Monocots

### ARECACEAE – PALM FAMILY

* *Pheonix canariensis* – Canary Island date palm
* *Washingtonia robusta* – Washington fan palm

# Wildlife Species – Vertebrates

## Birds

### ACCIPITRIDAE – HAWKS

*Buteo jamaicensis* – red-tailed hawk

### AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS

*Psaltriparus minimus - bushtit*

### CATHARTIDAE – NEW WORLD VULTURES

*Cathartes aura* – turkey vulture

### COLUMBIDAE – PIGEONS AND DOVES

*Zenaida macroura* – mourning dove

### CORVIDAE – JAYS AND CROWS

*Corvus brachyrhynchos* – American crow

### FRINGILLIDAE – FINCHES

*Carpodacus mexicanus* – house finch

### PARULIDAE – WOOD-WARBLERS

*Setophaga coronata* – yellow-rumped warbler

### PASSERELLIDAE – NEW WORLD SPARROWS

*Melozone crissalis* – California towhee

### PICIDAE – WOODPECKERS AND ALLIES

*Colaptes auratus* – northern flicker

*Melanerpes formicivorus* – acorn woodpecker

## STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

## TYRANNIDAE – TYRANT FLYCATCHERS

*Sayornis nigricans* – black phoebe

## TROCHILIDAE – HUMMINGBIRDS

*Calypte anna* – Anna's hummingbird

* Signifies introduced (non-native) species.

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# Attachment D

Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| *Anomobryum julaceum* | slender silver moss | None/None/4.2 | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest; Roadsides (usually)/moss/N.A./ 330–3,280 | Not expected to occur. The study area lacks suitable habitat |
| *Aphyllon validum* ssp. *validum* | Rock Creek broomrape | None/None/1B.2 | Chaparral, Pinyon and juniper woodland; Granitic/perennial herb (parasitic)/ May–Sep/3,380–6,560 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Arctostaphylos glandulosa* ssp. *gabrielensis* | San Gabriel manzanita | None/None/1B.2 | Chaparral (rocky)/perennial evergreen shrub/Mar/1,950–4,920 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Astragalus brauntonii* | Braunton's milk-vetch | FE/None/1B.1 | Chaparral, Coastal scrub, Valley and foothill grassland; Burned areas (sometimes), Carbonate, Disturbed areas (sometimes), Sandstone (usually)/perennial herb/ Jan–Aug/15–2,100 | Not expected to occur. The study area lacks suitable habitat. |
| *Atriplex serenana* var. *davidsonii* | Davidson's saltscale | None/None/1B.2 | Coastal bluff scrub, Coastal scrub; Alkaline/annual herb/Apr–Oct/35–655 | Not expected to occur. The study area lacks suitable habitat. |
| *Berberis nevinii* | Nevin's barberry | FE/SE/1B.1 | Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/perennial evergreen shrub/(Feb)Mar–June/230–2,705 | Not expected to occur. The study area lacks suitable habitat. |
| *Calochortus clavatus* var. *gracilis* | slender mariposa-lily | None/None/1B.2 | Chaparral, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/ Mar–June (Nov)/1,050–3,280 | Not expected to occur. The study area lacks suitable habitat. |
| *Calochortus palmeri* var. *palmeri* | Palmer's mariposa-lily | None/None/1B.2 | Chaparral, Lower montane coniferous forest, Meadows and seeps; Mesic/perennial bulbiferous herb/Apr–July/2,330–7,840 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Calochortus plummerae* | Plummer's mariposa-lily | None/None/4.2 | Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; Granitic, | Not expected to occur. The study area lacks suitable habitat. |

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| | | | Rocky/perennial bulbiferous herb/ May–July/330–5,580 | |
| *Calochortus striatus* | alkali mariposa-lily | None/None/1B.2 | Chaparral, Chenopod scrub, Meadows and seeps, Mojavean desert scrub; Alkaline, Mesic/perennial bulbiferous herb/ Apr–June/230–5,235 | Not expected to occur. The study area lacks suitable habitat. |
| *Calochortus weedii* var. *intermedius* | intermediate mariposa-lily | None/None/1B.2 | Chaparral, Coastal scrub, Valley and foothill grassland; Rocky/perennial bulbiferous herb/May–July/345–2,805 | Not expected to occur. The study area lacks suitable habitat. |
| *Castilleja gleasoni* | Mt. Gleason paintbrush | None/SR/1B.2 | Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; Granitic/perennial herb (hemiparasitic)/ May–June (Sep)/3,805–7,120 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Centromadia parryi* ssp. *australis* | southern tarplant | None/None/1B.1 | Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May–Nov/0–1,575 | Not expected to occur. The study area lacks suitable habitat. |
| *Centromadia pungens* ssp. *laevis* | smooth tarplant | None/None/1B.1 | Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; Alkaline/annual herb/Apr–Sep/ 0–2,100 | Not expected to occur. The study area lacks suitable habitat. |
| *Chorizanthe parryi* var. *parryi* | Parry's spineflower | None/None/1B.1 | Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Openings, Rocky (sometimes), Sandy (sometimes)/annual herb/Apr–June/ 900–4,005 | Not expected to occur. The study area lacks suitable habitat. |
| *Cladium californicum* | California saw-grass | None/None/2B.2 | Marshes and swamps (alkaline, freshwater), Meadows and seeps/perennial rhizomatous herb/June–Sep/195–5,250 | Not expected to occur. The study area lacks suitable habitat. |
| *Claytonia peirsonii* ssp. *peirsonii* | Peirson's spring beauty | None/None/1B.2 | Subalpine coniferous forest, Upper montane coniferous forest; Granitic, Metamorphic, Scree, Talus/perennial herb/(Mar)May–June/4,955–9,005 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Cuscuta obtusiflora* var. *glandulosa* | Peruvian dodder | None/None/2B.2 | Marshes and swamps (freshwater)/annual vine (parasitic)/July–Oct/50–920 | Not expected to occur. The study area lacks suitable habitat. |

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| *Dodecahema leptoceras* | slender-horned spineflower | FE/SE/1B.1 | Chaparral, Cismontane woodland, Coastal scrub (alluvial fans); Sandy/annual herb/ Apr–June/655–2,495 | Not expected to occur. The study area lacks suitable habitat. |
| *Dudleya cymosa* ssp. *crebrifolia* | San Gabriel River dudleya | None/None/1B.2 | Chaparral (granitic)/perennial herb/ Apr–July/900–1,500 | Not expected to occur. The study area lacks suitable habitat. |
| *Dudleya densiflora* | San Gabriel Mountains dudleya | None/None/1B.1 | Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland; Granitic/perennial herb/Mar–July/800–2,000 | Not expected to occur. The study area lacks suitable habitat. |
| *Dudleya multicaulis* | many-stemmed dudleya | None/None/1B.2 | Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/ Apr–July/50–2,590 | Not expected to occur. The study area lacks suitable habitat. |
| *Galium grande* | San Gabriel bedstraw | None/None/1B.2 | Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest/perennial deciduous shrub/Jan–July/1,395–4,920 | Not expected to occur. The study area lacks suitable habitat. |
| *Helianthus nuttallii* ssp. *parishii* | Los Angeles sunflower | None/None/1A | Marshes and swamps (freshwater, coastal salt)/perennial rhizomatous herb/ Aug–Oct/35–5,005 | Not expected to occur. The study area lacks suitable habitat. |
| *Hordeum intercedens* | vernal barley | None/None/3.2 | Coastal dunes, Coastal scrub, Valley and foothill grassland (depressions, saline flats), Vernal pools/annual herb/Mar–June/ 15–3,280 | Not expected to occur. The study area lacks suitable habitat. |
| *Horkelia cuneata* var. *puberula* | mesa horkelia | None/None/1B.1 | Chaparral (maritime), Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/perennial herb/Feb–July (Sep)/230–2,660 | Not expected to occur. The study area lacks suitable habitat. |
| *Imperata brevifolia* | California satintail | None/None/2B.1 | Chaparral, Coastal scrub, Meadows and seeps (often alkali), Mojavean desert scrub, Riparian scrub; Mesic/perennial rhizomatous herb/Sep–May/0–3,985 | Not expected to occur. The study area lacks suitable habitat. |
| *Lasthenia glabrata* ssp. *coulteri* | Coulter's goldfields | None/None/1B.1 | Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/ 5–4,005 | Not expected to occur. The study area lacks suitable habitat. |

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| *Lepidium virginicum* var. *robinsonii* | Robinson's pepper-grass | None/None/4.3 | Chaparral, Coastal scrub/annual herb/ Jan–July/5–2,905 | Not expected to occur. The study area lacks suitable habitat. |
| *Lilium parryi* | lemon lily | None/None/1B.2 | Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest; Mesic/perennial bulbiferous herb/July–Aug/4,005–9,005 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Linanthus concinnus* | San Gabriel linanthus | None/None/1B.2 | Chaparral, Lower montane coniferous forest, Upper montane coniferous forest; Openings, Rocky/annual herb/Apr–July/4,985–9,185 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Lupinus peirsonii* | Peirson's lupine | None/None/1B.3 | Joshua tree "woodland", Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest; Gravelly, Rocky/perennial herb/ Apr–June/3,280–8,205 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Malacothamnus davidsonii* | Davidson's bushmallow | None/None/1B.2 | Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial deciduous shrub/June–Jan/605–3,740 | Not expected to occur. The study area lacks suitable habitat. |
| *Monardella australis* ssp. *gabrielensis* | San Gabriel Mountains monardella | None/None/1B.2 | Broadleafed upland forest, Chaparral (montane), Lower montane coniferous forest; Granitic, Openings/shrub/July–Sep/ 5,250–7,220 | Not expected to occur. The site is outside of the species' known elevation range. |
| *Muhlenbergia californica* | California muhly | None/None/4.3 | Chaparral, Coastal scrub, Lower montane coniferous forest, Meadows and seeps; Mesic, Seeps, Streambanks/perennial rhizomatous herb/June–Sep/330–6,560 | Not expected to occur. The study area lacks suitable habitat. |
| *Navarretia prostrata* | prostrate vernal pool navarretia | None/None/1B.2 | Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/10–3,970 | Not expected to occur. The study area lacks suitable habitat. |
| *Nemacladus secundiflorus* var. *robbinsii* | Robbins' nemacladus | None/None/1B.2 | Chaparral, Valley and foothill grassland; Openings/annual herb/Apr–June/ 1,150–5,580 | Not expected to occur. The study area lacks suitable habitat. |
| *Opuntia basilaris* var. *brachyclada* | short-joint beavertail | None/None/1B.2 | Chaparral, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper | Not expected to occur. The study area lacks suitable habitat. |

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| | | | woodland/perennial stem/Apr–June (Aug)/1,395–5,905 | |
| *Oreonana vestita* | woolly mountain-parsley | None/None/1B.3 | Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; Gravelly (sometimes), Talus (sometimes)/perennial herb/ Mar–Sep/5,300–11,485 | Not expected to occur. The study area lacks suitable habitat, and the project site is outside of the species' known elevation range. |
| *Pelazoneuron puberulum* var. *sonorense* | Sonoran maiden fern | None/None/2B.2 | Meadows and seeps (seeps, streams)/perennial rhizomatous herb/ Jan–Sep/165–2,000 | Not expected to occur. The study area lacks suitable habitat. |
| *Phacelia stellaris* | Brand's star phacelia | None/None/1B.1 | Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310 | Not expected to occur. The study area lacks suitable habitat. |
| *Pseudognaphalium leucocephalum* | white rabbit-tobacco | None/None/2B.2 | Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; Gravelly, Sandy/perennial herb/(July)Aug–Nov (Dec)/ 0–6,890 | Not expected to occur. The study area lacks suitable habitat. |
| *Ribes divaricatum* var. *parishii* | Parish's gooseberry | None/None/1A | Riparian woodland/perennial deciduous shrub/Feb–Apr/215–985 | Not expected to occur. The study area lacks suitable habitat. |
| *Scutellaria bolanderi* ssp. *austromontana* | southern mountains skullcap | None/None/1B.2 | Chaparral, Cismontane woodland, Lower montane coniferous forest; Mesic/perennial rhizomatous herb/June–Aug/1,395–6,560 | Not expected to occur. The study area lacks suitable habitat. |
| *Sidalcea neomexicana* | salt spring checkerbloom | None/None/2B.2 | Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/ Mar–June/50–5,020 | Not expected to occur. The study area lacks suitable habitat. |
| *Symphyotrichum defoliatum* | San Bernardino aster | None/None/1B.2 | Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps, Valley and foothill grassland (vernally mesic); Streambanks/perennial rhizomatous herb/July–Nov/5–6,695 | Not expected to occur. The study area lacks suitable habitat. |

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur[1] |
|---|---|---|---|---|
| *Symphyotrichum greatae* | Greata's aster | None/None/1B.3 | Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland; Mesic/perennial rhizomatous herb/ June–Oct/985–6,595 | Not expected to occur. The study area lacks suitable habitat. |

**Status Legend:**

**Federal Designations**

FE Federally listed as Endangered
FT Federally listed as Threatened

**State Designations**

SE State listed as Endangered
ST State listed as Threatened
SR State Rare

**California Rare Plant Ranking (CRPR)**

CRPR List 1A Plants presumed extinct in California
CRPR List 1B Plants rare, threatened, or endangered in California and elsewhere
CRPR List 2A Plants rare, threatened, or endangered in California but common elsewhere
CRPR List 2B Plants rare, threatened, or endangered in California but more common elsewhere
CRPR List 3 Plants about which more Information is needed - a review list
CRPR List 4 Plants of limited distribution - a watch list
.1 Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 Fairly endangered in California (20% to 80% of occurrences threatened)
.3 Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

[1] Refers to records within the Mt. Wilson, California U.S. Geological Survey (USGS) 7.5-minute quadrangle and eight surrounding quadrangles (i.e., Condor Peak, Chilao Flat, Waterman Mtn, Pasadena, Azusa, El Monte, Baldwin Park, and Los Angeles)

## References

Calflora. 2025. The Calflora Database: Information on California plants for education, research and conservation [web application]. Berkeley, California. Accessed March 2025. https://www.calflora.org/.

CCH (Consortium of California Herbaria). 2025. CCH2 Data Portal: Specimen data from the Consortium of California Herbaria. Accessed March 2025. https://www.cch2.org/portal/index.php.

CDFW (California Department of Fish and Wildlife). 2025. California Natural Diversity Database (CNDDB). RareFind 5.3.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2025. https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx.

CNPS (California Native Plant Society). 2025. Rare Plant Inventory, online ed. Version 9.5.1. California Native Plant Society, Rare Plant Program. Accessed March 2025. http://www.rareplants.cnps.org.

iNaturalist. 2025. iNaturalist (Webpage). Available from https://www.inaturalist.org/. Accessed March 2025.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed March 2025. https://ucjeps.berkeley.edu/eflora/.

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# Attachment E

Special-Status Wildlife Species Potential to Occur

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| **Amphibians** | | | | |
| *Anaxyrus californicus* | arroyo toad | FE/SSC | Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering | Not expected to occur. Suitable habitat is not present. |
| *Rana boylii* pop. 6 | foothill yellow-legged frog - south coast DPS | FE/SE | Rocky streams and rivers with open banks in forest, chaparral, and woodland | Not expected to occur. Suitable habitat is not present. |
| *Rana muscosa* | mountain yellow-legged frog | FE/SE, WL | Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral | Not expected to occur. Suitable habitat is not present. |
| *Spea hammondii* | western spadefoot | FPT/SSC | Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture | Not expected to occur. Suitable habitat is not present. |
| *Taricha torosa* | California newt | None/SSC | Wet forests, oak forests, chaparral, and rolling grassland | Not expected to occur. Suitable habitat is not present. |
| **Reptiles** | | | | |
| *Actinemys pallida* | southwestern pond turtle | FPT/SSC | Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter | Not expected to occur. Suitable aquatic habitat is not present. |
| *Anniella stebbinsi* | southern California legless lizard | None/SSC | Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated | Not expected to occur. The surrounding areas have been significantly disturbed and highly urbanized for many years. Sparse amounts of habitat are not |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| | | | with sparse vegetation and moist sandy or loose, loamy soils | expected to sustain a viable population of this species. There are numerous recent occurrences of this species throughout the study area, but none in the immediate vicinity (CDFW 2025a). |
| *Arizona elegans occidentalis* | California glossy snake | None/SSC | Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil | Not expected to occur. Suitable habitat is not present. |
| *Aspidoscelis tigris stejnegeri* | coastal whiptail | None/SSC | Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas. | Not expected to occur. The surrounding areas have been significantly disturbed and highly urbanized for many years. Sparse amounts of habitat are not expected to sustain a viable population of this species. The nearest occurrence is 7.0 miles east in the Santa Fe Dam Open Space (CDFW 2025a). |
| *Phrynosoma blainvillii* | Blainville's horned lizard | None/SSC | Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats | Not expected to occur. Suitable habitat with sandy soils are not present. The nearest occurrence is 2.85 miles in the foothills of Eaton Canyon (CDFW 2025a). |
| *Thamnophis hammondii* | two-striped gartersnake | None/SSC | Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools | Not expected to occur. Suitable aquatic habitat is not present. |
| *Thamnophis sirtalis ssp.* pop. 1 | south coast gartersnake | None/SSC | Marsh and upland habitats near permanent water and riparian vegetation | Not expected to occur. Suitable aquatic habitat is not present. |
| **Birds** | | | | |
| *Accipiter cooperii* (nesting) | Cooper's hawk | None/WL | Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water | Moderate potential to nest. Suitable trees for nesting occur adjacent to the Eaton Wash, however, the study area is extremely developed with an active commercial nursery adjacent to the woodland habitat. The nearest occurrence |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| | | | | is 7.0 miles east of the project site (CDFW 2025a). |
| *Athene cunicularia* (burrow sites and some wintering sites) | burrowing owl | BCC/SSC, SC | Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows | Not expected to occur. Suitable burrowing and foraging habitat is not present. |
| *Buteo swainsoni* (nesting) | Swainson's hawk | None/ST | Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture | Not expected to nest. Suitable isolated trees for nesting and foraging habitat adjacent to nest site are not present. There are no recent occurrences on this species in the 9-quad study area (CDFW 2025a). |
| *Coccyzus americanus occidentalis* (nesting) | western yellow-billed cuckoo | FT/SE | Nests in dense, wide riparian woodlands and forest with well-developed understories | Not expected to nest. This species relies on dense and continuous native habitat (RHJV 2004), which is not present in the study area. There are no recent occurrences of this species in the 9-quad study area (CDFW 2025a). |
| *Cypseloides niger* (nesting) | black swift | BCC/SSC | Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats | Not expected nest. Suitable cliff habitat adjacent to aquatic resources is not present in the study area. |
| *Empidonax traillii extimus* (nesting) | southwestern willow flycatcher | FE/SE | Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration | Not expected to nest. This species relies on dense and continuous areas of native vegetation (Sogge and Marshall, 2000), which is not present in the study area. There are no recent occurrences of this species in the 9-quad study area (CDFW 2025a). |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| *Falco peregrinus anatum* (nesting) | American peregrine falcon | FPD/SCD | Nests on cliffs, human-made structures including buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present | Not expected to occur. There are not sufficient and nearby prey resources to facilitate nesting. There is a 2005 occurrence of this species at an undisclosed location to the west of the project site (CDFW 2025a). |
| *Icteria virens* (nesting) | yellow-breasted chat | None/SSC | Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush | Not expected to nest. This species relies on riparian and marsh habitat with a dense understory, (RHJV 2004), which is not present in the study area. The nearest occurrence is 7.0 miles east of the project site (CDFW 2025a). |
| *Polioptila californica californica* | coastal California gnatcatcher | FT/SSC | Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level | Not expected to occur. This species prefers open sage scrub and sage scrub-chapparal habitat (Mock 2004) which is not present in the study area. The nearest recent occurrence for this species is from 2010 and is 7.8 miles east in the San Gabriel River (CDFW 2025a). |
| *Riparia riparia* (nesting) | bank swallow | None/ST | Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration | Not expected to nest. This species requires vertical banks with fine soils (Garrison 1998) for nesting, which are not present. There are no recent occurrences of this species (CDFW 2025a). |
| *Setophaga petechia* (nesting) | yellow warbler | None/SSC | Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats | Not expected to occur. Suitable habitat is not present. The nearest occurrence of this species is 12 miles northwest of the project site, in the Angeles National Forest (CDFW 2025a). |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| *Vireo bellii pusillus* (nesting) | least Bell's vireo | FE/SE | Nests and forages in Riparian plant associations in close proximity to water; Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders | Not expected to nest. Suitable riparian habitat with low and dense vegetation is not present. There are 2013 occurrences 4.8 miles southeast of the project site (CDFW 2025a) |
| **Fishes** | | | | |
| *Catostomus santaanae* | Santa Ana sucker | FT/SSC | Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder | Not expected to occur. Suitable aquatic habitat is not present and there is no fish passage from the project site to the upper reaches of Eaton Canyon. |
| *Gila orcuttii* | arroyo chub | None/SSC | Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud | Not expected to occur. Suitable aquatic habitat is not present and there is no fish passage from the project site to the upper reaches of Eaton Canyon. |
| *Rhinichthys gabrielino* | Santa Ana speckled dace | FPT/SSC | Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system | Not expected to occur. Suitable aquatic habitat is not present and there is no fish passage from the project site to the upper reaches of Eaton Canyon. |
| **Mammals** | | | | |
| *Antrozous pallidus* | pallid bat | None/SSC | Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees | Not expected to occur. Some nesting habitat is present, however this species is relatively sensitive to urban disturbance due to its group nesting habits (WBWG 2017). Therefore, this species is not expected to use the project site due to the lack of nesting and foraging habitat. There are no recent occurrences of this species in the study area (CDFW 2025a). |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| *Corynorhinus townsendii* | Townsend's big-eared bat | None/SSC | Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels | Not expected to occur. This species is sensitive to urban disturbance and prefers moist riparian habitat (Miner and Stokes 2005; WBWG 2017) that is not present in the study area. The nearest occurrence is 4.8 miles northeast near the Santa Anita Dam (CDFW 2025a). |
| *Dasypterus xanthinus* | western yellow bat | None/SSC | Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms | Low potential to occur. There are a number of palm trees that could support roosting; however, foraging and overall habitat is poor. There are no recent occurrences of this species in the study area (CDFW 2025a). |
| *Eumops perotis californicus* | western mastiff bat | None/SSC | Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels | Low potential to occur. The Del Mar Blvd overpass over Eaton Wash could provide roosting habitat and Eaton Wash could provide foraging opportunities. However, occurrence will likely be in the early evening and at night. There are no recent occurrences of this species in the study area (CDFW 2025a). |
| *Nyctinomops femorosaccus* | pocketed free-tailed bat | None/SSC | Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings | Not expected to occur. Suitable habitat is not present. There are not recent occurrences of this species in the study area (CDFW 2025a). |
| *Nyctinomops macrotis* | big free-tailed bat | None/SSC | Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water | Not expected to occur. Suitable roosting habitat is not present. There are no recent occurrences of this species in the study area (CDFW 2025a). |
| *Onychomys torridus ramona* | southern grasshopper mouse | None/SSC | Grassland and sparse coastal scrub | Not expected to occur. Suitable habitat is not present. |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| *Ovis canadensis nelsoni* | Nelson's bighorn sheep | None/FP | Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes, and alluvial fans | Not expected to occur. Suitable habitat is not present in the study area. |
| *Puma concolor* | mountain lion – Southern California/ Central Coast ESU | None/SC | Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts | Not expected to occur. Suitable habitat and migration corridors do not occur in the study area. |
| *Taxidea taxus* | American badger | None/SSC | Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils | Not expected to occur. Suitable burrowing and foraging habitat not present in the study area. |
| *Lasiurus frantzii* | western red bat | None/SSC | Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy | Low potential to occur. Larger trees could support roosting; however, roosting and foraging habitat is marginal. There is one recent occurrence of this species 4.8 miles northeast near the Santa Anita Dam (CDFW 2025a). |
| **Invertebrates** | | | | |
| *Bombus crotchii* | Crotch's bumble bee | None/SCE | Open grassland and scrub communities supporting suitable floral resources. | Low potential to occur as a transient. Open areas within the project site, that could support suitable floral resources, are actively used/maintained and are unlikely to provide foraging for this species. The adjacent commercial nursery appeared to only have potted trees and other ornamentals, and not native flowering plants. However, there are numerous occurrences of this species in the vicinity with the nearest being 1.6 miles east (CDFW 2025a), and transitory individuals may occur in the project site but are not expected to be impacted by the project. |

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur[1] |
|---|---|---|---|---|
| *Danaus plexippus plexippus* pop. 1 | Monarch butterfly – California overwintering population | FC/None | Wind-protected tree groves with nectar sources and nearby water sources | Not expected to occur. Tree groves on-site are not considerable in density and acreage and will likely not provide adequate wind-protected refuge. There are no records of this species in the study area (CDFW 2025a). |

**Status Abbreviations**
BCC: Bird of Conservation Concern (U.S. Fish and Wildlife Service)
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal candidate species (former Category 1 candidates)
FPD: Federally proposed for delisting
SE: State listed as endangered
ST: State listed as threatened
SCD: State candidate for delisting
CSE: Candidate for State Endangered
CST: Candidate for State Threatened
SSC: California Species of Special Concern
FP: California Fully Protected Species

[1] Refers to records within the Mt. Wilson, California U.S. Geological Survey (USGS) 7.5-minute quadrangle and eight surrounding quadrangles (i.e., Condor Peak, Chilao Flat, Waterman Mtn, Pasadena, Azusa, El Monte, Baldwin Park, and Los Angeles)

## References

Allen, L.W., Garrett, K.L. and M.C. Wimer. 2016. Los Angeles County Breeding Bird Atlas. Los Angeles, Calif.: Los Angeles Audubon Society.

Bunnell, S. T., White, C. M., Paul, D., and Bunnell, S. D. (1997). Stick nests on a building and transmission towers used for nesting by large falcons in Utah. The Great Basin Naturalist, 263-267.

CDFW (California Department of Fish and Wildlife). 2025a. RareFind, Version 5.2.14. California Natural Diversity Database (CNDDB). Accessed March 2025. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2025b. CWHR Life History Accounts and Range Maps. Website. Updated versions of species information in Zeiner et al. 1988–1990. CDFW, CWHR Program. Accessed March 2025. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

Delaney, K., Busteed, G., Fisher, R. and S. Riley. 2021. Reptile and Amphibian Diversity and Abundance in an Urban Landscape: Impacts of Fragmentation and the Conservation Value of Small Patches. Ichthyology & Herpetology. 109. 10.1643/h2019261.

eBird. 2025. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Accessed March 2025. http://www.ebird.org.

Garrison, B.A. 1998. Bank Swallow (Riparia riparia). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. https://partnersinflight.org/wp-content/uploads/2024/05/riparian_v-2.pdf.

Gruver, J.C., and D.A. Keinath. 2006. Townsend's Big-eared Bat (Corynorhinus townsendii): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Accessed March 2025. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5181908.pdf.

Miner, K.L., and D.C. Stokes. 2005. "Bats in the South Coast Ecoregion: Status, Conservation Issues, and Research Needs." USDA Forest Service Gen. Tech. Rep. PSW-GTR-195:211-277.

Mock, P.J. 2004. California Gnatcatcher (Polioptila californica). In The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California. California Partners in Flight. Accessed March 2025. https://partnersinflight.org/wp-content/uploads/2024/05/scrub.v-2.pdf.

Nafis, G. 2025. California Herps - A Guide to the Amphibians and Reptiles of California. Accessed January 2025. http://www.californiaherps.com/

PISCES. 2014. PISCES Range Data. California Fish Data and Management Software. Center for Watershed Sciences. University of California, Davis. Accessed March 2025. https://pisces.ucdavis.edu/fish.

RHJV (Riparian Habitat Joint Venture). 2004. Version 2.0. The riparian bird conservation plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. Accessed March 2025. https://partnersinflight.org/wp-content/uploads/2024/05/riparian_v-2.pdf.

Sogge, M., and R. Marshall. 2000, Chapter 5: A survey of current breeding habitats, in Finch, D.M., and Stoleson, S.H., eds., Status, ecology, and conservation of the Southwestern Willow Flycatcher. Accessed March 2025. https://www.fs.usda.gov/rm/pubs/rmrs_gtr060.pdf.

The Xerces Society. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch bumble bee (Bombus crotchii), Franklin's bumble bee (Bombus franklini), Suckley cuckoo bumble bee (Bombus suckleyi), and western bumble bee (Bombus occidentalis occidentalis) as Endangered under the California Endangered Species Act. Submitted by The Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. October 2019. Accessed March 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161902&inline.

WBWG (Western Bat Working Group). 2017. "Species Accounts.". Accessed March 2025. https://www.sccp.ca/sites/default/files/species-habitat/documents/western%20bat%20working%20group%20species%20accounts.pdf.

Williams, J., O'Farrell, M., Riddle, B. 2006. Habitat Use by Bats in a Riparian Corridor of the Mojave Desert in Southern Nevada, Journal of Mammalogy, Volume 87, Issue 6, 29 December 2006, Pages 1145–1153.

# Appendix C

Aquatic Resources Jurisdictional Delineation Report

DRAFT

# Aquatic Resources Jurisdictional Delineation Report

# Eaton Wash Stormwater Capture Project

**APRIL 2025**

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## APPENDICES


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# Acronyms and Abbreviations

| Acronym/Abbreviation | Definition |
|---|---|
| ARDR | Aquatic Resources Delineation Report |
| CDFW | California Department of Fish and Wildlife |
| CWA | Clean Water Act |
| OHWM | ordinary high-water mark |
| project | Eaton Wash Stormwater Capture Project |
| RWQCB | Regional Water Quality Control Board |
| USACE | U.S. Army Corps of Engineers |

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# 1 Introduction

This Aquatic Resources Delineation Report (ARDR) was prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This ARDR and supporting appendices provide the 20 items listed in the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. This ARDR presents the results of the jurisdictional aquatic resource delineation conducted by Dudek for the Eaton Wash Stormwater Capture Project (project) located in Pasadena, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA) (33 USC 1344), waters of the state potentially subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to CWA Section 401 and the Porter-Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

## 1.1 Disclaimer Statement

This ARDR presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the identified review area using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this ARDR are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation. A request for USACE Jurisdictional Determination is not provided at this time; this ARDR is purely informational.[1]

## 1.2 Contact Information

Contact information for the project applicant and agent are provided in Table 1.[2] The City of Pasadena is the project applicant. Access to portions of the review area are limited, so if a site visit is requested, the project applicant or agent will accompany regulatory staff to the review area.[3]

**Table 1. Contact Information**

| | | | |
|---|---|---|---|
| **Project Applicant** | City of Pasadena | **Agent** | Dudek |
| **Contact Name** | Dawn Petschauer | **Contact Name** | Michael Cady |
| **Phone** | 626.744.3929 | **Phone** | 626.314.0101 |
| **Email** | dpetschauer@cityofpasadena.net | **Email** | mcady@dudek.com |

1 Minimum Standards Item 1 (Request for Jurisdictional Determination)
2 Minimum Standards Item 2 (Contact Information)
3 Minimum Standards Item 3 (Site Access Statement)

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# 2 Review Area Description and Landscape Setting

The review area is defined as the 59-acre area surrounding the Eaton Wash at Del Mar Boulevard. The approximately 4-acre project site is in southeastern Pasadena (Appendix A – Figures: Figure 1, Project Location; all figures are provided in Appendix A). The review area is bordered by San Pasqual Street to the south and Madre Street to the east, and is bisected by Del Mar Boulevard. The review area is composed of three parcels: Assessor's Parcel Number 5754-031-901 west of the Eaton Wash within Eaton Blanche Park, Assessor's Parcel Number 5754-030-901 covering both sides of Eaton Wash, and Assessor's Parcel Number 5754-037-900 in the southern extent of the project site (County of Los Angeles 2025). The review area is on the U.S. Geologic Survey's Mount Wilson, California 7.5-minute topographic quadrangle (USGS 2015).

The review area is within a suburban residential neighborhood typical of Pasadena. Residential development began in the early 1960s and continued steadily until the 1980s, and has remained little changed since (NETR 2025). Residential housing tracts are prevalent throughout the area surrounding the project site, along with a community park, a middle school, and business tracts to the north. Based on historic aerial imagery (NETR 2025), the review area has remained relatively unchanged since at least 1952, with a gradual increase in development of the surrounding residential tracts. The vegetation and landscaping are typical of residential and business areas. Additionally, a transmission line right-of-way follows alongside Eaton Wash immediately to the east, where the right-of-way is being used as a commercial nursery (Google Earth 2025). The nearest undeveloped space is approximately 3 miles north in the San Gabriel Mountains.

The review area is relatively flat and has been used and maintained for agriculture, flood control, and residential development for more than 75 years (NETR 2025). Eaton Canyon Reservoir and Dam, used for flood and debris control and located upstream of the review area, were constructed in 1936 and are controlled by the Los Angeles County Department of Public Works (DWR 2023). Elevations within the review area range from 656 feet above mean sea level in the northern boundary to 621 above mean sea level on the southern boundary (Google Earth 2025).

## 2.1 Soils

According to the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2025a), three soil map unit types are within the review area: Palmview, 0% to 5% slopes; Tujunga, 0% to 5% slopes; and Soboba, 0% to 5% slopes.[4] All soil types occur within the undeveloped portion of the project site (Appendix A – Figures: Figure 2, Soils). None of these soil map units are included in the U.S. Department of Agriculture Natural Resources Conservation Service hydric soils list (USDA 2025b). Following are the soil descriptions (USDA 1978):

- **Palmview Series.** This soil series is characterized by very deep, well-drained soils that formed in alluvium on alluvial fans and floodplains. These soils consist of coarse-loamy and mixed material. Typical vegetation includes annual grasses and forbs. This soil series exhibits very low runoff and is used for urban residential and commercial development, and, as a result, ornamental plants and turn-grass commonly occur on this soil.

[4] Minimum Standards Item 13 (Soil Descriptions)

- **Tujunga Series.** This soil series consists of very deep, somewhat excessively drained soils that formed in alluvium on alluvial fans and floodplains. These soils consist of mixed sources. Vegetation is primarily made up of shrubs, annual grasses, and forbs, but also includes ornamentals and turfgrass in developed areas. This soil unit exhibits efficient drainage with low runoff and is used for urban and commercial development.
- **Soboba Series.** This soil type is composed of deep and excessively drained soils that formed in alluvium on alluvial fans and floodplains. These soils are composed of a sandy-skeletal mixture and exhibit very slow runoff and rapid permeability. Vegetation is primarily made up of annual grasses, forbs, and chapparal shrubs, and is used mostly for pasture.

## 2.2 Vegetation

The review area is a mixed-use area that supports a storm channel, residential housing, and other structures with their associated roadways, a park, a transmission line and its right-of-way, and a commercial nursery. One vegetation community and three land cover types were identified in the review area during the survey: coast live oak woodland and forest (*Quercus agrifolia* association), Urban/Developed Land, Ornamental Plantings, and Disturbed Habitat. These vegetation communities and land cover types are described below. Their acreages are provided in Table 2 and their spatial distributions are presented in Appendix A – Figures: Figure 4, Vegetation Communities and Land Cover Types. Representative photos of the review area are provided in Appendix B, Photo Exhibit.

**Table 2. Vegetation Communities and Land Cover Types in the Review Area**

| Vegetation Community/ Land Cover Type | Alliance | Association | Acreage within the Project Site | Acreage within the Study Area (Project Site plus 500-Foot Buffer) |
|---|---|---|---|---|
| Coast Live Oak Woodland and Forest | *Quercus agrifolia* forest and woodland alliance [1] | *Quercus agrifolia* | 0.46 | 0.53 |
| Urban/Developed | N/A | N/A | 0.28 | 45.59 |
| Ornamental Plantings | N/A | N/A | 0.17 | 7.27 |
| Disturbed Habitat | N/A | N/A | 3.02 | 5.10 |
| | | **Totals**[2] | **3.93** | **58.50** |

**Notes:**
N/A = not applicable.
1 Semi-natural alliances do not have conservation status rankings and are not considered sensitive.
2 Totals may not sum due to rounding.

### Coast Live Oak Woodland and Forest

Coast live oak woodland and forest (*Quercus agrifolia* forest and woodland alliance) includes coast live oak (*Quercus agrifolia*) as the dominant species or co-dominant in the upland tree canopy with bigleaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii)*, California black walnut (*Juglans californica*), blue oak (*Quercus douglasii*), Engelmann oak (*Quercus engelmannii*), California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), and California bay (*Umbellularia californica*). The shrub layer is sparse to intermittent, and the herbaceous layer is sparse or grassy (CNPS 2025). The coast live oak woodland and forest vegetation community within the review area is dominated by coast live oak and was therefore mapped as the *Quercus agrifolia*

association. The coast live oak woodland and forest is ranked by CDFW (2025) as S4 and G5, which indicates that there is no threat rank, and this alliance is generally secure in California, although coast live oak does fall under the City of Pasadena's Tree Protection Ordinance (City of Pasadena 2010).

### Urban/Developed Land

Although not recognized by the Manual of California Vegetation (CNPS 2025) or the CDFW California Natural Community List (CDFW 2025), the urban/developed land cover type is described in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). According to Oberbauer et al. (2008), urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally includes permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large accumulation of debris or other materials (Oberbauer et al. 2008). Typically, this land cover type is unvegetated or only supports a variety of ornamental plants and landscaping. Paved rights-of-way, residential properties, the middle school, and the community park were mapped as urban/developed land within the review area. This land cover type is primarily found on the eastern side of the project site and includes the Eaton Wash channel and the adjacent dirt access road.

### Ornamental Plantings

Although not recognized by the Manual of California Vegetation (CNPS 2025) or the CDFW California Natural Community List (CDFW 2025), the parks and ornamental plantings (or ornamental vegetation) land cover type is described in Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property (Jones and Stokes 1993). This mapping unit is described as vegetation composed of non-native trees, shrubs, flowers, and turf grass introduced for landscaping purposes. This mapping unit type typically occurs in greenbelts, parks, and horticultural plantings (Jones and Stokes 1993). Ornamental plantings were mapped where non-native ornamental plant species were present at a cover of 75% or higher and did not occur in an assemblage described in the California Natural Community List. This land cover type was found on the west slope adjacent to Eaton Wash and the transmission line right-of-way where the commercial nursery is operating (Appendix A – Figures: Figure 4, Vegetation Communities and Land Covers).

### Disturbed Habitat

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2025), or the Natural Community List (CDFW 2025), disturbed habitat is described in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and no longer recognizable as a native or naturalized vegetation association. Areas mapped as disturbed habitat may include unpaved roads, trails, and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Disturbed habitat consists of unpaved roads and areas where vehicles have regularly gone off-road.

## 2.3 Watershed

The review area occurs within the Eaton Wash subwatershed (U.S. Geologic Survey Hydrological Unit Code 12: 180701050301) of the Rio Hondo Watershed (Hydrological Unit Code 1807010503) (USGS 2025). In Appendix A – Figures: Figure 4, Hydrologic Setting, depicts the watersheds under review. The review area does not occur within any RWCQB designated Areas of Special Biological Significance, and does not fall under any special plans other than the general policies applying to all waters of the state (RWCQB 1994). The Rio Hondo watershed is approximately 142 square miles and flows into the largest watershed in the region, the Los Angeles River watershed. Several spreading ground areas are used within the Rio Hondo watershed to feed the Raymond Basin Aquifer. The mostly channelized river is impounded and flows over natural ground at Whittier Narrows Recreation Area/Flood Control Basin (USACE 2022). Eaton Wash flows for approximately 5.6 miles before entering the Rio Hondo approximately 3.5 miles upstream of Whittier Narrows. Pollutants associated with urban development are found in the Rio Hondo, including trash and metals (RWCQB 1994).

# 3 Investigation Methods

The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2025), the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025), and the U.S. Fish and Wildlife Service's National Wetlands Inventory (USFWS 2025). A preliminary survey and jurisdictional delineation were conducted by Dudek biologists Eilleen Salas and Ryan Stanley on February 11, 2025. Wetland delineation methodologies for each agency are summarized in the subsections below.[5]

## 3.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated with Esri Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual. Wetland Determination Forms were not taken during the delineation because no areas of hydrophytic vegetation were observed. USACE OHWM data forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. All data forms can be found in Appendix C.

The following information provides detail on how USACE implements CWA Section 404. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under CWA Section 404, USACE has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

On January 9, 2001, the U.S. Supreme Court issued a decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (2001) (121 S. Ct. 675) that held that the language of the CWA cannot be interpreted as conferring authority for the federal government to regulate "isolated, intrastate, and non-navigable waters" merely because migratory birds may frequent them. The Court emphasized the states' responsibility for regulating such waters. In the U.S. Supreme Court's decision in *Rapanos v. United States* and *Carabell v. United States*, USACE and the U.S. Environmental Protection Agency issued joint guidance regarding USACE's jurisdiction over waters of the United States under the CWA. The guidance summarizes the Supreme Court's findings and provides how and when USACE should apply the "significant nexus" test in its jurisdictional determinations. This test determines whether a waterway is substantially connected to a traditional navigable water tributary and thus falls within USACE's jurisdiction. The guidance provides the factors and summarizes the significant nexus test as an assessment of "the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters." Flow characteristics include the volume, duration, and frequency of the flow. Additionally, ecological factors should be included, such as the shared hydrological and biological characteristics between a tributary and an adjacent wetland (USACE and EPA 2008).

[5] Minimum Standards Item 8 (Dates of Field Work), Item 5 (Use of 1987 Manual, Regional Supplement, and OHWM guide), Item 12 (Statement Regarding Use of Remote Sensing), Item 18 (Data Forms) and Item 19 (Methods)

The Clean Water Rule was issued in 2015 to clarify water resource management. The regulation defined the scope of federal water protection in a more consistent manner, particularly over streams and wetlands that have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It is also referred to as the Waters of the United States Rule, which defines all bodies of water that fall under U.S. federal jurisdiction. The Clean Water Rule was repealed on September 12, 2019. On January 23, 2020, USACE and the U.S. Environmental Protection Agency finalized the Navigable Waters Protection Rule, which establishes a new definition of "waters of the United States" under the CWA. The Environmental Protection Agency and USACE (the agencies) are in receipt of the U.S. District Court for the District of Arizona's August 30, 2021, order vacating and remanding the Navigable Waters Protection Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. Considering this order, the agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice.

## 3.2 Regional Water Quality Control Board

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). As described in these procedures, wetland waters of the state are mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters are mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b).

## 3.3 California Department of Fish and Wildlife

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code Section 1602. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

# 4 Aquatic Resource Narrative

This chapter describes the aquatic resources found in the review area.[6] One feature was identified in the review area: Feature 1. Representative photos of the features are provided as Appendix B.

## Feature 1

Feature 1 is a concrete channel, known as Eaton Wash, that runs north to south through the review area. It has been classified as a riverine system with a streambed that supports temporary flooding within an excavated channel (R4SBAx) (USFWS 2025).

Water in Feature 1 enters the review area approximately 470 feet north of Del Mar Boulevard via an entirely cement channel flowing from Eaton Canyon Reservoir, located 1.9 miles upstream of the review area. This channel conveys water from the foothills of the San Gabriel Mountains and specifically Eaton Canyon. Water was present in the feature during the February 11, 2025, site visit by Dudek biologists. Water is conveyed quickly and efficiently through the channel, and it is assumed that water present during the site visit was a combination of storm runoff (a precipitation event occurred on February 7, 2025, that resulted in 1.80 inches of rain [NOAA 2025]) and runoff from human activities (i.e., irrigation and maintenance) from the non-pervious, urbanized area upstream that provides a persistent influx of water into Feature 1. Water leaves the review area near San Pasqual Street, flowing entirely within a concrete channel approximately 5.6 miles before entering the Rio Hondo from the right. The Rio Hondo is mostly channelized, flowing for approximately 12.5 miles before entering the Los Angeles River (Google Earth 2025).

Feature 1 is an entirely concrete channel that lacks hydrophytic vegetation and hydric soils. This drainage feature travels for 0.42 miles within the review area. The OHWM was identified as the area consistent with the bottom of the approximately 25-foot-wide channel, and the top of bank was identified as the area consistent with the top of the concrete channel, approximately 12 feet in elevation from the bottom of the channel. OHWM data forms are provided as Appendix C.

A maintained dirt access road is immediately adjacent on both sides of the channel, and the surrounding vegetation primarily consists of ornamental trees that include pines (*Pinus* spp.), California sycamore (*Platanus racemosa*), palms (*Washingtonia* spp.; *Pheonix* spp.), Chinese elm (*Ulmus parvifolia*), California bay, and eucalyptus (*Eucalyptus* spp.), along with a small area of coast live oak (*Quercus agrifolia*). The remaining areas are sparsely vegetated, disturbed habitat containing a mixture of native plants—including scrub oak (*Quercus ilicifolia*), lemonade berry (*Rhus integrifolia*), coast prickly pear (*Opuntia littoralis*), tobacco brush (*Ceanothus velutinus*), toyon (*Heteromeles arbutifolia*), and birch leaf mountain mahogany (*Cercocarpus betuloides*)—and non-native plants, including tree of heaven (*Ailanthus altissima*), Peruvian pepper tree (*Schinus molle*), and castor bean (*Ricinus communis*).

6 Minimum Standards Item 6 (Aquatic Resource Narrative)

## 4.1 Potential Waters of the United States (USACE)

Table 3 summarizes the potential waters of the United States in the review area that may be regulated by USACE under CWA Section 404.[7] In Appendix A – Figures: Figure 5, Aquatic Resources, depicts the limits of these features.

**Table 3. USACE Aquatic Resource Summary for the Review Area**

| Feature | Cowardin[1] | OHWM Indicators | Location | Acres |
|---|---|---|---|---|
| 1 | R4SBAx | BBS CVS, CVC, OW | 34.82801°, - 118.5404° | 1.51 |

**Notes:**
USACE = U.S. Army Corps of Engineers; OHWM = ordinary high-water mark; BBS = break in bank slope; CVS = change in vegetation species; CVC = change in vegetation cover; OW = open water
1 Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979)

## 4.2 Potential Waters of the United States/State (RWQCB)

Feature 1 has also been identified as a potential wetland and non-wetland water of the United States regulated by the RWQCB under CWA Section 401. Table 4 summarizes the potential waters of the United States in the review area that may be regulated by the RWQCB.[8] Figure 5, Aquatic Resources depicts the limits of these features.

**Table 4. RWQCB Aquatic Resource Summary for the Review Area**

| Feature | Cowardin[1] | OHWM Indicators | Location | Acres |
|---|---|---|---|---|
| 1 | R4SBAx | BBS, CVS, CVC, OW | 34.82801°, - 118.5404° | 1.51 |

**Notes:**
RWQCB = Regional Water Quality Control Board; OHWM = ordinary high-water mark; BBS = break in bank slope; CVS = change in vegetation species; CVC = change in vegetation cover; OW = open water
1 Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979)

## 4.3 Potential CDFW Jurisdiction

The features described in Table 4 have also been identified as potential streams regulated by CDFW under California Fish and Game Code Sections 1600–1616. Table 5 summarizes the streams in the review area that may be regulated by CDFW.[9] Figure 5, Aquatic Resources depicts the limits of these features.

**Table 5. California Department of Fish and Wildlife Summary for the Review Area**

| Feature | Type | Total Acres |
|---|---|---|
| 1 | Stream | 1.51 |

7 Minimum Standards Item 9 (Table Listing All Aquatic Resources)
8 Minimum Standards Item 9 (Table Listing All Aquatic Resources)
9 Minimum Standards Item 9 (Table Listing All Aquatic Resources)

# 5 Conclusions

Feature 1 has a definable OHWM throughout its length within the review area and contains relatively permanent waters. Based on the jurisdictional delineation and review of relevant information provided in this ARDR, 1.51 acres of non-wetland waters are found to be potentially regulated by USACE, RWQCB, and CDFW in the review area. Impacts to this feature will require permits from all agencies prior to any project activities. However, only the regulatory agencies have authority to determine jurisdiction. Therefore, this ARDR may be used by the regulatory agencies for the issuance of permits or letters for the project.

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# 6 Reference


CDFW (California Department of Fish and Wildlife). 2025. California Natural Community List. February 27, 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

City of Pasadena. 2010. "Municipal Code: Chapter 8.52 - City Trees and Tree Protection Ordinance." Accessed March 2025. https://www.cityofpasadena.net/public-works/wp-content/uploads/sites/29/TPO_2-Pasadena-Tree-Ordinance-Municipal-Code-8.52.pdf.

CNPS (California Native Plant Society). 2025. A Manual of California Vegetation Online. Accessed March 2025. https://vegetation.cnps.org.

County of Los Angeles. 2025. Los Angeles County Assessor Portal. Accessed March 2025. https://portal.assessor.lacounty.gov/.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979. Reprinted 1992. Accessed March 2025. http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

DWR (California Department of Water Resources). 2023. *Dams Within Jurisdiction of the State of California*. Accessed March 2025. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/DAMS-WITHIN-JURISDICTION-OF-THE-STATE-OF-CALIFORNIA-LISTED-ALPHABETICALLY-BY-COUNTY-SEPTEMBER-2023.pdf.

Google Earth. 2025. Google Earth, desktop application; centered on the review area. Accessed March 2025. https://www.google.com/earth/.

Jones and Stokes. 1993. *Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property*. Prepared for the County of Orange. February 10, 1993.

NETR (Nationwide Environmental Title Research). 2025. Historic Aerials, online viewer. Accessed March 2025. https://www.historicaerials.com/viewer.

NOAA (National Oceanic and Atmospheric Administration). 2025. Applied Climate Information System for the Los Angeles 2.6 NW Station [internet application]. Accessed February 2025. http://agacis.rcc-acis.org/?fips=06037.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Robert F. Holland, Ph.D., October 1986.

RWQCB (Regional Water Quality Control Board, Los Angeles Region). 1994. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Accessed March 2025. https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

SWRCB (State Water Resources Control Board). 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2019; revised April 6, 2021. Accessed March 2025. https://www.waterboards.ca.gov/press_room/press_releases/2021/procedures.pdf.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed March 2025. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed March 2025. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. Accessed March 2025. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USACE. 2017. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. U.S. Army Corps of Engineers, Los Angeles District. March 16, 2017. Accessed March 2025. https://www.spl.ACOE.army.mil/Portals/17/Users/251/43/2043/Final%20Delin%20report%20standards%203-16-2017.pdf?ver=2017-03-16-170513-523.

USACE. 2022. "TNWs & Navigable Waters in Los Angeles District." Accessed March 2025. https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Navigable-Waterways/.

USACE and EPA (U.S. Environmental Protection Agency). 2008. "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States." December 2, 2008. March 2025. http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf.

USDA (U.S. Department of Agriculture). 1978. *Soil Survey of Orange County and Western Part of Riverside County, California*. Issued September 1978. United States Department of Agriculture, Soil Conservation Service and Forest Service, in cooperation with University of California Agricultural Experiment Station.

USDA. 2025a. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed March 2025. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

USDA. 2025b. State Soil Data Access (SDA) Hydric Soils List, California [online database]. Accessed March 2025. https://www.nrcs.usda.gov/publications/query-by-state.html.

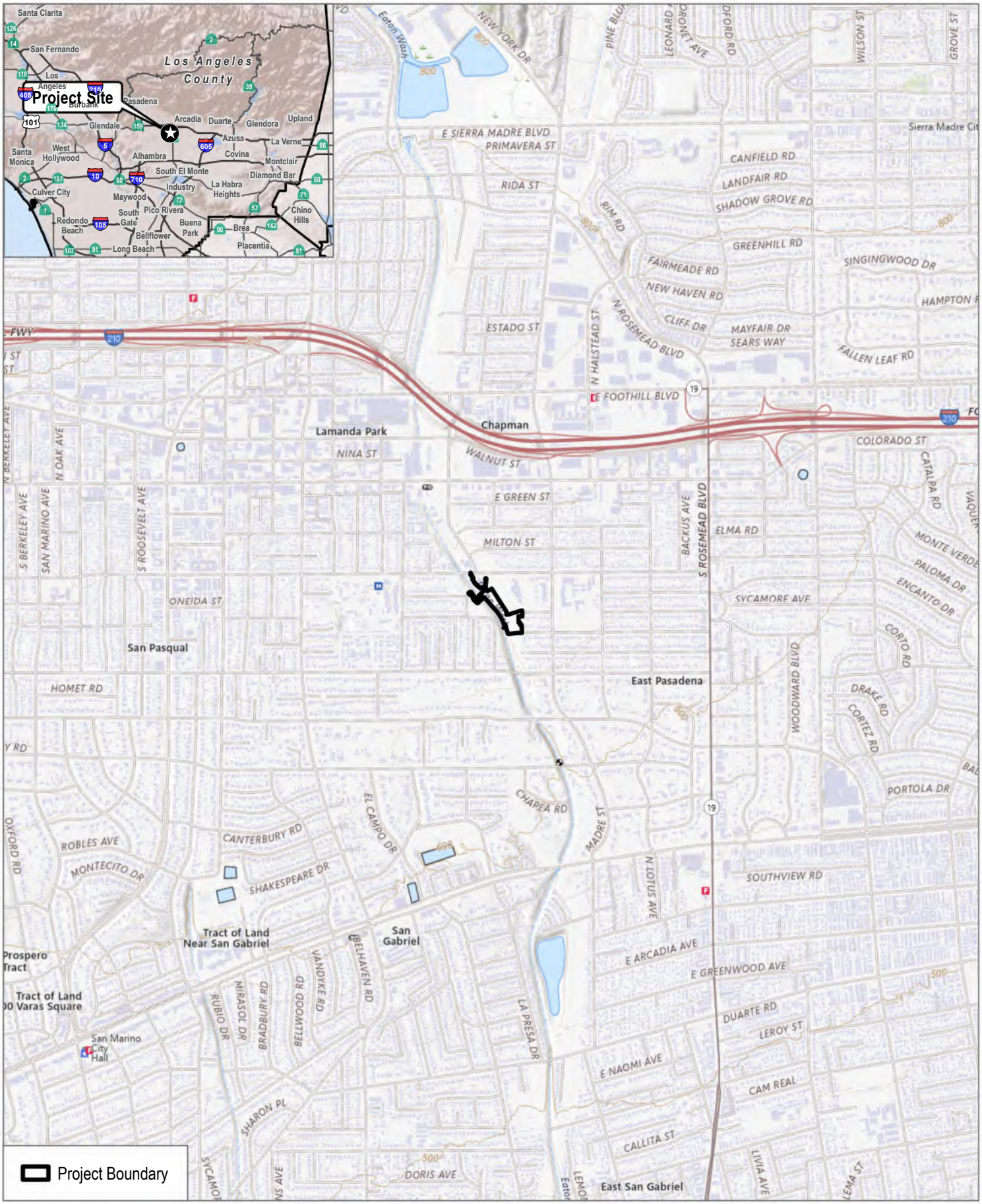
USFWS (U.S. Fish and Wildlife Service). 2025. National Wetlands Inventory. Accessed March 2025. http://www.fws.gov/data. https://www.usgs.gov/national-hydrography.

USGS (U.S. Geological Survey). 2015. Mount Wilson, California Quadrangle [map]. 1:24,000. 7.5-minute Series. Washington D.C.

USGS. 2025. National Hydrography Dataset and Watershed Boundary Dataset. Accessed March 2025. https://www.usgs.gov/national-hydrography.

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# Appendix A
Figures




SOURCE: USGS National Map 2025

DUDEK

0 1,000 2,000 Feet

**FIGURE 1**

Project Location

Eaton Wash Stormwater Capture Project




SOURCE: Vantor 2023; Open Street Maps 2019; USDA

DUDEK

0 150 300 Feet

**FIGURE 2**

Soils

Eaton Wash Stormwater Capture Project




SOURCE: Vantor 2023; Open Street Maps 2019

DUDEK

0 150 300 Feet

**FIGURE 3**

Vegetation Communities and Land Covers

Eaton Wash Stormwater Capture Project




SOURCE: Bing Aerial Imagery 2021; OpenStreetMaps 2019; NHD; NWI; FEMA

DUDEK

0 1,000 2,000 Feet

**FIGURE 4**

Hydrologic Setting

Eaton Wash Stormwater Capture Project




SOURCE: Bing Aerial Imagery 2021; OpenStreetMaps 2019

DUDEK

0 150 300 Feet

**FIGURE 5**

Aquatic Resources

Eaton Wash Stormwater Capture

# Appendix B
Photo Exhibit




**Photo 1.** Del Mar Boulevard spanning Eaton Wash in the northern area of the project site.




**Photo 2.** Del Mar Boulevard spanning Eaton Wash in the northern area of the project site; culvert supplying inflow of water.




**Photo 3.** Eaton Wash on the eastern dirt access road. View of vegetation mapped as coast live oak association (*Quercus agrifolia)* on the right.




**Photo 4.** Facing northwest from the central portion of the project site. View of large trees, including oaks, on both sides of the wash. Del Mar Boulevard overpass is in the distance.




**Photo 5.** Facing downstream with view of wetted area within Eaton Wash.




**Photo 6.** View of open area in the southeastern portion of the project site. This area appeared to be actively maintained/mowed.




**Photo 7.** View of the area between the nursery and Eaton Wash. This area was mapped as disturbed habitat.



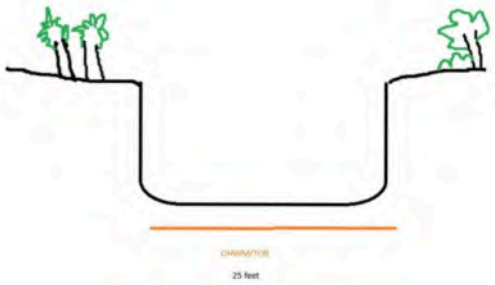

**Photo 8.** View from nursery operations bordering eastern edge of the project site. This area was mapped as ornamental land cover type.

# Appendix C
OHWM Data Forms

## Wet-12 High Water Mark v2

| | |
|---|---|
| Project | Eaton Wash |
| ID | 533952 |
| Survey Date | 04/10/2025 |
| User | Eilleen Salas |
| Project: | Eaton Wash |
| Project Number: | |
| Stream: | Eaton Wash (Feature 1) |
| Cross Section ID: | T-01 |
| Investigator(s): | E.Salas and R. Stanley |
| Town: | |
| Photo begin file#: | |
| Time: | |
| State: | |
| Photo end file#: | |
| Do normal circumstances exist on the site? | Y |
| Is the site significantly disturbed? | Y |
| Location Details: | Centrally located on Feature 1, concrete channel |
| Projection: | |
| Coordinates: | |
| Latitude | |
| Longitude | |
| Datum: | |
| Potential anthropogenic influences on the channel system: | Concrete channel, run off, homeless encampment up the way |
| Brief site description: | Concrete channel with high vertical walls and relatively permanent waters. |
| Checklist of resources (if available): | Aerial photography, Vegetation maps, Soils maps, Rainfall/precipitation maps, Existing delineation(s) for site |
| Dates: | 4/10/2025 |
| **Stream gage data** | |
| Gage number: | |

| | |
|---|---|
| Period of record: | |
| Stream gage data resources: | |
| 5. Identify the OHWM and record the indicators. Record the OHWM position via: | Mapping on aerial photograph, Digitized on computer |
| Cross section drawing: | |




OHWM Transect 1

## OHWM

| | |
|---|---|
| GPS point: | |
| Latitude | 34.140967 |
| Longitude | -118.085031 |
| Indicators: | Change in vegetation species, Change in vegetation cover, Break in bank slope |
| Comments: | |

## Floodplain 1

| | |
|---|---|
| Floodplain unit: | |
| GPS point: | |
| Latitude | |
| Longitude | |

## Characteristics of the floodplain unit

| | |
|---|---|
| Average sediment texture: | |
| Total veg cover: | |
| Tree: | |
| Shrub: | |
| Herb: | |
| Community successional stage: | |
| Indicators: | |
| Comments: | |
| Floodplain Photo(s) | None |
| Upload additional drawings | None |

# Appendix D
Arborist's Report

Arborist Report

# Eaton Wash Stormwater Capture Project City of Pasadena, California

**OCTOBER 2025**

*Prepared for:*

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*Courtney Semlow*

*Prepared by:*

DUDEK

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*Tree Risk Assessment Qualified*
*ASCA Tree and Plant Appraisal Qualified*

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A Tree Information Matrix
B Protected Tree Locations
C Tree Impacts
D Representative Site Photographs

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# Acronyms and Abbreviations

| Acronym/Abbreviation | Definition |
|---|---|
| City | City of Pasadena |
| GIS | geographic information system |
| ISA | International Society of Arboriculture |
| PMC | Pasadena Municipal Code |
| project | Eaton Wash Stormwater Capture Project |
| TPZ | tree protection zone |

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# 1 Introduction

This arborist report provides an inventory and evaluation of the trees located within the study area for the City of Pasadena's (City) Eaton Wash Stormwater Capture Project (project). The project site is located in the City of Pasadena, California (Figure 1, Project Location). This arborist report covers the existing conditions for trees located on the project site and discusses the regulations and requirements pertaining to removal of protected trees within the City's jurisdiction.

Craftwater Engineering, Inc. retained Dudek to conduct a tree inventory and assessment for the project site. A Dudek International Society of Arboriculture (ISA) Certified Arborist performed various functions associated with surveying, inventorying, and evaluating the condition of all protected trees located within the project site to meet the requirements of Pasadena Municipal Code (PMC) Chapter 8.52 – City Trees and Tree Protection (City of Pasadena 2010).

The purpose of this arborist report is to present the existing physical conditions, characteristics, and mapped locations of the area's trees that are to be removed, encroached upon, or protected in place during the proposed grading and construction-related activities on the project site. All 298 trees identified within the survey boundary are considered public trees and, as such, are considered protected by the City municipal code. The municipal code does not prohibit removal of protected trees, but establishes a protocol for City review of requests to remove regulated trees and for identification of avoidance requirements and/or replacement rates.

## 1.1 Project Location

The project site is located within the southeastern portion of City of Pasadena within Township 1 North, Ranges 12 and 11 West, of the Pasadena, California, 7.5-minute U.S. Geological Survey quadrangle. As shown on Figure 1, the site is south of E Del Mar Boulevard, east of Eaton Blanch Park, north of San Pasqual Street, and west of a Boys and Girls Club and Madre Street. The project site lies within Los Angeles County, just northwest of the community of East Pasadena, and west of the City of Arcadia.

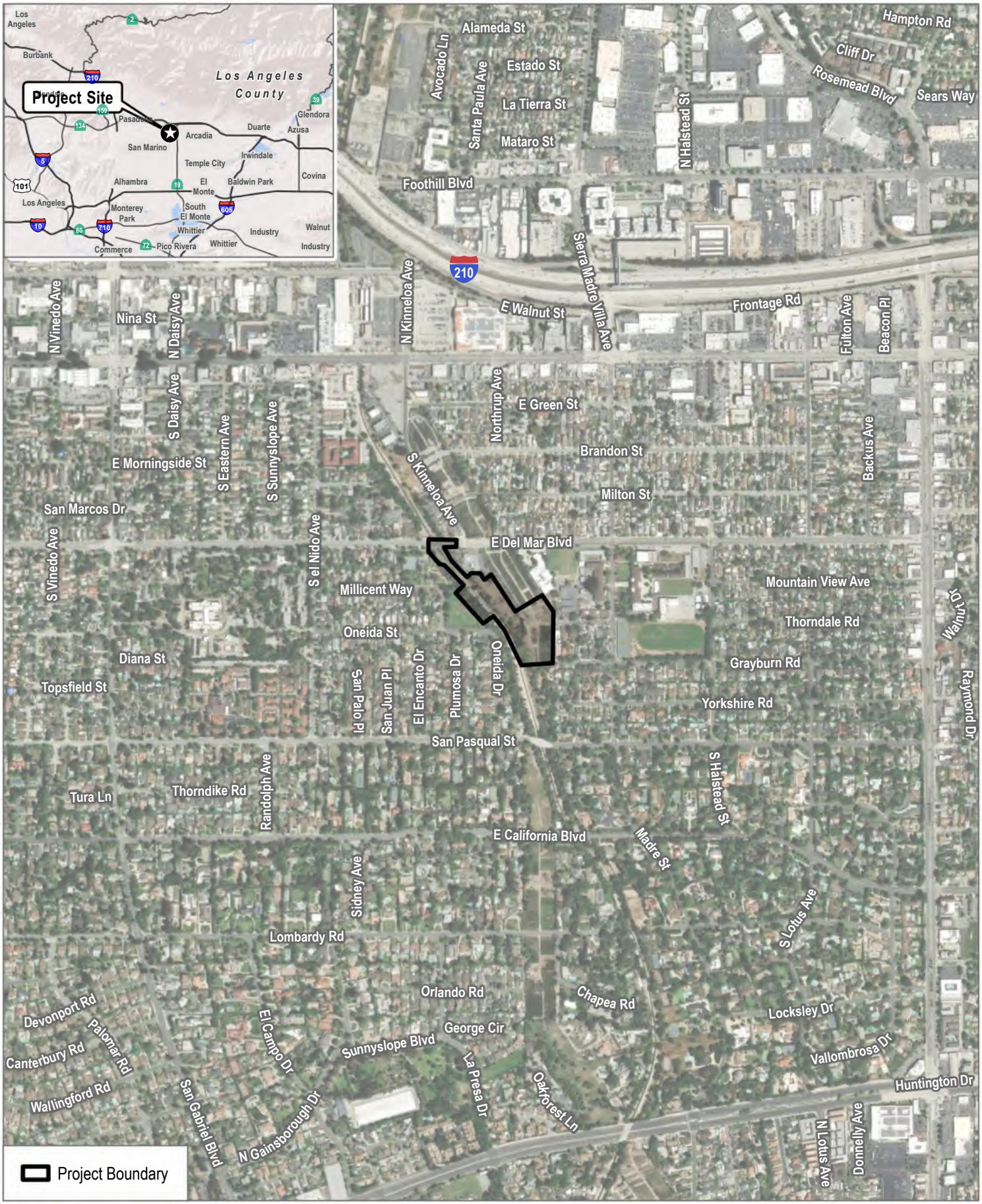
## 1.2 Site Characteristics

The project site includes a largely undeveloped area on the eastern side, a plant nursery in the southeast, and the Eaton Wash along with its access roads on the western side, extending from northwest to southeast. The sections of the site bordering the wash have denser vegetation, serving as a natural buffer between the wash and a public park to the west, as well as the land to the east.

## 1.3 Project Description

The project would be implemented by the City to improve water quality and effectively manage stormwater runoff. The project entails constructing public infrastructure to divert dry weather and stormwater flows from the Eaton Wash channel and send the water for treatment through a series of vegetated treatment ponds and a subsurface storage reservoir. This process helps remove pollutants and trash, enhancing the water quality within Eaton Wash, which ultimately flows to the Los Angeles River and the Pacific Ocean. At the time of the survey, a detailed site plan was unavailable; therefore, the survey was conducted using a conservative study area provided by the project's design engineer. The intent of the project is to construct the proposed facilities on property owned by the City and within public right-of-way related to E Del Mar Boulevard and a channelized section of the Eaton Wash channel.

The project also includes the creation of usable park space with new trees, native plantings, walking paths, and sitting areas, integrating underground stormwater infrastructure with aboveground improvements to maximize community benefits and provide educational opportunities about stormwater management.




SOURCE: Maxar 2024; Open Street Map 2024

DUDEK

0 500 1,000 Feet

**FIGURE 1**

Project Location

Eaton Wash Stormwater Capture Project

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# 2 Methods

The following sections describe the methods used by Dudek's ISA Certified Arborist to inventory and evaluate trees in the survey area.

## 2.1 Individual Tree Evaluation

Dudek's ISA Certified Arborist Aida Castro (No. WE-13396A) conducted the tree inventory and evaluation on February 5 and 6, 2025, to document tree locations and attribute information for all regulated trees within the survey area.

Tree attribute data collected during the field survey included species, trunk diameter, tree height, canopy spread, general health condition, and structural condition. Trunk diameters were measured using a diameter tape, which provides adjusted numbers for diameter measurements when wrapping the tape around the circumference of a tree trunk. Diameter measurements were collected using standard protocol described by the Council of Tree and Landscape Appraisers in its Guide for Plant Appraisal, 9th edition (CTLA 2000), published by the ISA.

Trunk diameter measurements were taken at 4.5 feet above the ground along the trunk axis, with a few common exceptions. In cases where the trunk of a tree split into multiple stems at approximately 4.5 feet above the ground, the measurement was made at the location that best represented the trunk's diameter. The arborist estimated tree height measurements, and tree canopy diameter measurements were documented by "pacing off" the measurement based on the arborist's knowledge of their stride lengths or by visually estimating the canopy width.

Pursuant to the Guide for Plant Appraisal, 9th edition (CTLA 2000), tree health and structure were evaluated with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Health and structure were rated using letter grades A through F. A-rated trees exhibit excellent condition; this rating is typically reserved for model specimen trees with nearly ideal structure and nearly perfect health with little or no twig dieback, discoloration, or defoliation. B-rated trees exhibit normal vigor for the species, healthy foliage, no considerable damage due to disease or pests, and minor if any structural issues. C-rated trees are typical, with few maladies and moderate structural issues, and may exhibit less reduced vigor in foliage and new growth. D-rated trees exhibit an unhealthy or declining appearance and/or structural problems or damage. E-rated trees exhibit poor vigor and appear to be dying and in the last stages of life. F-rated trees are dead. Individual attributes for each tree found on the project survey site are detailed in Appendix A, Tree Information Matrix.

The location of each individual regulated tree was mapped using the Esri ArcGIS Field Maps application on an iPhone coupled with an Arrow GPS receiver to increase positional accuracy. Collected data were remotely uploaded to Dudek's servers for post-field processing and analysis. Tree attribute data, collected simultaneously with feature positions, were also linked to tree location information and stored in Esri's ArcGIS Field Maps application. Following field data collection, raw data files were then differentially corrected, managed, and exported in appropriate geographic information system (GIS) or CAD formats, suitable for further spatial analysis and/or exhibit preparation. These data were used to create a primary tree inventory data set of all regulated trees within the survey area.

Individual tree attribute data is presented in Appendix A, Tree Information Matrix. Protected tree locations are presented in Appendix B, Protected Tree Locations. Individual tree locations and impacts are presented in Appendix C, Tree Impacts. Representative site photographs are presented in Appendix D, Representative Site Photographs.

## 2.2 Scope of Work Limitations

This report presents tree information as observed in the field. No root crown excavations or investigations, internal probing, or aerial canopy inspections were performed during the tree assessment. Therefore, the presence or absence of internal decay or other hidden or inaccessible inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation or relocation in an urban setting be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing preservation or relocation plans.

Data for several trees were visually estimated from a distance due to the following limitations: homeless encampment and/or other access or safety issues.

# 3 Observations

## 3.1 Individual Trees

A total of 298 trees were inventoried within the survey area for the project. All trees within the survey area are considered public trees because of their location on City property or right-of-way and therefore would be protected by the City's tree ordinance (Table 1). As public trees, per the City ordinance, all 298 trees are considered protected trees. Among these, 60 trees meet the City's criteria as a native tree, 16 of which are mature, and 58 mature non-native trees. However, as stated, all 298 are public trees and are therefore considered protected. No tree in the project area meets the City definition of a "Landmark tree," "Landmark-eligible tree," or "Specimen tree."

Appendix B presents the location of the individual trees mapped for the proposed project. Overall, the trees exhibit growth and structural conditions that are typical of their location. The trees include various trunk and branch maladies and health and structural conditions. As presented in Appendix A, 2.35% of the individually mapped trees (7 trees) exhibit good health; 83.9% (250 trees) are in fair health; 9.06 % (27 trees) are in poor health; 1.34% (4 trees) are in critical health; and 3.36% (10 trees) are dead. Structurally, 0.67% (2 trees) of the individually mapped trees are considered to exhibit good structure; 68.1% (203 trees) exhibit fair structure; 24.8% (74 trees) exhibit poor structure; 3.02% (9 trees) exhibit critical structure; and 3.36% (10 trees) are dead. The trees in good condition exhibit acceptable vigor, healthy foliage, and adequate structure, and lack any major maladies. Trees in fair condition are typical, with few maladies but declining vigor. Trees in poor condition exhibit declining vigor, unhealthy foliage, poor branch structure, and excessive lean. No pests or pathogens were observed on site.

Trees surveyed for the project vary in size and stature according to species and available growing space. The site's trees are composed of single-stemmed and multi-stemmed trees, with single-stemmed trunk diameters that range from 3 to 39 inches, and multi-stemmed trunk diameters that range from 2 to 77 inches. Tree heights vary from 4 to 65 feet. Tree canopy extents range from 0 feet for dead trees to approximately 30 feet across at their widest point.

**Table 1. Summary of Protected Trees**

| Species | Protection Type | | | | |
|---|---|---|---|---|---|
| | Mature, Public | Native, Mature, Public | Native, Public | Public | Total |
| American sweetgum *(Liquidambar styraciflua)* | 1 | 0 | 0 | 0 | 1 |
| blue elderberry *(Sambucus mexicana)* | 1 | 0 | 0 | 1 | 2 |
| blue palo verde *(Parkinsonia florida)* | 0 | 0 | 0 | 5 | 5 |
| Brazilian pepper *(Schinus terebinthifolius)* | 5 | 0 | 0 | 16 | 21 |
| California laurel *(Umbellularia californica)* | 0 | 0 | 1 | 0 | 1 |

## Table 1. Summary of Protected Trees

| Species | Protection Type | | | | |
|---|---|---|---|---|---|
| | Mature, Public | Native, Mature, Public | Native, Public | Public | Total |
| California sycamore *(Platanus racemosa)* | 4 | 0 | 0 | 2 | 6 |
| camphor *(Cinnamomum camphora)* | 0 | 0 | 0 | 1 | 1 |
| Canary Island date palm *(Phoenix canariensis)* | 2 | 0 | 0 | 2 | 4 |
| Canary Island pine *(Pinus canariensis)* | 5 | 0 | 0 | 2 | 7 |
| Carolina laurel cherry *(Prunus caroliniana)* | 0 | 0 | 0 | 1 | 1 |
| carrotwood *(Cupaniopsis anacardioides)* | 0 | 0 | 0 | 7 | 7 |
| Cherimoya *(Annona cherimola)* | 0 | 0 | 0 | 1 | 1 |
| Chinese elm *(Ulmus parvifolia)* | 1 | 0 | 0 | 7 | 8 |
| coast live oak *(Quercus agrifolia)* | 0 | 12 | 36 | 38 | 86 |
| crape myrtle *(Lagerstroemia indica)* | 0 | 0 | 0 | 2 | 2 |
| evergreen ash *(Fraxinus uhdei)* | 4 | 0 | 0 | 4 | 8 |
| guava *(Psidium guajava)* | 0 | 0 | 0 | 2 | 2 |
| holly leaf cherry *(Prunus ilicifolia)* | 0 | 0 | 0 | 4 | 4 |
| holly oak *(Quercus ilex)* | 0 | 3 | 6 | 10 | 19 |
| Italian cypress *(Cupressus sempervirens)* | 0 | 0 | 0 | 1 | 1 |
| lemon *(Citrus limon)* | 1 | 0 | 0 | 3 | 4 |
| Mexican fan palm *(Washingtonia robusta)* | 12 | 0 | 0 | 2 | 14 |
| red shanks *(Adenostoma sparsifolium)* | 0 | 0 | 0 | 1 | 1 |
| scrub oak *(Quercus berberidifolia)* | 0 | 1 | 0 | 1 | 2 |

## Table 1. Summary of Protected Trees

| Species | Protection Type | | | | |
|---|---|---|---|---|---|
| | Mature, Public | Native, Mature, Public | Native, Public | Public | Total |
| silver dollar gum *(Eucalyptus polyanthemos)* | 1 | 0 | 0 | 1 | 2 |
| silver wattle *(Acacia dealbata)* | 2 | 0 | 0 | 1 | 3 |
| Torrey pine *(Pinus torreyana)* | 1 | 0 | 0 | 0 | 1 |
| toyon *(Heteromeles arbutifolia)* | 4 | 0 | 0 | 4 | 8 |
| tree of Heaven *(Ailanthus altissima)* | 11 | 0 | 0 | 50 | 61 |
| unknown dead tree | 2 | 0 | 0 | 7 | 9 |
| valley oak *(Quercus lobata)* | 0 | 0 | 1 | 0 | 1 |
| Victorian box *(Pittosporum undulatum)* | 0 | 0 | 0 | 1 | 1 |
| weeping fig *(Ficus benjamina)* | 0 | 0 | 0 | 1 | 1 |
| windmill palm *(Trachycarpus fortunei)* | 1 | 0 | 0 | 2 | 3 |
| **Total for All Regulated Trees** | **58** | **16** | **44** | **180** | **298** |

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# 4 Regulatory Definitions and Requirements

A tree inventory and assessment of the project site was performed pursuant to PMC Chapter 8.52 – City Trees and Tree Protection (City of Pasadena 2010). The following is an outline of the key aspects of the ordinance.

## 4.1 Definitions

For this project, trees subject to City permit requirements include those defined by PMC Chapter 8.52.020, as follows:

1. Native tree: "any tree with a trunk more than 8 inches in diameter at a height of 4 ½ feet above natural grade that is one of the following species: *Quercus agrifolia* (Coast live oak), *Quercus engelmannii* (Engelmann oak), *Quercus chrysolepis* (Canyon oak), *Platanus racemosa* (California sycamore), *Juglans californica* (California walnut), *Quercus berberidifolia* (Scrub oak), *Quercus lobata* (Valley oak), *Umbellularia californica* (California bay), *Populus fremontii* (Cottonwood), *Alnus rhombifolia* (California alder), *Populus trichocarpa* (Black cottonwood), *Salix lasiolepis* (Arroyo willow), and *Aesculus californica* (California buckeye)."
2. Landmark tree: "a tree designated as a landmark under Chapter 17.62 of [the City's Municipal Code] as a tree of historic or cultural significance and of importance to the community due to any of the following factors: It is one of the largest or oldest trees of the species located in the city; it has historical significance due to an association with a historic building, site, street, person or event; or it is a defining landmark or significant outstanding feature of a neighborhood."
3. Landmark-eligible tree: "a tree which meets the criteria for designation as a landmark tree, as determined by the review authority."
4. Mature tree: "an otherwise non-protected tree with a diameter-at-breast-height (DBH) of 19 inches or greater."
5. Public tree: "a tree located in a place or area under ownership or control of the city including but without limitation streets, parkways, open space, parkland and including city owned property under the operational control of another entity by virtue of a lease, license, operating or other agreement." All public trees are protected in the City of Pasadena.
6. Specimen tree: "any tree meeting the criteria established by resolution of the city council by species and size of tree which is thereby presumed to possess distinctive form, size or age, and to be an outstanding specimen of a desirable species and to warrant the protections of [Chapter 8.52 of the City's Municipal Code]."

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# 5 Impacts

Tree impacts were assessed using GIS software to analyze the spatial relationship between trees and the project's temporary and permanent impact areas, as shown in the 60% development plans received by Dudek on September 4, 2025. Should future design revisions result in additional encroachment or removals, those trees would be reclassified accordingly. Impacts were further determined based on Dudek's experience with native and non-native trees and their typical reactions to root disturbances from construction activities, such as soil compaction, excavation, and grading.

For this project, tree impacts are categorized as either removal or encroachment. A tree is considered impacted if anticipated disturbances occur within its designated tree protection zone (TPZ), which, according to the City of Pasadena Tree Protection Guidelines, extends 4 feet beyond the tree's dripline (City of Pasadena 2019). Trees will be designated for removal if their trunk falls within the permanent impact boundary, while encroachment applies when the tree canopy extends within 4 feet of this boundary. Encroached trees may experience root damage, soil excavation and compaction, grade alterations, canopy loss, trunk wounds, and other potential impacts. The locations and impact determination of individual trees are detailed in Appendix C.

Tree species, age, and condition significantly influence their tolerance to construction-related disturbances. Different species and ages of trees on the project site exhibit varying levels of sensitivity. Mature trees are generally more vulnerable to root disturbances and grade changes, while healthy trees tend to withstand environmental changes more effectively. Conversely, trees in poor health or under stress may struggle to adapt to direct or indirect construction impacts.

To minimize potential impacts, mitigation measures, detailed in Section 6, will be required and shall be implemented during grading operations.

## 5.1 Direct Tree Impacts

Of the 298 trees in the survey area, 116 have been classified for removal and seven trees will be encroached upon. Additionally, 54 trees within temporary impact areas will be retained and 121 will be preserved in place. Appendix C presents the tree locations, categorized by impact type. Measures to minimize the extent of impacts to temporarily impacted and preserved trees are provided in Section 6, Mitigation Measures.

Table 2 provides a summary of the number of trees by species expected to be directly impacted by construction.

## Table 2. Summary of Direct Tree Impacts

| Species | Impact Determination | | | | |
|---|---|---|---|---|---|
| | Removal | Encroachment | Temporary Impact | No Impact | Total |
| American sweetgum *(Liquidambar styraciflua)* | 0 | 0 | 0 | 1 | 1 |
| blue elderberry *(Sambucus mexicana)* | 2 | 0 | 0 | 0 | 2 |
| blue palo verde *(Parkinsonia florida)* | 1 | 0 | 0 | 4 | 5 |
| Brazilian pepper *(Schinus terebinthifolius)* | 1 | 1 | 0 | 19 | 21 |
| California laurel *(Umbellularia californica)* | 1 | 0 | 0 | 0 | 1 |
| California sycamore *(Platanus racemosa)* | 3 | 1 | 0 | 2 | 6 |
| camphor *(Cinnamomum camphora)* | 0 | 0 | 0 | 1 | 1 |
| Canary Island date palm *(Phoenix canariensis)* | 1 | 0 | 0 | 3 | 4 |
| Canary Island pine *(Pinus canariensis)* | 2 | 1 | 0 | 4 | 7 |
| Carolina laurel cherry *(Prunus caroliniana)* | 0 | 0 | 0 | 1 | 1 |
| carrotwood *(Cupaniopsis anacardioides)* | 3 | 0 | 0 | 4 | 7 |
| Cherimoya *(Annona cherimola)* | 0 | 0 | 0 | 1 | 1 |
| Chinese elm *(Ulmus parvifolia)* | 0 | 0 | 0 | 8 | 8 |
| coast live oak *(Quercus agrifolia)* | 27 | 2 | 29 | 28 | 86 |
| crape myrtle *(Lagerstroemia indica)* | 0 | 0 | 0 | 2 | 2 |
| evergreen ash *(Fraxinus uhdei)* | 0 | 0 | 0 | 8 | 8 |
| guava *(Psidium guajava)* | 0 | 0 | 0 | 2 | 2 |
| holly leaf cherry *(Prunus ilicifolia)* | 2 | 0 | 2 | 0 | 4 |
| holly oak *(Quercus ilex)* | 2 | 0 | 1 | 16 | 19 |

## Table 2. Summary of Direct Tree Impacts

| Species | Impact Determination | | | | |
|---|---|---|---|---|---|
| | Removal | Encroachment | Temporary Impact | No Impact | Total |
| Italian cypress *(Cupressus sempervirens)* | 0 | 0 | 0 | 1 | 1 |
| lemon *(Citrus limon)* | 0 | 0 | 0 | 4 | 4 |
| Mexican fan palm *(Washingtonia robusta)* | 2 | 1 | 0 | 3 | 14 |
| red shanks *(Adenostoma sparsifolium)* | 0 | 0 | 1 | 0 | 1 |
| scrub oak *(Quercus berberidifolia)* | 0 | 0 | 2 | 0 | 2 |
| silver dollar gum *(Eucalyptus polyanthemos)* | 0 | 0 | 0 | 2 | 2 |
| silver wattle *(Acacia dealbata)* | 1 | 0 | 2 | 0 | 3 |
| Torrey pine *(Pinus torreyana)* | 1 | 0 | 0 | 0 | 1 |
| toyon *(Heteromeles arbutifolia)* | 5 | 0 | 3 | 0 | 8 |
| tree of Heaven *(Ailanthus altissima)* | 61 | 0 | 0 | 0 | 61 |
| unknown dead tree | 1 | 1 | 6 | 1 | 9 |
| valley oak *(Quercus lobata)* | 0 | 0 | 0 | 1 | 1 |
| Victorian box *(Pittosporum undulatum)* | 0 | 0 | 0 | 1 | 1 |
| weeping fig *(Ficus benjamina)* | 0 | 0 | 0 | 1 | 1 |
| windmill palm *(Trachycarpus fortunei)* | 0 | 0 | 0 | 3 | 3 |
| **Total for All Regulated Trees** | **116** | **7** | **54** | **121** | **298** |

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# 6 Mitigation Measures

A total of 298 protected trees are located within the project site, 116 of which will be removed and seven will be encroached upon. Additionally, 54 trees are within temporary impact areas and 121 will be preserved in place.

In accordance with PMC Section 8.52, replacement of protected trees will be required based on the discretion of the City Manager, and tree protection measures must be implemented for encroached trees. Additionally, trees preserved within impacted areas and any other City-protected trees within the project study area that are not designated for removal or encroachment must adhere to the tree protection standards outlined in the City's Tree Protection Ordinance and Tree Protection Guidelines.

Construction-related activities should be overseen by a qualified ISA Certified Arborist to ensure compliance with tree protection measures. The following sections outline the City's tree replacement and protection requirements.

## 6.1 Tree Replacement

As previously mentioned, a total of 116 protected trees have been classified for removal. Impacts have been determined using 60% development plans. Should future design revisions result in additional encroachment or removals, those trees would be reclassified accordingly. Any tree requiring removal to accommodate the proposed project must comply with the tree replacement requirements outlined in PMC Section 8.52.076 of the City's Tree Protection Ordinance. According to PMC Section 8.52.076:

> Any person wishing to request special maintenance or removal of a public tree by the city must submit a written request to the city manager and cover the costs of service and replacement at rates established by the city manager, as outlined in the tree protection guidelines, if the request is approved. Such requests will be evaluated based on the provisions of this chapter, established criteria for public tree removal, ongoing public tree maintenance projects, and available resources.

As a result, all required tree replacements will be subject to the discretion of the City and will adhere to the replacement rates established by the City Manager.

## 6.2 Tree Protection Measures

The City requires that the following tree protection measures be implemented during construction to safeguard all 182 protected trees not designated for removal, including 54 trees within temporary impact areas, 121 trees preserved in place, and seven encroached upon trees. Per the City of Pasadena Tree Protection Guidelines, Section B, Tree Protection Zone (City of Pasadena 2019):

> The Tree Protection Zone (TPZ) shall be established to the extent of the tree's dripline plus four (4) radial feet. The guidelines herein shall be applied to the TPZ to safeguard the health of protected trees. Tree roots are generally located in the top 12-24 inches of soil and can extend to a distance exceeding the trees height and/or width.

1. Refer to Standard Plan S-642 'Tree Protection Standard' for full details.
2. Protective (6-foot-high minimum) chain-link fencing with an access gate of minimal width should be installed around the TPZ to the extent practicable subject to approval by staff prior to the commencement of any grading, construction, or demolition. Fencing must also include 8 ½″ x 11″ (minimum) signage that

includes the following information: Tree Protection Zone; name and contact information of project owner or authorized representative; and "Please contact the Pasadena Citizen Service Center to report any concerns (626) 744-7311."

3. The TPZ shall be irrigated sufficiently with clean water to keep the tree in good health and vigor before, during, and after construction. This may mean deeply soaking the ground periodically.
4. No construction staging or disposal of construction materials or byproducts including but not limited to paint, plaster, or chemical solutions is allowed in the TPZ.
5. The TPZ should not be subjected to flooding incidental to the construction work.
6. All work conducted in the ground within the TPZ of any protected tree should be accomplished with hand tools unless an air-spade is utilized. Trenches in the TPZ should be tunneled, or completed with an air spade to avoid damage to roots within the TPZ. Information regarding air spades is available from staff.
7. Where structural footings are required and major roots (over 3" in diameter) will be impacted, the engineer of record should submit acceptable footing design alternatives and or location alternatives to staff before proceeding with further plan review.
8. Where more than 50% of the TPZ is impacted or roots greater than 3 inches in diameter are to be removed within the TPZ, the engineer of record should submit acceptable design alternatives to staff for review.
9. Any required trenching should be routed in such a manner as to minimize root damage. Radial trenching (radial to the tree trunk) is preferred as it is less harmful than tangential trenching. Construction activity should be diverted from the TPZ. Cutting of roots should be avoided (i.e., place pipes and cables below uncut roots). Wherever possible and in accordance with applicable code requirements, the same trench should be used for multiple utilities.
10. "Natural" or pre-construction grade should be maintained in the TPZ. At no time during or after construction should soil be in contact with the trunk of the tree above the basal flair.
11. In areas where the grade around the protected tree will be lowered, some root cutting may be unavoidable. Cuts should be clean and made at right angles to the roots. When practical, cut roots back to a branching lateral root.
12. When removing existing pavement in the TPZ, avoid the use of heavy equipment, which will compact and damage the root system.
13. If staff requires mulch in the TPZ, the mulch materials and location should be shown on the plan. Larger projects will require construction staging plans to indicate where materials will be stored and how the equipment will move in and around the property to minimize damage to the TPZ. Root damage and soil compaction may be mitigated in some cases by using trench covers or mulch in the TPZ.

Additionally, Dudek recommends the following:

1. A qualified arborist shall be present during initial ground-disturbing activities on the project site to ensure that project activities stay within the demarcated limits. This qualified arborist shall identify the number of City-protected trees that are removed as a result of project construction activities, as well as trees that would be encroached upon. This inventory of trees shall be used to determine an appropriate tree replacement program that shall be, at a minimum, consistent with the City's Tree Ordinance (PMC Chapter 8.52) as it relates to tree replacement of protected trees.
2. All trees that have been substantially root pruned (30% or more of their root zone) during construction within the TPZ shall be monitored by an ISA Certified Arborist for the first 5 years after construction completion. The arborist shall submit an annual report, photograph each tree, and compare tree health and condition to the original, pre-construction baseline. For trees that do not survive the 5-year monitoring period, such trees shall be replaced in accordance with the requirements of this measure.

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# 7 Conclusion

The survey area contains 298 protected trees, all of which are considered public trees and, as such, are considered protected. Among these, there are 60 trees that meet the City's criteria as a native tree, 16 of which are mature, and 58 mature non-native trees. Of the 298 trees in the survey area, 116 have been classified for removal and seven trees will be encroached upon. Additionally, 54 trees will be retained within temporary impact areas and 121 will be preserved in place. Impacts have been determined using 60% development plans. Should future design revisions result in additional encroachment or removals, those trees would be reclassified accordingly. Under the City's Tree Protection Ordinance, tree replacement for removed trees must comply with PMC Section 8.52.076. This section provides for review by the City Manager and allows for discretionary replacement rates, as established by the City Manager and outlined in the Tree Protection Guidelines, if the request is approved. Accordingly, all required replacements will be determined at the City's discretion based on the replacement rates set by the City Manager.

Per the City, all protected trees not removed should be subject to the tree protection standards of the City's Tree Protection Ordinance and Tree Protection Guidelines. Construction-related activities around all encroached trees should be monitored by a qualified ISA Certified Arborist to ensure tree protection measures are followed and to assess tree impacts that may result in tree decline or death. Temporary protective fencing should be installed along the outside of the TPZ for trees that have driplines within the boundaries of the impact area.

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# 8 Disclosure

This arborist report provides conclusions and recommendations based only on a visual examination of the trees within the survey area by ISA Certified Arborists and reasonable reliance on the completeness and accuracy of the information provided to the arborists. The examination did not include subterranean or internal examination of the trees.

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near them. Although trees provide many benefits to those who live near them, they also include inherent risks from breakage or failure that can be minimized but not eliminated.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms subject to attack by disease, insects, fungi, weather, and other forces of nature, and conditions that lead to failure are often hidden within trees and belowground. There are some inherent risks with trees that cannot be predicted with any degree of certainty, even by a skilled and experienced arborist. Arborists cannot predict acts of nature, including, without limitation, storms of sufficient strength, which can cause an apparently healthy tree to fail. Additionally, arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for any specific period. A tree's condition could change over a short or prolonged period of time due to climatic, cultural, or environmental conditions. Further, there is no guarantee or certainty that recommendations or efforts to correct unsafe conditions will prevent future breakage or failure of a tree.

To live or work near trees is to accept some degree of risk. Neither the author of this arborist report nor Dudek assume any responsibility for or will be liable for any claims, losses, or damages for damage to any tree, death or injury to any person, or any loss of or damage to any personal or real property.

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# 9 References

City of Pasadena. 2010. “Municipal Code: Chapter 8.52 - City Trees and Tree Protection Ordinance.” Accessed January 2025. https://www.cityofpasadena.net/public-works/wp-content/uploads/sites/29/TPO_2-Pasadena-Tree-Ordinance-Municipal-Code-8.52.pdf.

City of Pasadena. 2019. “City of Pasadena Tree Protection Guidelines.” Revised May 13, 2019. Accessed January 2025. https://www.cityofpasadena.net/public-works/wp-content/uploads/sites/29/Tree-Protection-Guidelines-by-City-Manager.pdf.

CTLA (Council of Tree and Landscape Appraisers). 2000. *Guide for Plant Appraisal.* 9th ed. International Society of Arboriculture.

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# Appendix A
Tree Information Matrix

| Appendix A - Tree Information Matrix | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tree No. | Botanical Name | Common Name | Health | Structural Integrity | Height (ft.) | Crown Width (ft.) | Stems | Individual Stem Diameters (in.) | | | | | | Cumulative Stem Diameter (in.) | Notes | Latitude | Longitude | Protected Status | On City List | Native Species | Maturity | Public | Invasive | Impact |
| | | | | | | | | D1 | D2 | D3 | D4 | D5 | D6 | | | | | | | | | | | |
| 1 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 15 | 1 | 16 | - | - | - | - | - | 16 | | 34.140533 | -118.083964 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 2 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 10 | 8 | 9 | 3 | 2 | 2 | 2 | 2 | 2 | 19 | Additional diameters: 2, 2, 2 | 34.140492 | -118.083989 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 3 | *Heteromeles arbutifolia* | Toyon | Good | Fair | 15 | 10 | 9 | 4 | 4 | 3 | 3 | 3 | 2 | 25 | Additional diameters: 2, 2, 2 | 34.140475 | -118.083959 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 4 | *Umbellularia californica* | California Laurel | Good | Fair | 15 | 8 | 5 | 3 | 3 | 1 | 1 | 1 | - | 9 | | 34.140491 | -118.083948 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 5 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 10 | 3 | 5 | 4 | 3 | - | - | - | 12 | | 34.140438 | -118.083948 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 6 | *Sambucus mexicana* | Blue Elderberry | Poor | Critical | 20 | 20 | 1 | 25 | - | - | - | - | - | 25 | Trunk split, half fallen. | 34.140401 | -118.083965 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 7 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 20 | 15 | 7 | 6 | 6 | 5 | 5 | 5 | 3 | 33 | Additional diameter: 3 | 34.140369 | -118.084054 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 8 | *Quercus agrifolia* | Coast Live Oak | Critical | Critical | 5 | 5 | 1 | 14 | - | - | - | - | - | 14 | Failed totem with base resprout | 34.140349 | -118.083957 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 9 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 12 | 1 | 15 | - | - | - | - | - | 15 | | 34.140341 | -118.083946 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 10 | *Sambucus mexicana* | Blue Elderberry | Dead | Dead | 15 | 10 | 2 | 5 | 4 | - | - | - | - | 9 | | 34.140317 | -118.08396 | Public | Yes | Yes | Immature | Public | No | Removal |
| 11 | *Cupaniopsis anacardioides* | Carrotwood | Good | Fair | 20 | 10 | 2 | 3 | 8 | - | - | - | - | 11 | | 34.140325 | -118.083945 | Public | No | No | Immature | Public | Yes | Removal |
| 12 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.140313 | -118.083963 | Public | Yes | Yes | Immature | Public | No | Removal |
| 13 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 5 | 2 | 3 | 2 | - | - | - | - | 5 | | 34.140293 | -118.083955 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 14 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 15 | 1 | 9 | - | - | - | - | - | 9 | | 34.140275 | -118.083978 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 15 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 8 | 2 | 5 | 2 | - | - | - | - | 7 | | 34.140282 | -118.083984 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 16 | *Quercus agrifolia* | Coast Live Oak | Fair | Critical | 8 | 12 | 1 | 4 | - | - | - | - | - | 4 | | 34.140282 | -118.084015 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 17 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 10 | 1 | 7 | - | - | - | - | - | 7 | | 34.140304 | -118.084012 | Public | Yes | Yes | Immature | Public | No | Removal |
| 18 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 10 | 2 | 5 | 5 | - | - | - | - | 10 | | 34.140297 | -118.08405 | Native, Public | Yes | Yes | Immature | Public | No | Encroachment |
| 19 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 12 | 3 | 6 | 3 | 2 | - | - | - | 11 | | 34.14033 | -118.084024 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 20 | *Quercus berberidifolia* | Scrub Oak | Poor | Fair | 10 | 12 | 6 | 5 | 5 | 5 | 4 | 3 | 2 | 24 | | 34.140354 | -118.084111 | Native, Mature, Public | No | Yes | Mature | Public | No | Temporary Impact |
| 21 | *Prunus ilicifolia* | Holly Leaf Cherry | Fair | Poor | 15 | 10 | 5 | 3 | 1 | 1 | 1 | 1 | - | 7 | | 34.140186 | -118.083939 | Public | No | Yes | Immature | Public | No | Temporary Impact |
| 22 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 15 | 0 | 1 | 12 | - | - | - | - | - | 12 | Dead and fallen. | 34.140193 | -118.083983 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 23 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 15 | 0 | 1 | 12 | - | - | - | - | - | 12 | Dead and fallen. | 34.140183 | -118.084013 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 24 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 4 | 3 | 2 | 2 | 1 | - | - | 8 | | 34.140214 | -118.083998 | Public | No | No | Immature | Public | Yes | Removal |
| 25 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 8 | 1 | 3 | - | - | - | - | - | 3 | | 34.140227 | -118.084009 | Public | No | No | Immature | Public | Yes | Removal |
| 26 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140241 | -118.084025 | Public | No | No | Immature | Public | Yes | Removal |
| 27 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140244 | -118.08403 | Public | No | No | Immature | Public | Yes | Removal |
| 28 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 1 | 3 | - | - | - | - | - | 3 | | 34.140247 | -118.084053 | Public | No | No | Immature | Public | Yes | Removal |
| 29 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 15 | 2 | 5 | 4 | - | - | - | - | 9 | | 34.140207 | -118.084025 | Public | No | No | Immature | Public | Yes | Removal |
| 30 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 1 | 3 | - | - | - | - | - | 3 | | 34.140207 | -118.084037 | Public | No | No | Immature | Public | Yes | Removal |
| 31 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 1 | 3 | - | - | - | - | - | 3 | | 34.140224 | -118.084048 | Public | No | No | Immature | Public | Yes | Removal |
| 32 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 1 | 5 | - | - | - | - | - | 5 | | 34.140236 | -118.084051 | Public | No | No | Immature | Public | Yes | Removal |
| 33 | *Adenostoma sparsifolium* | Red Shanks | Fair | Poor | 15 | 15 | 2 | 6 | 5 | - | - | - | - | 11 | | 34.140205 | -118.084063 | Public | No | Yes | Immature | Public | No | Temporary Impact |
| 34 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 2 | 3 | 2 | - | - | - | - | 5 | | 34.140201 | -118.08407 | Public | No | No | Immature | Public | Yes | Removal |
| 35 | *Quercus berberidifolia* | Scrub Oak | Fair | Fair | 10 | 8 | 4 | 3 | 1 | 1 | 1 | - | - | 6 | Tagged as 34 | 34.140237 | -118.084135 | Public | No | Yes | Immature | Public | No | Temporary Impact |
| 36 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 15 | 12 | 14 | 3 | 3 | 3 | 2 | 2 | 1 | 22 | Additional diameters: 1, 1, 1, 1, 1, 1, 1, 1 | 34.140175 | -118.084129 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Temporary Impact |
| 37 | *Quercus ilex* | Holly Oak | Fair | Poor | 10 | 7 | 3 | 2 | 1 | 1 | - | - | - | 4 | | 34.140192 | -118.084143 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 38 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 7 | 5 | 1 | 1 | 1 | 1 | 1 | - | 5 | | 34.140184 | -118.084165 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 39 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 15 | 1 | 14 | - | - | - | - | - | 14 | | 34.140221 | -118.084234 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 40 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 15 | 5 | 7 | 6 | 6 | 6 | 5 | - | 30 | | 34.140299 | -118.084228 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Temporary Impact |
| 41 | *Quercus agrifolia* | Coast Live Oak | Poor | Poor | 12 | 10 | 8 | 3 | 2 | 2 | 1 | 1 | 1 | 12 | Additional diameters: 1, 1 | 34.140305 | -118.084253 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 42 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 10 | 4 | 4 | 3 | 2 | 2 | - | - | 11 | | 34.140356 | -118.084228 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 43 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 12 | 6 | 5 | 4 | 3 | 3 | 3 | 2 | 20 | | 34.140401 | -118.084235 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Temporary Impact |
| 44 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 15 | 5 | 7 | 6 | 5 | 4 | 2 | - | 24 | | 34.140353 | -118.084312 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 45 | *Quercus agrifolia* | Coast Live Oak | Critical | Critical | 15 | 15 | 1 | 16 | - | - | - | - | - | 16 | | 34.140406 | -118.084346 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 46 | *Quercus lobata* | Valley Oak | Poor | Fair | 20 | 15 | 1 | 13 | - | - | - | - | - | 13 | | 34.140496 | -118.084437 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 47 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 22 | 20 | 4 | 12 | 10 | 7 | 3 | - | - | 32 | | 34.140547 | -118.084449 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Temporary Impact |
| 48 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 10 | 15 | 8 | 3 | 2 | 2 | 2 | 2 | 1 | 14 | Additional diameters: 1, 1 | 34.140454 | -118.0842 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 49 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 8 | 3 | 2 | 1 | 1 | - | - | - | - | 2 | | 34.140467 | -118.084214 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 50 | *Platanus racemosa* | California Sycamore | Poor | Critical | 25 | 20 | 1 | 22 | - | - | - | - | - | 22 | | 34.140558 | -118.084264 | Mature, Public | Yes | Yes | Mature | Public | No | Encroachment |
| 51 | *Heteromeles arbutifolia* | Toyon | Poor | Poor | 14 | 10 | 9 | 5 | 5 | 4 | 3 | 3 | 3 | 30 | Additional diameters: 3, 2, 2 | 34.140669 | -118.084374 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 52 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 20 | 8 | 1 | 8 | - | - | - | - | - | 8 | | 34.140684 | -118.084465 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 53 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 25 | 20 | 2 | 16 | 16 | - | - | - | - | 32 | Dead and fallen. | 34.140739 | -118.084527 | Mature, Public | No | No | Mature | Public | Yes | Encroachment |
| 54 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 10 | 1 | 5 | - | - | - | - | - | 5 | | 34.140693 | -118.084533 | Public | No | No | Immature | Public | Yes | Removal |
| 55 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 2 | 3 | 2 | - | - | - | - | 5 | | 34.14069 | -118.084538 | Public | No | No | Immature | Public | Yes | Removal |
| 56 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 15 | 4 | 6 | 4 | 4 | 3 | - | - | 17 | | 34.140693 | -118.084567 | Public | No | No | Immature | Public | Yes | Removal |
| 57 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 3 | 3 | 1 | 1 | - | - | - | 5 | | 34.140654 | -118.084571 | Public | No | No | Immature | Public | Yes | Removal |
| 58 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 15 | 10 | 2 | 6 | 3 | - | - | - | - | 9 | | 34.14074 | -118.084626 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 59 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 12 | 8 | 1 | 3 | - | - | - | - | - | 3 | | 34.140765 | -118.084632 | Public | No | No | Immature | Public | Yes | Removal |
| 60 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 2 | 4 | 1 | - | - | - | - | 5 | | 34.140769 | -118.084624 | Public | No | No | Immature | Public | Yes | Removal |
| 61 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 4 | 7 | 6 | 5 | 5 | - | - | 23 | | 34.140856 | -118.084687 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 62 | *Platanus racemosa* | California Sycamore | Critical | Critical | 20 | 12 | 2 | 18 | 10 | - | - | - | - | 28 | No tag, homeless encampment. Two additional burnt and fallen trunks. | 34.140899 | -118.084673 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 63 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 7 | 2 | 2 | 1 | - | - | - | - | 3 | | 34.140951 | -118.08467 | Public | Yes | Yes | Immature | Public | No | Removal |

| Appendix A - Tree Information Matrix | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tree No. | Botanical Name | Common Name | Health | Structural Integrity | Height (ft.) | Crown Width (ft.) | Stems | Individual Stem Diameters (in.) | | | | | | Cumulative Stem Diameter (in.) | Notes | Latitude | Longitude | Protected Status | On City List | Native Species | Maturity | Public | Invasive | Impact |
| | | | | | | | | D1 | D2 | D3 | D4 | D5 | D6 | | | | | | | | | | | |
| 64 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 8 | 3 | 2 | 1 | 1 | - | - | - | 4 | No tag, homeless encampment. | 34.140866 | -118.084711 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 65 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 2 | 4 | 3 | - | - | - | - | 7 | | 34.14087 | -118.084741 | Public | No | No | Immature | Public | Yes | Removal |
| 66 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 1 | 5 | - | - | - | - | - | 5 | | 34.140884 | -118.084743 | Public | No | No | Immature | Public | Yes | Removal |
| 67 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 1 | 5 | - | - | - | - | - | 5 | No tag, no access. | 34.140878 | -118.084768 | Public | No | No | Immature | Public | Yes | Removal |
| 68 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 5 | 5 | 4 | 4 | 3 | 2 | - | 18 | No tag, no access. | 34.14089 | -118.084779 | Public | No | No | Immature | Public | Yes | Removal |
| 69 | *Acacia dealbata* | Silver Wattle | Fair | Poor | 10 | 15 | 9 | 3 | 3 | 3 | 2 | 2 | 2 | 21 | Additional diameters: 2, 2, 2. No tag, no access, estimated data. | 34.140876 | -118.084787 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 70 | *Quercus agrifolia* | Coast Live Oak | Critical | Fair | 12 | 8 | 2 | 6 | 1 | - | - | - | - | 7 | No tag, homeless encampment. | 34.140923 | -118.084779 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 71 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 7 | 5 | 2 | 1 | 1 | - | - | - | - | 2 | No tag, homeless encampment. | 34.140921 | -118.084787 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 72 | *Pinus canariensis* | Canary Island Pine | Fair | Fair | 60 | 30 | 1 | 26 | - | - | - | - | - | 26 | | 34.141402 | -118.084844 | Mature, Public | Yes | No | Mature | Public | Yes | Removal |
| 73 | *Pinus canariensis* | Canary Island Pine | Fair | Fair | 60 | 25 | 1 | 24 | - | - | - | - | - | 24 | | 34.141424 | -118.084774 | Mature, Public | Yes | No | Mature | Public | Yes | Removal |
| 74 | *Pinus torreyana* | Torrey Pine | Fair | Fair | 65 | 25 | 1 | 39 | - | - | - | - | - | 39 | Some stub cuts and broken off branches. | 34.141466 | -118.084749 | Mature, Public | Yes | No | Mature | Public | Yes | Removal |
| 75 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 15 | 8 | 2 | 3 | 1 | - | - | - | - | 4 | | 34.141268 | -118.084536 | Public | Yes | Yes | Immature | Public | No | Removal |
| 76 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 10 | 4 | 6 | 6 | 5 | 4 | - | - | 21 | | 34.141223 | -118.084498 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 77 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 8 | 3 | 3 | 2 | 1 | - | - | - | 6 | | 34.141207 | -118.084476 | Public | Yes | Yes | Immature | Public | No | Removal |
| 78 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 10 | 2 | 3 | 3 | - | - | - | - | 6 | | 34.141184 | -118.084469 | Public | No | No | Immature | Public | Yes | Removal |
| 79 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 4 | 3 | 3 | 2 | 2 | - | - | 10 | | 34.141179 | -118.084461 | Public | No | No | Immature | Public | Yes | Removal |
| 80 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 15 | 7 | 4 | 4 | 3 | 3 | 3 | 3 | 22 | Additional diameter: 2 | 34.141166 | -118.084461 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 81 | *Platanus racemosa* | California Sycamore | Fair | Poor | 30 | 15 | 12 | 25 | 6 | 6 | 6 | 5 | 5 | 77 | Additional diameters: 5, 5, 4, 4, 3, 3 | 34.141122 | -118.084462 | Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 82 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 7 | 5 | 4 | 1 | 1 | 1 | 1 | - | - | 4 | | 34.141157 | -118.084438 | Public | Yes | Yes | Immature | Public | No | Removal |
| 83 | *Platanus racemosa* | California Sycamore | Fair | Poor | 15 | 15 | 4 | 5 | 4 | 2 | 2 | - | - | 13 | | 34.141139 | -118.084419 | Public | Yes | Yes | Immature | Public | No | Removal |
| 84 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 12 | 2 | 8 | 5 | - | - | - | - | 13 | | 34.141135 | -118.084425 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 85 | *Cupaniopsis anacardioides* | Carrotwood | Fair | Poor | 20 | 12 | 5 | 3 | 1 | 1 | 1 | 1 | - | 7 | | 34.141116 | -118.084405 | Public | No | No | Immature | Public | Yes | Removal |
| 86 | *Quercus ilex* | Holly Oak | Fair | Poor | 25 | 15 | 4 | 9 | 6 | 5 | 3 | - | - | 23 | | 34.141085 | -118.084403 | Native, Mature, Public | No | No | Mature | Public | Yes | Removal |
| 87 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 8 | 3 | 3 | 3 | 2 | - | - | - | 8 | | 34.140998 | -118.084539 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 88 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 2 | 11 | 3 | - | - | - | - | 14 | | 34.141222 | -118.084489 | Public | No | No | Immature | Public | Yes | Removal |
| 89 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 30 | 20 | 2 | 12 | 8 | - | - | - | - | 20 | | 34.141216 | -118.084487 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 90 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Critical | 4 | 5 | 0 | - | - | - | - | - | - | 0 | Stump resprouts. | 34.140676 | -118.084078 | Public | No | No | Immature | Public | Yes | Removal |
| 91 | *Prunus ilicifolia* | Holly Leaf Cherry | Good | Fair | 10 | 14 | 7 | 4 | 2 | 2 | 2 | 2 | 2 | 16 | Additional diameter: 2 | 34.14075 | -118.084132 | Public | No | Yes | Immature | Public | No | Removal |
| 92 | *Prunus ilicifolia* | Holly Leaf Cherry | Good | Fair | 12 | 10 | 3 | 4 | 2 | 2 | - | - | - | 8 | | 34.140797 | -118.084189 | Public | No | Yes | Immature | Public | No | Removal |
| 93 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140876 | -118.084229 | Public | No | No | Immature | Public | Yes | Removal |
| 94 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 6 | 6 | 5 | 5 | 5 | 5 | 4 | 30 | | 34.140887 | -118.084236 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 95 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 1 | 6 | - | - | - | - | - | 6 | | 34.140894 | -118.084245 | Public | No | No | Immature | Public | Yes | Removal |
| 96 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 30 | 15 | 2 | 17 | 7 | - | - | - | - | 24 | | 34.140897 | -118.084247 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 97 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 12 | 2 | 5 | 4 | - | - | - | - | 9 | | 34.140903 | -118.084258 | Public | No | No | Immature | Public | Yes | Removal |
| 98 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 12 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140916 | -118.084256 | Public | No | No | Immature | Public | Yes | Removal |
| 99 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 18 | 12 | 1 | 4 | - | - | - | - | - | 4 | | 34.140925 | -118.084259 | Public | No | No | Immature | Public | Yes | Removal |
| 100 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 12 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140912 | -118.084284 | Public | No | No | Immature | Public | Yes | Removal |
| 101 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 15 | 7 | 2 | 3 | 2 | - | - | - | - | 5 | | 34.140976 | -118.084308 | Public | Yes | Yes | Immature | Public | No | Removal |
| 102 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 12 | 1 | 12 | - | - | - | - | - | 12 | | 34.140983 | -118.084321 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 103 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 6 | 2 | 2 | 2 | - | - | - | - | 4 | | 34.141015 | -118.084336 | Public | Yes | Yes | Immature | Public | No | Removal |
| 104 | *Quercus agrifolia* | Coast Live Oak | Poor | Poor | 10 | 7 | 3 | 3 | 3 | 1 | - | - | - | 7 | No tag, estimated data, homeless encampment. | 34.140969 | -118.084778 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 105 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.141011 | -118.08478 | Public | No | No | Immature | Public | Yes | Removal |
| 106 | *Acacia dealbata* | Silver Wattle | Fair | Poor | 20 | 15 | 5 | 7 | 6 | 4 | 2 | 2 | - | 21 | | 34.14102 | -118.084802 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 107 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 2 | 5 | 4 | - | - | - | - | 9 | | 34.141038 | -118.084822 | Public | No | No | Immature | Public | Yes | Removal |
| 108 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 3 | 7 | 5 | 5 | - | - | - | 17 | No tag, estimated data, homeless encampment. | 34.141019 | -118.084821 | Public | No | No | Immature | Public | Yes | Removal |
| 109 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 12 | 10 | 6 | 2 | 2 | 2 | 2 | 1 | 1 | 10 | No tag, estimated data, homeless encampment. | 34.141016 | -118.084833 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 110 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 12 | 1 | 10 | - | - | - | - | - | 10 | No tag, estimated data, homeless encampment. | 34.141031 | -118.084838 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 111 | *Quercus agrifolia* | Coast Live Oak | Good | Fair | 15 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.141073 | -118.084864 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 112 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 15 | 2 | 8 | 3 | - | - | - | - | 11 | | 34.141092 | -118.084881 | Native, Public | Yes | Yes | Immature | Public | No | Encroachment |
| 113 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 15 | 3 | 4 | 3 | 3 | - | - | - | 10 | No tag, estimated data, homeless encampment. | 34.141081 | -118.084902 | Public | No | No | Immature | Public | Yes | Removal |
| 114 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 12 | 12 | 5 | 3 | 3 | 2 | 2 | 1 | - | 11 | No tag, estimated data, homeless encampment. | 34.141098 | -118.084935 | Public | Yes | Yes | Immature | Public | No | Removal |
| 115 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 3 | 3 | 2 | 2 | - | - | - | 7 | No tag, estimated data, homeless encampment. | 34.141101 | -118.084959 | Public | No | No | Immature | Public | Yes | Removal |
| 116 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 12 | 10 | 3 | 3 | 2 | 1 | - | - | - | 6 | | 34.141152 | -118.084954 | Public | No | No | Immature | Public | Yes | Removal |
| 117 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 30 | 10 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.140897 | -118.084857 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 118 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 8 | 1 | 5 | - | - | - | - | - | 5 | No tag, estimated data, homeless encampment. | 34.140915 | -118.084848 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 119 | *Heteromeles arbutifolia* | Toyon | Fair | Fair | 10 | 7 | 4 | 1 | 1 | 1 | 1 | - | - | 4 | | 34.14092 | -118.084855 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 120 | *Acacia dealbata* | Silver Wattle | Fair | Poor | 15 | 12 | 12 | 3 | 2 | 2 | 2 | 1 | 1 | 17 | Additional diameters: 1s. No tag, estimated data, homeless encampment. | 34.140923 | -118.084861 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 121 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 12 | 1 | 17 | - | - | - | - | - | 17 | No tag, estimated data, homeless encampment. | 34.140934 | -118.084884 | Public | No | No | Immature | Public | Yes | No Impact |
| 122 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 25 | 12 | 1 | 17 | - | - | - | - | - | 17 | No tag, estimated data, homeless encampment. | 34.140972 | -118.084863 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 123 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 15 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.140964 | -118.084897 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 124 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 15 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.140988 | -118.084886 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 125 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 9 | 3 | 3 | 1 | 1 | - | - | - | 5 | No tag, estimated data, homeless encampment. | 34.140972 | -118.084903 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 126 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 30 | 15 | 1 | 19 | - | - | - | - | - | 19 | No tag, estimated data, homeless encampment. | 34.140988 | -118.084915 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |

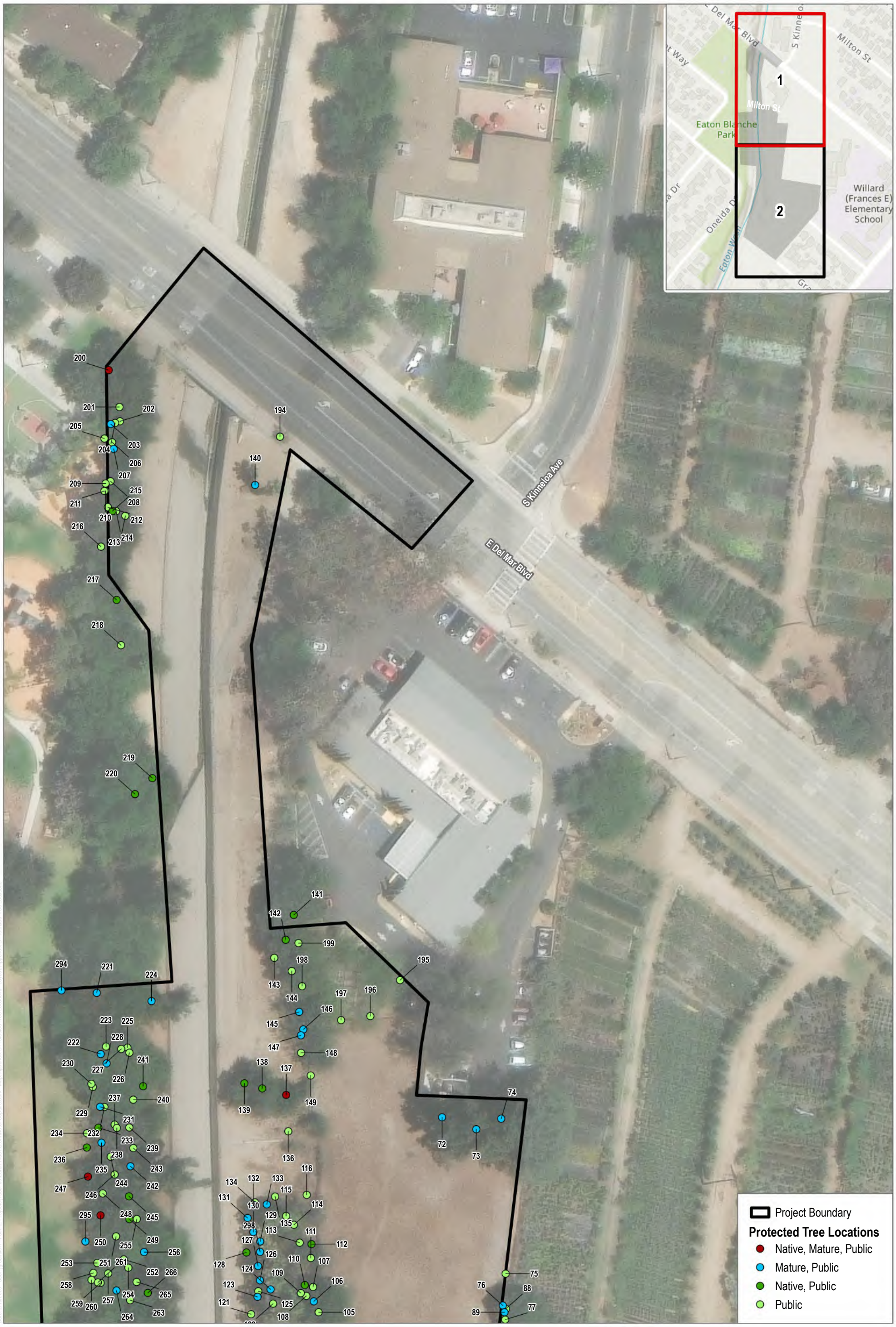
| Appendix A - Tree Information Matrix | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tree No. | Botanical Name | Common Name | Health | Structural Integrity | Height (ft.) | Crown Width (ft.) | Stems | Individual Stem Diameters (in.) | | | | | | Cumulative Stem Diameter (in.) | Notes | Latitude | Longitude | Protected Status | On City List | Native Species | Maturity | Public | Invasive | Impact |
| | | | | | | | | D1 | D2 | D3 | D4 | D5 | D6 | | | | | | | | | | | |
| 127 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 35 | 15 | 1 | 23 | - | - | - | - | - | 23 | No tag, estimated data, homeless encampment. | 34.141005 | -118.084937 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 128 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 10 | 3 | 3 | 3 | 3 | - | - | - | 9 | No tag, estimated data, homeless encampment. | 34.14101 | -118.084973 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 129 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 20 | 12 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.141039 | -118.084966 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 130 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 35 | 15 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.141044 | -118.084989 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 131 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 15 | 1 | 20 | - | - | - | - | - | 20 | No tag, estimated data, homeless encampment. | 34.141056 | -118.085017 | Mature, Public | No | No | Mature | Public | Yes | Encroachment |
| 132 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 15 | 1 | 22 | - | - | - | - | - | 22 | No tag, estimated data, homeless encampment. | 34.14108 | -118.085025 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 133 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 35 | 15 | 1 | 22 | - | - | - | - | - | 22 | No tag, estimated data, homeless encampment. | 34.141095 | -118.085004 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 134 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 10 | 2 | 4 | 3 | - | - | - | - | 7 | No tag, estimated data, homeless encampment. | 34.141085 | -118.085026 | Public | Yes | Yes | Immature | Public | No | Removal |
| 135 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 12 | 10 | 1 | 5 | - | - | - | - | - | 5 | | 34.141115 | -118.085002 | Public | Yes | Yes | Immature | Public | No | Removal |
| 136 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 15 | 10 | 5 | 2 | 2 | 2 | 2 | 2 | - | 10 | | 34.141215 | -118.085067 | Public | No | No | Immature | Public | Yes | Removal |
| 137 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 20 | 20 | 8 | 5 | 5 | 5 | 5 | 4 | 4 | 32 | Additional diameters: 2, 2 | 34.14126 | -118.085119 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Removal |
| 138 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 25 | 10 | 1 | 12 | - | - | - | - | - | 12 | | 34.141242 | -118.085165 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 139 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 20 | 1 | 16 | - | - | - | - | - | 16 | | 34.141229 | -118.0852 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 140 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 40 | 15 | 1 | 20 | - | - | - | - | - | 20 | | 34.142025 | -118.085976 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 141 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 20 | 1 | 18 | - | - | - | - | - | 18 | | 34.141504 | -118.085346 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 142 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 25 | 15 | 1 | 15 | - | - | - | - | - | 15 | | 34.141463 | -118.085325 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 143 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 8 | 1 | 5 | - | - | - | - | - | 5 | | 34.141426 | -118.085319 | Public | No | No | Immature | Public | Yes | Removal |
| 144 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 15 | 4 | 5 | 4 | 3 | 3 | - | - | 15 | | 34.141428 | -118.085274 | Public | No | No | Immature | Public | Yes | Removal |
| 145 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 15 | 5 | 5 | 4 | 4 | 4 | 2 | - | 19 | | 34.141383 | -118.085208 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 146 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 15 | 5 | 6 | 4 | 4 | 3 | 3 | - | 20 | | 34.141365 | -118.085179 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 147 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 15 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 23 | | 34.141354 | -118.085175 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 148 | *Ailanthus altissima* | Tree of Heaven | Fair | Poor | 20 | 12 | 3 | 4 | 4 | 4 | - | - | - | 12 | | 34.141332 | -118.085151 | Public | No | No | Immature | Public | Yes | Removal |
| 149 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 12 | 10 | 2 | 3 | 2 | - | - | - | - | 5 | | 34.141312 | -118.085106 | Public | No | No | Immature | Public | Yes | Removal |
| 150 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 30 | 0 | 1 | 18 | - | - | - | - | - | 18 | | 34.140151 | -118.083958 | Public | No | No | Immature | Public | Yes | Temporary Impact |
| 151 | *Prunus ilicifolia* | Holly Leaf Cherry | Fair | Fair | 8 | 10 | 7 | 2 | 2 | 1 | 1 | 1 | 1 | 9 | Additional diameter: 1 | 34.140119 | -118.083938 | Public | No | Yes | Immature | Public | No | Temporary Impact |
| 152 | *Quercus agrifolia* | Coast Live Oak | Poor | Poor | 25 | 20 | 1 | 20 | - | - | - | - | - | 20 | | 34.140127 | -118.084013 | Native, Mature, Public | Yes | Yes | Mature | Public | No | Temporary Impact |
| 153 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 20 | 1 | 16 | - | - | - | - | - | 16 | | 34.140037 | -118.084105 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 154 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 30 | 0 | 1 | 23 | - | - | - | - | - | 23 | | 34.140088 | -118.083937 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |
| 155 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 10 | 5 | 3 | 3 | 2 | 2 | 2 | - | 12 | | 34.140071 | -118.083936 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 156 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 10 | 2 | 4 | 2 | - | - | - | - | 6 | | 34.14005 | -118.083964 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 157 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 8 | 2 | 2 | 2 | - | - | - | - | 4 | | 34.140042 | -118.083953 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 158 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 2 | 4 | 3 | - | - | - | - | 7 | | 34.14003 | -118.084004 | Public | No | No | Immature | Public | Yes | Removal |
| 159 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 20 | 1 | 14 | - | - | - | - | - | 14 | | 34.140026 | -118.084046 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 160 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 10 | 4 | 3 | 2 | 1 | 1 | - | - | 7 | | 34.140016 | -118.08404 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 161 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 12 | 6 | 2 | 2 | 2 | - | - | - | - | 4 | | 34.139977 | -118.084036 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 162 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 10 | 6 | 3 | 2 | 1 | 1 | - | - | - | 4 | | 34.139988 | -118.084073 | Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 163 | *Cupaniopsis anacardioides* | Carrotwood | Fair | Poor | 15 | 15 | 5 | 6 | 3 | 3 | 2 | 2 | - | 16 | | 34.139949 | -118.084068 | Public | No | No | Immature | Public | Yes | No Impact |
| 164 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 12 | 2 | 6 | 5 | - | - | - | - | 11 | | 34.139945 | -118.084045 | Native, Public | Yes | Yes | Immature | Public | No | Temporary Impact |
| 165 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 20 | 15 | 7 | 7 | 7 | 6 | 5 | 5 | 5 | 38 | Additional diameter: 3 | 34.139659 | -118.0839 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 166 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 12 | 1 | 7 | - | - | - | - | - | 7 | | 34.139558 | -118.083827 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 167 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 8 | 2 | 5 | 5 | - | - | - | - | 10 | | 34.13956 | -118.083794 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 168 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.139588 | -118.083659 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 169 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 12 | 8 | 2 | 4 | 3 | - | - | - | - | 7 | | 34.139593 | -118.083659 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 170 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 18 | 14 | 1 | 8 | - | - | - | - | - | 8 | | 34.139587 | -118.083629 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 171 | *Lagerstroemia indica* | Crape Myrtle | Fair | Good | 10 | 5 | 1 | 3 | - | - | - | - | - | 3 | No tag, planted in ground in nursery. | 34.139762 | -118.083573 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 172 | *Ficus benjamina* | Weeping Fig | Fair | Poor | 7 | 6 | 3 | 1 | 1 | 1 | - | - | - | 3 | No tag, planted in ground in nursery. | 34.1398 | -118.083544 | Public | No | No | Immature | Public | Yes | No Impact |
| 173 | *Platanus racemosa* | California Sycamore | Fair | Poor | 25 | 20 | 9 | 6 | 5 | 4 | 4 | 3 | 3 | 32 | Additional diameters: 3, 2, 2. No tag, private property. | 34.139563 | -118.083578 | Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 174 | *Citrus limon* | Lemon | Fair | Poor | 15 | 15 | 5 | 5 | 5 | 4 | 3 | 2 | - | 19 | No tag, in yard. | 34.139563 | -118.083506 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 175 | *Platanus racemosa* | California Sycamore | Fair | Fair | 35 | 20 | 1 | 15 | - | - | - | - | - | 15 | No tag, in yard. | 34.139563 | -118.083413 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 176 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 30 | 30 | 2 | 30 | 18 | - | - | - | - | 48 | No tag, in yard, estimated data. | 34.139577 | -118.083221 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 177 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 30 | 25 | 1 | 26 | - | - | - | - | - | 26 | No tag, in yard, estimated data. | 34.139598 | -118.083107 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 178 | *Phoenix canariensis* | Canary Island Date Palm | Fair | Fair | 12 | 8 | 1 | 8 | - | - | - | - | - | 8 | No tag, in yard, estimated data. | 34.139674 | -118.083107 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 179 | *Pittosporum undulatum* | Victorian Box | Fair | Fair | 8 | 6 | 2 | 3 | 2 | - | - | - | - | 5 | No tag, in yard, estimated data. | 34.13971 | -118.083108 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 180 | *Trachycarpus fortunei* | Windmill Palm | Fair | Fair | 12 | 8 | 3 | 8 | 7 | 6 | - | - | - | 21 | No tag, in yard, estimated data. | 34.139732 | -118.08311 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 181 | *Schinus terebinthifolius* | Brazilian Pepper | Poor | Fair | 12 | 10 | 1 | 16 | - | - | - | - | - | 16 | No tag, in yard, estimated data. | 34.139751 | -118.083114 | Public | No | No | Immature | Public | Yes | No Impact |
| 182 | *Cupaniopsis anacardioides* | Carrotwood | Fair | Fair | 15 | 12 | 1 | 12 | - | - | - | - | - | 12 | No tag, in yard, estimated data. | 34.139905 | -118.083141 | Public | No | No | Immature | Public | Yes | No Impact |
| 183 | *Citrus limon* | Lemon | Fair | Fair | 12 | 8 | 3 | 3 | 3 | 2 | - | - | - | 8 | No tag, in yard, estimated data. | 34.139954 | -118.083163 | Public | No | No | Immature | Public | Yes | No Impact |
| 184 | *Cupaniopsis anacardioides* | Carrotwood | Fair | Fair | 15 | 8 | 1 | 6 | - | - | - | - | - | 6 | No tag, in yard, estimated data. | 34.139935 | -118.083202 | Public | No | No | Immature | Public | Yes | No Impact |
| 185 | *Citrus limon* | Lemon | Fair | Fair | 15 | 10 | 1 | 8 | - | - | - | - | - | 8 | No tag, in yard, estimated data. | 34.139956 | -118.083206 | Public | No | No | Immature | Public | Yes | No Impact |
| 186 | *Annona cherimola* | Cherimoya | Fair | Fair | 15 | 10 | 2 | 4 | 3 | - | - | - | - | 7 | No tag, in yard, estimated data. | 34.139969 | -118.083206 | Public | No | No | Immature | Public | Yes | No Impact |
| 187 | *Psidium guajava* | Guava | Fair | Fair | 12 | 10 | 5 | 3 | 2 | 2 | 1 | 1 | - | 9 | No tag, in yard, estimated data. | 34.139985 | -118.083205 | Public | No | No | Immature | Public | Yes | No Impact |
| 188 | *Psidium guajava* | Guava | Fair | Fair | 15 | 12 | 2 | 6 | 5 | - | - | - | - | 11 | No tag, in yard, estimated data. | 34.140049 | -118.08314 | Public | No | No | Immature | Public | Yes | No Impact |
| 189 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 25 | 1 | 28 | - | - | - | - | - | 28 | No tag, in yard, estimated data. | 34.140175 | -118.083215 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |

| Appendix A - Tree Information Matrix | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tree No. | Botanical Name | Common Name | Health | Structural Integrity | Height (ft.) | Crown Width (ft.) | Stems | Individual Stem Diameters (in.) | | | | | | Cumulative Stem Diameter (in.) | Notes | Latitude | Longitude | Protected Status | On City List | Native Species | Maturity | Public | Invasive | Impact |
| | | | | | | | | D1 | D2 | D3 | D4 | D5 | D6 | | | | | | | | | | | |
| 190 | *Citrus limon* | Lemon | Fair | Fair | 10 | 8 | 3 | 3 | 2 | 2 | - | - | - | 7 | No tag, in yard, estimated data. | 34.14005 | -118.083292 | Public | No | No | Immature | Public | Yes | No Impact |
| 191 | *Lagerstroemia indica* | Crape Myrtle | Fair | Fair | 10 | 8 | 5 | 3 | 2 | 1 | 1 | 1 | - | 8 | No tag, in yard, estimated data. | 34.140286 | -118.083213 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 192 | *Eucalyptus polyanthemos* | Silver Dollar Gum | Fair | Fair | 35 | 20 | 1 | 26 | - | - | - | - | - | 26 | No tag, in yard, estimated data. | 34.140708 | -118.083074 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 193 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 18 | 8 | 1 | 5 | - | - | - | - | - | 5 | | 34.141053 | -118.083398 | Public | No | No | Immature | Public | Yes | Removal |
| 194 | *Cinnamomum camphora* | Camphor Tree | Poor | Fair | 12 | 8 | 1 | 5 | - | - | - | - | - | 5 | No tag, street tree. | 34.142116 | -118.086001 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 195 | *Parkinsonia florida* | Blue Palo Verde | Fair | Fair | 15 | 10 | 1 | 8 | - | - | - | - | - | 8 | No tag, in yard. | 34.141536 | -118.085092 | Public | No | No | Immature | Public | Yes | No Impact |
| 196 | *Parkinsonia florida* | Blue Palo Verde | Fair | Fair | 15 | 10 | 1 | 4 | - | - | - | - | - | 4 | No tag, in yard. | 34.141456 | -118.085091 | Public | No | No | Immature | Public | Yes | No Impact |
| 197 | *Parkinsonia florida* | Blue Palo Verde | Good | Fair | 12 | 8 | 3 | 2 | 1 | 1 | - | - | - | 4 | No tag, in yard. | 34.141418 | -118.085132 | Public | No | No | Immature | Public | Yes | Removal |
| 198 | *Parkinsonia florida* | Blue Palo Verde | Fair | Fair | 15 | 12 | 3 | 5 | 4 | 3 | - | - | - | 12 | No tag, in yard. | 34.14142 | -118.085238 | Public | No | No | Immature | Public | Yes | No Impact |
| 199 | *Parkinsonia florida* | Blue Palo Verde | Fair | Fair | 20 | 15 | 3 | 6 | 6 | 5 | - | - | - | 17 | No tag, in yard. | 34.141472 | -118.085301 | Public | No | No | Immature | Public | Yes | No Impact |
| 200 | *Quercus ilex* | Holly Oak | Fair | Fair | 35 | 25 | 1 | 28 | - | - | - | - | - | 28 | No tag, in park. | 34.142014 | -118.086359 | Native, Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 201 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 15 | 2 | 2 | 2 | - | - | - | - | 4 | | 34.141978 | -118.086293 | Public | No | No | Immature | Public | Yes | Removal |
| 202 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 8 | 1 | 5 | - | - | - | - | - | 5 | | 34.141959 | -118.086273 | Public | No | No | Immature | Public | Yes | Removal |
| 203 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 30 | 12 | 10 | 4 | 4 | 4 | 4 | 3 | 2 | 28 | Additional diameters: 2, 2, 2, 1 | 34.141946 | -118.086284 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 204 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 12 | 6 | 4 | 3 | 3 | 3 | 2 | 2 | 17 | | 34.141952 | -118.086279 | Public | No | No | Immature | Public | Yes | Removal |
| 205 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 25 | 10 | 3 | 4 | 2 | 1 | - | - | - | 7 | | 34.14192 | -118.086275 | Public | No | No | Immature | Public | Yes | Removal |
| 206 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 15 | 8 | 4 | 3 | 3 | 2 | 2 | 1 | 17 | Additional diameters: 1, 1 | 34.141923 | -118.086258 | Public | No | No | Immature | Public | Yes | Removal |
| 207 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 12 | 4 | 4 | 3 | 3 | 3 | 2 | 27 | Additional diameters: 2, 2, 1, 1, 1, 1 | 34.141916 | -118.086247 | Mature, Public | No | No | Mature | Public | Yes | Removal |
| 208 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 4 | 4 | 3 | 3 | 1 | - | - | 11 | | 34.14187 | -118.086209 | Public | No | No | Immature | Public | Yes | Removal |
| 209 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.141862 | -118.086213 | Public | No | No | Immature | Public | Yes | Removal |
| 210 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 4 | 4 | 3 | 3 | 2 | - | - | 12 | | 34.141852 | -118.086204 | Public | No | No | Immature | Public | Yes | Removal |
| 211 | *Ailanthus altissima* | Tree of Heaven | Fair | Fair | 20 | 12 | 4 | 4 | 2 | 2 | 2 | - | - | 10 | | 34.141851 | -118.086206 | Public | No | No | Immature | Public | Yes | Removal |
| 212 | *Quercus ilex* | Holly Oak | Fair | Fair | 12 | 8 | 4 | 2 | 2 | 1 | 1 | - | - | 6 | | 34.141834 | -118.086179 | Public | No | No | Immature | Public | Yes | No Impact |
| 213 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 14 | 8 | 3 | 3 | 2 | 2 | - | - | - | 7 | | 34.141842 | -118.08614 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 214 | *Quercus ilex* | Holly Oak | Fair | Fair | 15 | 8 | 2 | 2 | 2 | - | - | - | - | 4 | | 34.141837 | -118.08616 | Public | No | No | Immature | Public | Yes | No Impact |
| 215 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 15 | 10 | 5 | 5 | 4 | 3 | 2 | 2 | - | 16 | | 34.141834 | -118.086166 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 216 | *Quercus ilex* | Holly Oak | Fair | Fair | 12 | 7 | 3 | 2 | 1 | 1 | - | - | - | 4 | | 34.141774 | -118.086137 | Public | No | No | Immature | Public | Yes | No Impact |
| 217 | *Quercus ilex* | Holly Oak | Fair | Fair | 20 | 12 | 3 | 7 | 2 | 1 | - | - | - | 10 | | 34.141722 | -118.086042 | Native, Public | No | No | Immature | Public | Yes | No Impact |
| 218 | *Eucalyptus polyanthemos* | Silver Dollar Gum | Poor | Poor | 20 | 25 | 1 | 18 | - | - | - | - | - | 18 | | 34.141667 | -118.085975 | Public | No | No | Immature | Public | Yes | No Impact |
| 219 | *Quercus ilex* | Holly Oak | Fair | Fair | 30 | 15 | 1 | 16 | - | - | - | - | - | 16 | | 34.141528 | -118.08575 | Native, Public | No | No | Immature | Public | Yes | No Impact |
| 220 | *Quercus ilex* | Holly Oak | Fair | Fair | 30 | 15 | 1 | 12 | - | - | - | - | - | 12 | | 34.141488 | -118.085756 | Native, Public | No | No | Immature | Public | Yes | No Impact |
| 221 | *Fraxinus uhdei* | Evergreen Ash | Fair | Poor | 40 | 25 | 4 | 26 | 16 | 15 | 4 | - | - | 61 | | 34.141185 | -118.085553 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 222 | *Fraxinus uhdei* | Evergreen Ash | Fair | Fair | 40 | 30 | 1 | 32 | - | - | - | - | - | 32 | | 34.141109 | -118.085465 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 223 | *Quercus ilex* | Holly Oak | Fair | Fair | 18 | 12 | 1 | 6 | - | - | - | - | - | 6 | | 34.141125 | -118.085467 | Public | No | No | Immature | Public | Yes | No Impact |
| 224 | *Pinus canariensis* | Canary Island Pine | Fair | Poor | 50 | 20 | 1 | 21 | - | - | - | - | - | 21 | | 34.141235 | -118.085456 | Mature, Public | Yes | No | Mature | Public | Yes | No Impact |
| 225 | *Quercus ilex* | Holly Oak | Fair | Fair | 15 | 10 | 1 | 7 | - | - | - | - | - | 7 | | 34.141147 | -118.085432 | Public | No | No | Immature | Public | Yes | No Impact |
| 226 | *Quercus ilex* | Holly Oak | Fair | Poor | 12 | 10 | 1 | 7 | - | - | - | - | - | 7 | | 34.141143 | -118.085422 | Public | No | No | Immature | Public | Yes | No Impact |
| 227 | *Pinus canariensis* | Canary Island Pine | Fair | Poor | 15 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.141138 | -118.08544 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 228 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 20 | 20 | 6 | 15 | 6 | 6 | 6 | 6 | 6 | 45 | | 34.141103 | -118.085444 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 229 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 20 | 8 | 3 | 6 | 4 | 2 | - | - | - | 12 | | 34.141057 | -118.085434 | Public | No | No | Immature | Public | Yes | No Impact |
| 230 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.14106 | -118.085441 | Public | No | No | Immature | Public | Yes | No Impact |
| 231 | *Phoenix canariensis* | Canary Island Date Palm | Fair | Fair | 12 | 12 | 1 | 24 | - | - | - | - | - | 24 | | 34.141039 | -118.085397 | Mature, Public | Yes | No | Mature | Public | Yes | No Impact |
| 232 | *Phoenix canariensis* | Canary Island Date Palm | Fair | Fair | 10 | 8 | 1 | 14 | - | - | - | - | - | 14 | | 34.141044 | -118.08539 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 233 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 30 | 20 | 1 | 18 | - | - | - | - | - | 18 | | 34.14101 | -118.085372 | Native, Public | Yes | Yes | Immature | Public | No | Removal |
| 234 | *Cupaniopsis anacardioides* | Carrotwood | Poor | Poor | 15 | 10 | 2 | 4 | 3 | - | - | - | - | 7 | | 34.14099 | -118.085382 | Public | No | No | Immature | Public | Yes | Removal |
| 235 | *Phoenix canariensis* | Canary Island Date Palm | Fair | Fair | 30 | 18 | 1 | 24 | - | - | - | - | - | 24 | | 34.140994 | -118.085347 | Mature, Public | Yes | No | Mature | Public | Yes | Removal |
| 236 | *Quercus ilex* | Holly Oak | Poor | Poor | 15 | 12 | 1 | 9 | - | - | - | - | - | 9 | | 34.140971 | -118.085364 | Native, Public | No | No | Immature | Public | Yes | Removal |
| 237 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 20 | 12 | 1 | 5 | - | - | - | - | - | 5 | | 34.141032 | -118.08535 | Public | Yes | Yes | Immature | Public | No | Removal |
| 238 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 15 | 1 | 7 | - | - | - | - | - | 7 | | 34.14103 | -118.085342 | Public | Yes | Yes | Immature | Public | No | Removal |
| 239 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 10 | 8 | 2 | 3 | 3 | - | - | - | - | 6 | | 34.141044 | -118.085323 | Public | Yes | Yes | Immature | Public | No | Removal |
| 240 | *Fraxinus uhdei* | Evergreen Ash | Fair | Fair | 30 | 15 | 1 | 7 | - | - | - | - | - | 7 | | 34.141085 | -118.085354 | Public | No | No | Immature | Public | Yes | No Impact |
| 241 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.141114 | -118.085356 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 242 | *Pinus canariensis* | Canary Island Pine | Fair | Fair | 45 | 30 | 1 | 23 | - | - | - | - | - | 23 | | 34.140995 | -118.08527 | Mature, Public | Yes | No | Mature | Public | Yes | Encroachment |
| 243 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 20 | 12 | 1 | 6 | - | - | - | - | - | 6 | | 34.141022 | -118.08529 | Public | Yes | Yes | Immature | Public | No | Removal |
| 244 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 20 | 10 | 1 | 5 | - | - | - | - | - | 5 | | 34.140986 | -118.085314 | Public | Yes | Yes | Immature | Public | No | Removal |
| 245 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.140954 | -118.085232 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 246 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 15 | 10 | 1 | 6 | - | - | - | - | - | 6 | | 34.140967 | -118.085284 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 247 | *Quercus ilex* | Holly Oak | Fair | Poor | 25 | 20 | 4 | 13 | 9 | 5 | 3 | - | - | 30 | | 34.140935 | -118.085323 | Native, Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 248 | *Cupressus sempervirens* | Italian Cypress | Fair | Fair | 35 | 12 | 1 | 18 | - | - | - | - | - | 18 | | 34.140929 | -118.085278 | Public | No | No | Immature | Public | Yes | No Impact |
| 249 | *Quercus ilex* | Holly Oak | Fair | Poor | 20 | 12 | 3 | 3 | 3 | 3 | - | - | - | 9 | | 34.140924 | -118.085201 | Native, Public | No | No | Immature | Public | Yes | No Impact |
| 250 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 25 | 15 | 2 | 13 | 10 | - | - | - | - | 23 | | 34.140898 | -118.085252 | Native, Mature, Public | Yes | Yes | Mature | Public | No | No Impact |
| 251 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 20 | 15 | 3 | 5 | 4 | 3 | - | - | - | 12 | | 34.140887 | -118.0852 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 252 | *Quercus ilex* | Holly Oak | Fair | Poor | 15 | 7 | 2 | 3 | 3 | - | - | - | - | 6 | | 34.140865 | -118.085157 | Public | No | No | Immature | Public | Yes | No Impact |

**Appendix A - Tree Information Matrix**

| Tree No. | Botanical Name | Common Name | Health | Structural Integrity | Height (ft.) | Crown Width (ft.) | Stems | Individual Stem Diameters (in.) | | | | | | Cumulative Stem Diameter (in.) | Notes | Latitude | Longitude | Protected Status | On City List | Native Species | Maturity | Public | Invasive | Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | D4 | D5 | D6 | | | | | | | | | | | |
| 253 | *Cupaniopsis anacardioides* | Carrotwood | Poor | Poor | 20 | 15 | 1 | 7 | - | - | - | - | - | 7 | | 34.140832 | -118.085194 | Public | No | No | Immature | Public | Yes | No Impact |
| 254 | *Trachycarpus fortunei* | Windmill Palm | Fair | Good | 15 | 8 | 1 | 6 | - | - | - | - | - | 6 | | 34.14086 | -118.085139 | Public | No | No | Immature | Public | Yes | No Impact |
| 255 | *Fraxinus uhdei* | Evergreen Ash | Fair | Fair | 25 | 20 | 1 | 10 | - | - | - | - | - | 10 | | 34.140933 | -118.08519 | Public | No | No | Immature | Public | Yes | No Impact |
| 256 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 20 | 20 | 2 | 16 | 11 | - | - | - | - | 27 | | 34.140898 | -118.085135 | Mature, Public | Yes | No | Mature | Public | Yes | No Impact |
| 257 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 15 | 8 | 5 | 3 | 3 | 2 | 2 | 2 | - | 12 | | 34.14083 | -118.085163 | Public | No | No | Immature | Public | Yes | No Impact |
| 258 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 15 | 8 | 1 | 5 | - | - | - | - | - | 5 | | 34.140814 | -118.085187 | Public | No | No | Immature | Public | Yes | No Impact |
| 259 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 15 | 8 | 3 | 3 | 3 | 3 | - | - | - | 9 | | 34.140809 | -118.085163 | Public | No | No | Immature | Public | Yes | No Impact |
| 260 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 15 | 8 | 3 | 5 | 4 | 2 | - | - | - | 11 | | 34.140803 | -118.085181 | Public | No | No | Immature | Public | Yes | No Impact |
| 261 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 15 | 8 | 3 | 3 | 2 | 1 | - | - | - | 6 | | 34.140807 | -118.085167 | Public | No | No | Immature | Public | Yes | No Impact |
| 262 | *Quercus agrifolia* | Coast Live Oak | Poor | Fair | 30 | 20 | 1 | 17 | - | - | - | - | - | 17 | | 34.140743 | -118.085031 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 263 | *Fraxinus uhdei* | Evergreen Ash | Poor | Fair | 25 | 20 | 1 | 11 | - | - | - | - | - | 11 | | 34.140819 | -118.085093 | Public | No | No | Immature | Public | Yes | No Impact |
| 264 | *Fraxinus uhdei* | Evergreen Ash | Poor | Poor | 25 | 20 | 3 | 8 | 7 | 5 | - | - | - | 20 | | 34.140817 | -118.085127 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 265 | *Pinus canariensis* | Canary Island Pine | Fair | Fair | 40 | 20 | 1 | 16 | - | - | - | - | - | 16 | | 34.14085 | -118.085107 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 266 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 20 | 15 | 1 | 8 | - | - | - | - | - | 8 | | 34.140848 | -118.085075 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 267 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 15 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.140767 | -118.085037 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 268 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 12 | 1 | 8 | - | - | - | - | - | 8 | | 34.140761 | -118.085011 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 269 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 20 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.140785 | -118.084989 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 270 | *Trachycarpus fortunei* | Windmill Palm | Fair | Fair | 15 | 10 | 1 | 6 | - | - | - | - | - | 6 | | 34.140776 | -118.085012 | Public | No | No | Immature | Public | Yes | No Impact |
| 271 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 35 | 25 | 1 | 18 | - | - | - | - | - | 18 | | 34.140744 | -118.084958 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 272 | *Quercus ilex* | Holly Oak | Fair | Fair | 20 | 10 | 1 | 6 | - | - | - | - | - | 6 | | 34.140691 | -118.084894 | Public | No | No | Immature | Public | Yes | No Impact |
| 273 | *Quercus agrifolia* | Coast Live Oak | Fair | Poor | 15 | 12 | 1 | 6 | - | - | - | - | - | 6 | | 34.140686 | -118.084909 | Public | Yes | Yes | Immature | Public | No | No Impact |
| 274 | *Pinus canariensis* | Canary Island Pine | Fair | Fair | 45 | 20 | 1 | 22 | - | - | - | - | - | 22 | | 34.140673 | -118.084916 | Mature, Public | Yes | No | Mature | Public | Yes | No Impact |
| 275 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 15 | 15 | 1 | 10 | - | - | - | - | - | 10 | | 34.140627 | -118.084851 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 276 | *Quercus ilex* | Holly Oak | Fair | Fair | 20 | 10 | 1 | 6 | - | - | - | - | - | 6 | | 34.140593 | -118.084793 | Public | No | No | Immature | Public | Yes | No Impact |
| 277 | *Fraxinus uhdei* | Evergreen Ash | Poor | Critical | 20 | 20 | 3 | 11 | 10 | 7 | - | - | - | 28 | | 34.140539 | -118.084758 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 278 | *Quercus agrifolia* | Coast Live Oak | Fair | Fair | 25 | 20 | 1 | 14 | - | - | - | - | - | 14 | | 34.140546 | -118.084859 | Native, Public | Yes | Yes | Immature | Public | No | No Impact |
| 279 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 20 | 20 | 2 | 5 | 2 | - | - | - | - | 7 | | 34.140521 | -118.084878 | Public | No | No | Immature | Public | Yes | No Impact |
| 280 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 20 | 18 | 1 | 8 | - | - | - | - | - | 8 | | 34.14051 | -118.084924 | Public | No | No | Immature | Public | Yes | No Impact |
| 281 | *Schinus terebinthifolius* | Brazilian Pepper | Poor | Critical | 18 | 15 | 1 | 13 | - | - | - | - | - | 13 | | 34.140537 | -118.084884 | Public | No | No | Immature | Public | Yes | No Impact |
| 282 | *Ulmus parvifolia* | Chinese Elm | Fair | Fair | 20 | 8 | 2 | 5 | 4 | - | - | - | - | 9 | | 34.140502 | -118.08489 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 283 | Unknown Dead Tree | Unknown Dead Tree | Dead | Dead | 25 | 0 | 1 | 17 | - | - | - | - | - | 17 | | 34.140577 | -118.084927 | Public | No | No | Immature | Public | Yes | No Impact |
| 284 | *Fraxinus uhdei* | Evergreen Ash | Fair | Fair | 20 | 8 | 1 | 5 | - | - | - | - | - | 5 | | 34.140566 | -118.084952 | Public | No | No | Immature | Public | Yes | No Impact |
| 285 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 12 | 4 | 4 | 4 | 2 | 1 | - | - | 11 | | 34.140575 | -118.084954 | Public | No | No | Immature | Public | Yes | No Impact |
| 286 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 10 | 1 | 4 | - | - | - | - | - | 4 | | 34.140574 | -118.084936 | Public | No | No | Immature | Public | Yes | No Impact |
| 287 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 12 | 9 | 4 | 4 | 3 | 3 | 3 | 3 | 24 | Additional diameters: 2, 2 | 34.140578 | -118.084957 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 288 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 8 | 5 | 2 | 2 | 1 | 1 | 1 | - | 7 | | 34.140605 | -118.084923 | Public | No | No | Immature | Public | Yes | No Impact |
| 289 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Poor | 15 | 12 | 12 | 6 | 3 | 3 | 2 | 2 | 2 | 26 | Additional diameters: 2, 2, 1, 1, 1, 1 | 34.140633 | -118.084944 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 290 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 15 | 8 | 2 | 4 | 2 | - | - | - | - | 6 | | 34.140654 | -118.085015 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 291 | *Ulmus parvifolia* | Chinese Elm | Fair | Poor | 25 | 20 | 1 | 13 | - | - | - | - | - | 13 | | 34.140687 | -118.085 | Public | Yes | No | Immature | Public | Yes | No Impact |
| 292 | *Quercus ilex* | Holly Oak | Fair | Fair | 15 | 8 | 3 | 3 | 3 | 2 | - | - | - | 8 | | 34.140656 | -118.084959 | Native, Public | No | No | Immature | Public | Yes | No Impact |
| 293 | *Prunus caroliniana* | Carolina Laurel Cherry | Fair | Fair | 15 | 8 | 1 | 4 | - | - | - | - | - | 4 | | 34.140669 | -118.085049 | Public | No | No | Immature | Public | Yes | No Impact |
| 294 | *Schinus terebinthifolius* | Brazilian Pepper | Poor | Poor | 20 | 15 | 1 | 28 | - | - | - | - | - | 28 | No tag, in park. | 34.141149 | -118.085612 | Mature, Public | No | No | Mature | Public | Yes | Encroachment |
| 295 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 20 | 15 | 3 | 11 | 10 | 7 | - | - | - | 28 | No tag, in park. | 34.140847 | -118.085241 | Mature, Public | No | No | Mature | Public | Yes | No Impact |
| 296 | *Schinus terebinthifolius* | Brazilian Pepper | Fair | Fair | 20 | 15 | 1 | 16 | - | - | - | - | - | 16 | No tag, in park. | 34.140573 | -118.085008 | Public | No | No | Immature | Public | Yes | No Impact |
| 297 | *Liquidambar styraciflua* | American Sweetgum | Fair | Fair | 45 | 25 | 1 | 23 | - | - | - | - | - | 23 | No tag, in park. | 34.140482 | -118.08491 | Mature, Public | Yes | No | Mature | Public | Yes | No Impact |
| 298 | *Washingtonia robusta* | Mexican Fan Palm | Fair | Fair | 35 | 15 | 1 | 22 | - | - | - | - | - | 22 | No tag, estimated data, homeless encampment. | 34.141026 | -118.084952 | Mature, Public | No | No | Mature | Public | Yes | Temporary Impact |

# Appendix B
Protected Tree Locations




SOURCE: Maxar 2024; Open Street Map 2024

DUDEK

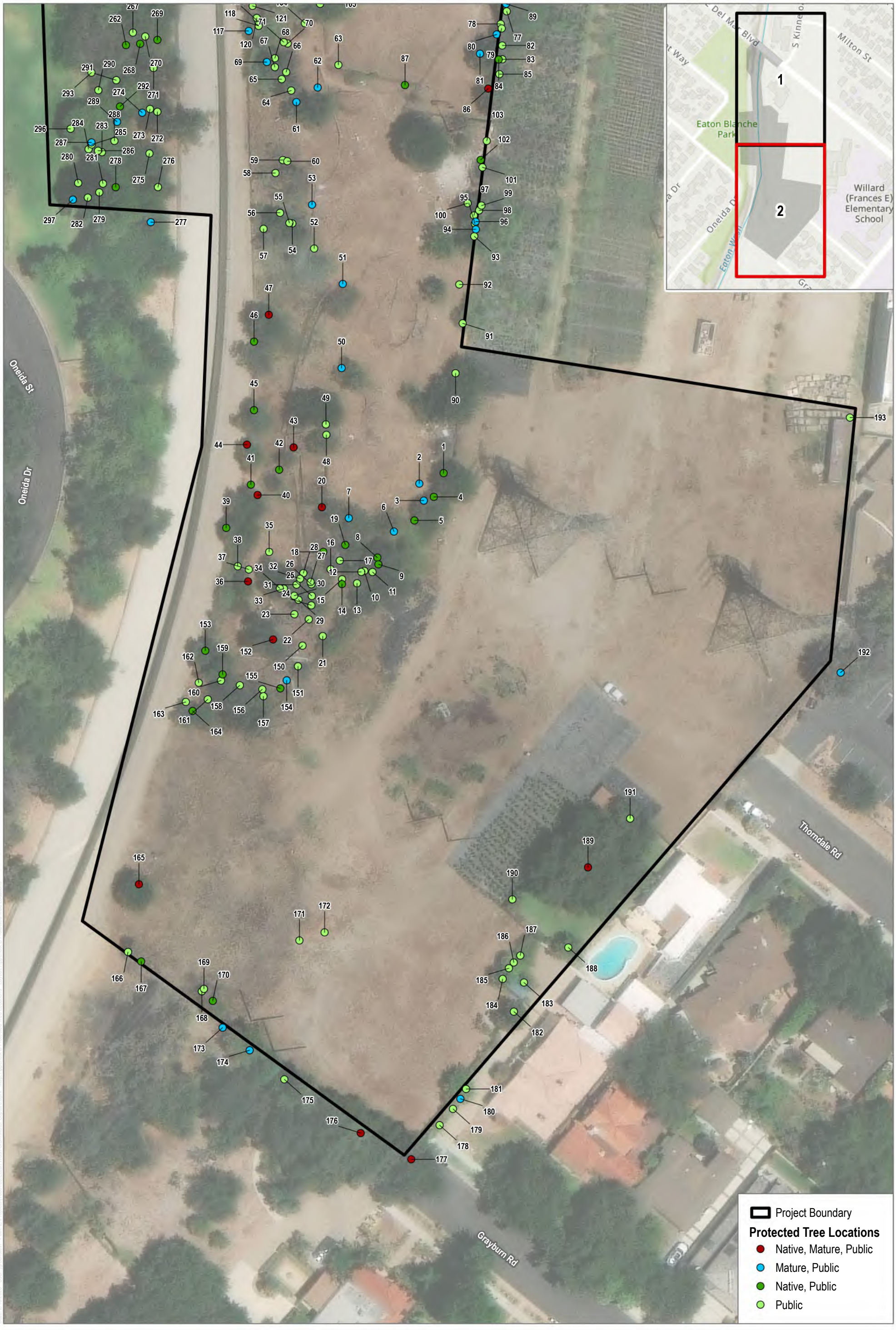
0 25 50 Feet

**APPENDIX B**

Protected Tree Locations

Eaton Wash Stormwater Capture Project

Date: 2/10/2025 User: rgreenstein Path: Z:\Projects\163700\Eaton Wash Stormwater Capture.aprx Map: Appendix B Protected Tree Locations Layout: Appendix B Protected Tree Locations




SOURCE: Maxar 2024; Open Street Map 2024

DUDEK

0 25 50 Feet

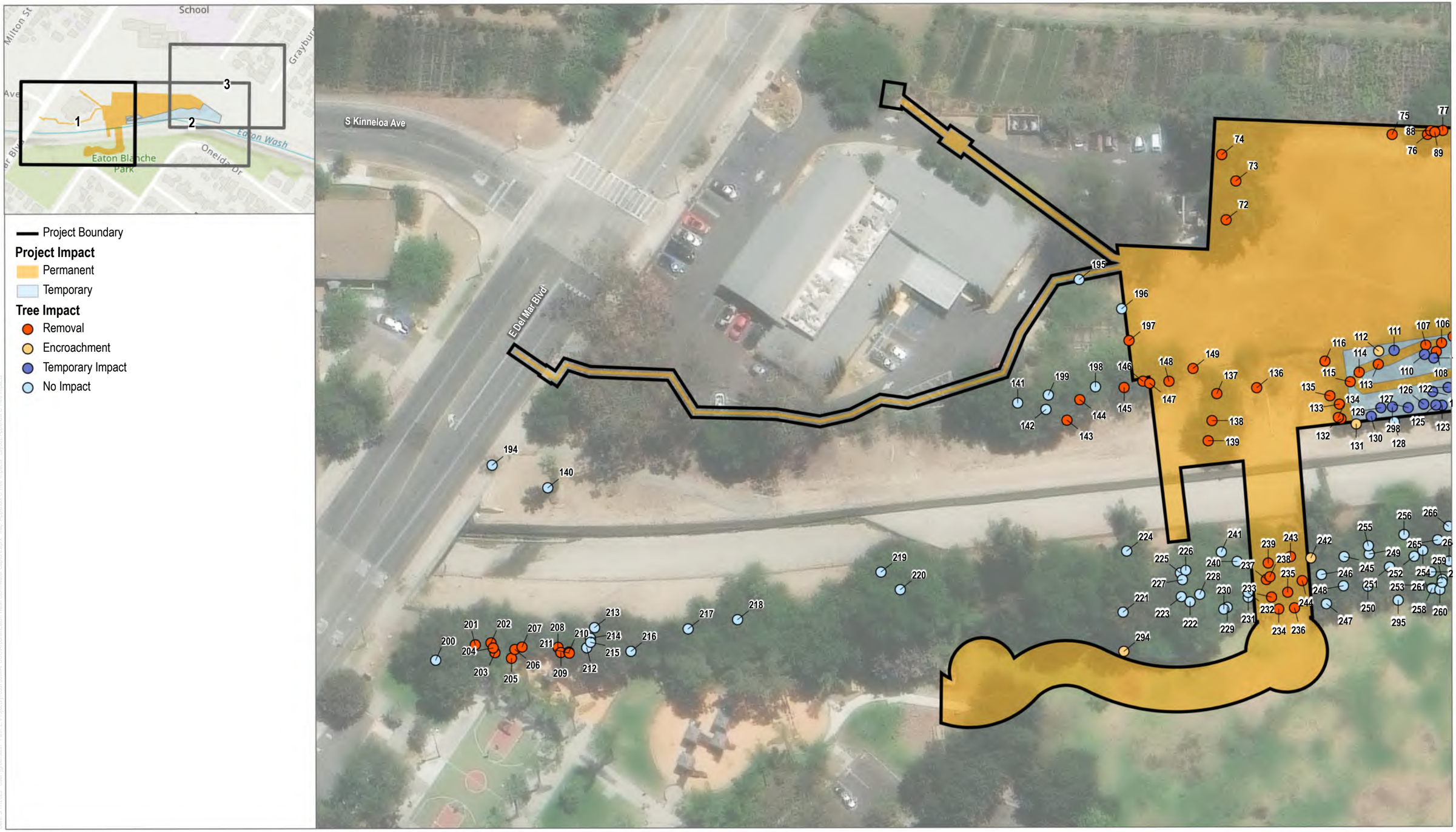
**APPENDIX B**

Protected Tree Locations

Eaton Wash Stormwater Capture Project

Date: 2/10/2025 User: jorsenstein Path: Z:\Projects\185370\Eaton Wash Stormwater Capture.aprx Map: Appendix B Protected Tree Locations Layout: Appendix B Protected Tree Locations

# Appendix C
Tree Impacts




SOURCE: Craftwater 2025; Maxar 2024; Open Street Map 2019

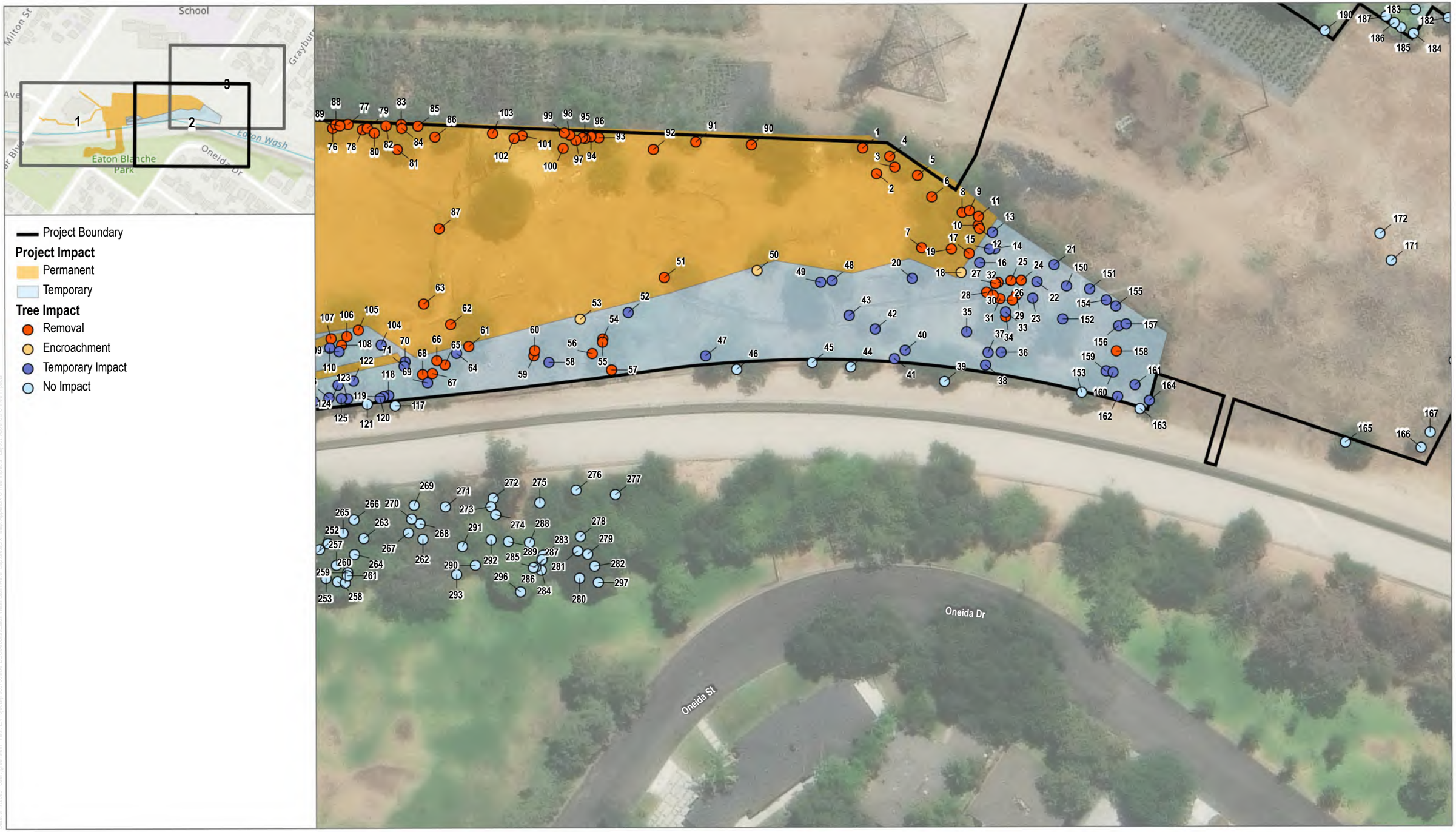
DUDEK

0 25 50 Feet

**APPENDIX C1**

Tree Impacts

Eaton Wash Stormwater Capture Project




SOURCE: Craftwater 2025; Maxar 2024; Open Street Map 2019

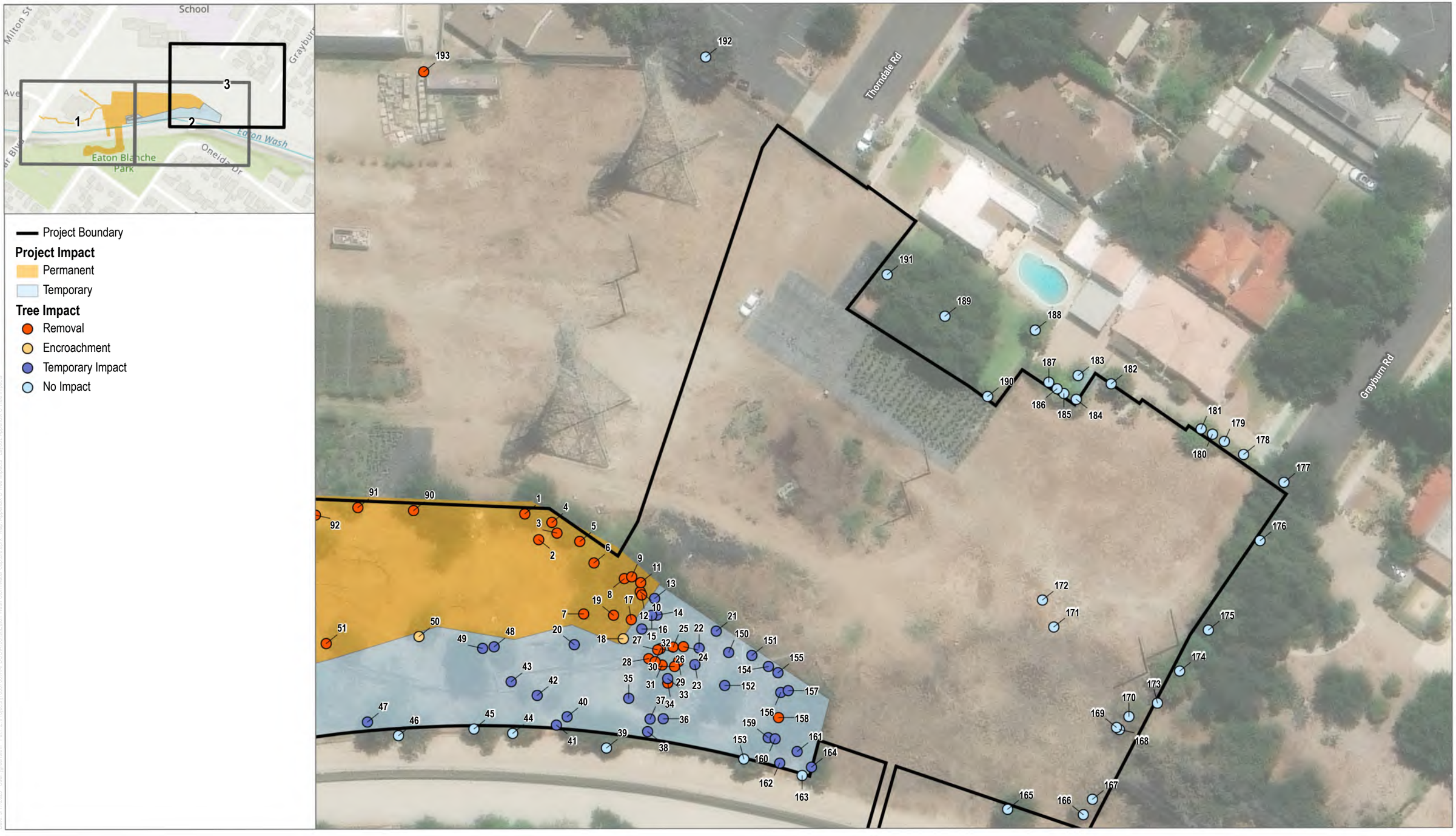
DUDEK

0 25 50 Feet

**APPENDIX C2**

Tree Impacts

Eaton Wash Stormwater Capture Project




SOURCE: Craftwater 2025; Maxar 2024; Open Street Map 2019

DUDEK

0 25 50 Feet

**APPENDIX C3**

Tree Impacts

Eaton Wash Stormwater Capture Project

# Appendix D
Representative Site Photographs



Photo #1. Taken on the eastern portion of the site, western portion of the nursery. Facing west.



Photo #2. Taken on the eastern portion of the site, western portion of the nursery. Facing south.

Photographs were taken on February 5 and 6, 2025



Photo #3. Taken on the east side of the wash, west of the nursery's chain link fence. Facing northwest.



Photo #4. Taken on the east side of the wash, west of the nursery's chain link fence. Facing southeast.

Photographs were taken on February 5 and 6, 2025



Photo #5. Taken near the western border on the east side of the wash. Facing north.



Photo #6. Taken near the southern border. Facing east.

Photographs were taken on February 5 and 6, 2025

# Appendix E

Cultural Resources Assessment Report

# CULTURAL RESOURCES ASSESSMENT REPORT

**for the**

**Eaton Wash Stormwater Capture Project**

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## 1.0 EXECUTIVE SUMMARY

The City of Pasadena (City) is proposing the Eaton Wash Stormwater Capture Project (Project), which would include improvements on City-owned property and within the public right-of-way adjacent to the Eaton Wash Channel to enhance water quality and improve stormwater management. The Project is located within Section 25 of Township 1 North and Range 12 West of the *Mount Wilson, California* U.S. Geological Survey 7.5-minute series quadrangle, in the City of Pasadena, California (**Figure 1, Project Location**). The Project entails constructing public infrastructure to divert dry-weather and stormwater flows from the Eaton Wash Channel and send the water for treatment through a series of vegetated treatment ponds and a subsurface storage reservoir. This process helps remove pollutants and trash, enhancing the water quality within the Eaton Wash Channel, which ultimately flows to the Los Angeles River and the Pacific Ocean. The Project would construct a pedestrian bridge over the Eaton Wash Channel, connecting the proposed facility to Eaton Blanche Park, and construct other improvements intended to create an inclusive, multi-benefit park space that enhances environmental and recreational areas for the community (**Figure 2, Project Site**).

The City of Pasadena is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). In accordance with CEQA, Section 106 of the National Historic Preservation Act (NHPA), and local regulations, Dudek performed a Phase I cultural resources inventory and Phase II evaluation that included a records search, an archival information and literature review, correspondence with the Native American Heritage Commission (NAHC), a cultural resources pedestrian survey of the area of potential effects (APE) for cultural resources, and the recordation and evaluation of four newly identified historic-age (over 45 years of age) built environment resources under the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the City of Pasadena Historic Resources Database.

The APE was delineated pursuant to Section 106 of the NHPA. The APE for archaeological resources encompasses the federally permitted, 3.91-acre construction footprint wherein all ground-disturbing activities will occur. The APE for built environment resources additionally includes the full legal parcel boundaries of properties that may be potentially affected by visual, vibratory, auditory, and atmospheric effects caused by the Project (**Figure 3, Area of Potential Effects for Cultural Resources**).

Dudek conducted a California Historical Resources Information System (CHRIS) records search of the APE and surrounding 1-mile radius at the South Central Coastal Information Center (SCCIC). The records search identified one historic-age built environment resource located within the APE (P-19-190502), and another 61 cultural resources recorded within the 1-mile radius. P-19-190502 is characterized as a historic-age transmission line constructed circa (ca.) 1951 and recommended ineligible for the NRHP and CRHR by Wendy Becker in 2010 (Becker 2010).

A NAHC Sacred Lands File (SLF) search was also requested, and results were positive for Native American cultural resources within 1 mile of the APE, though the NAHC did not provide details on what the resource(s) are or where they are located.

An intensive-level cultural resources pedestrian survey of the APE was performed on June 26, 2025, by Dudek archaeologist, Roshanne Bakhtiary, MA, RPA, and Dudek architectural historian Katie Ahmanson, MSC. Overall, no archaeological resources were identified during the pedestrian survey, and Dudek's archival review indicates that the majority of the APE has been previously disturbed by the channelization of Eaton Wash, building development, demolition, and grading.

Five historic-age built environment resources (Map IDs 1–5) were recorded during the pedestrian survey and evaluated for the NRHP, CRHR, and City of Pasadena Historic Resources Database. All five resources are recommended not eligible due to a lack of significant associations, design distinction, and information potential. Therefore, no historic properties have been identified within the APE, and a finding of **No Historic Properties Affected** is recommended.

Given the former presence of the Earthside Nature Center within the APE and its location adjacent to the historic course of the Eaton Wash Channel, there is a moderate potential for the inadvertent discovery of subsurface archaeological resources during Project implementation. Dudek recommends archaeological monitoring during initial ground-disturbing activities for the Project. If disturbed sediments (e.g., fill) or other sediments and formations are identified that do not have the potential to contain significant archaeological resources as defined by CEQA, then monitoring may be reduced or terminated. The requirement for tribal monitoring, while recommended, shall be determined by the lead agency in consultation with the traditionally culturally affiliated tribes with geographic ties to the APE. Management recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided in Chapter 9.0, Conclusions and Recommendations, of this report.

## 2.0 INTRODUCTION

The City contracted Dudek to prepare a cultural resources assessment for the Project. The Project proposes improvements on City-owned property and public right-of-way adjacent to the Eaton Wash Channel to enhance water quality and effectively manage stormwater runoff. The Project entails constructing public infrastructure to divert dry-weather and stormwater flows from the Eaton Wash Channel and send the water for treatment through a series of vegetated treatment ponds and a subsurface storage reservoir.

The City of Pasadena is the lead agency responsible for compliance with CEQA. The Project also requires a Section 404 permit from the U.S. Army Corps of Engineers (USACE) and is subject to compliance with Section 106 of the NHPA. The USACE is the lead federal agency responsible for the implementation of Section 106 of the NHPA (Section 106).

In accordance with CEQA, Section 106, and local regulations, Dudek performed a Phase I cultural resources inventory and Phase II evaluation that included a records search, an archival information and literature review, correspondence with the NAHC, a cultural resources pedestrian survey of the APE for cultural resources, and the recordation and evaluation of four newly identified historic-age built environment resources under the NRHP, the CRHR, and the City of Pasadena Historic Resources Database.

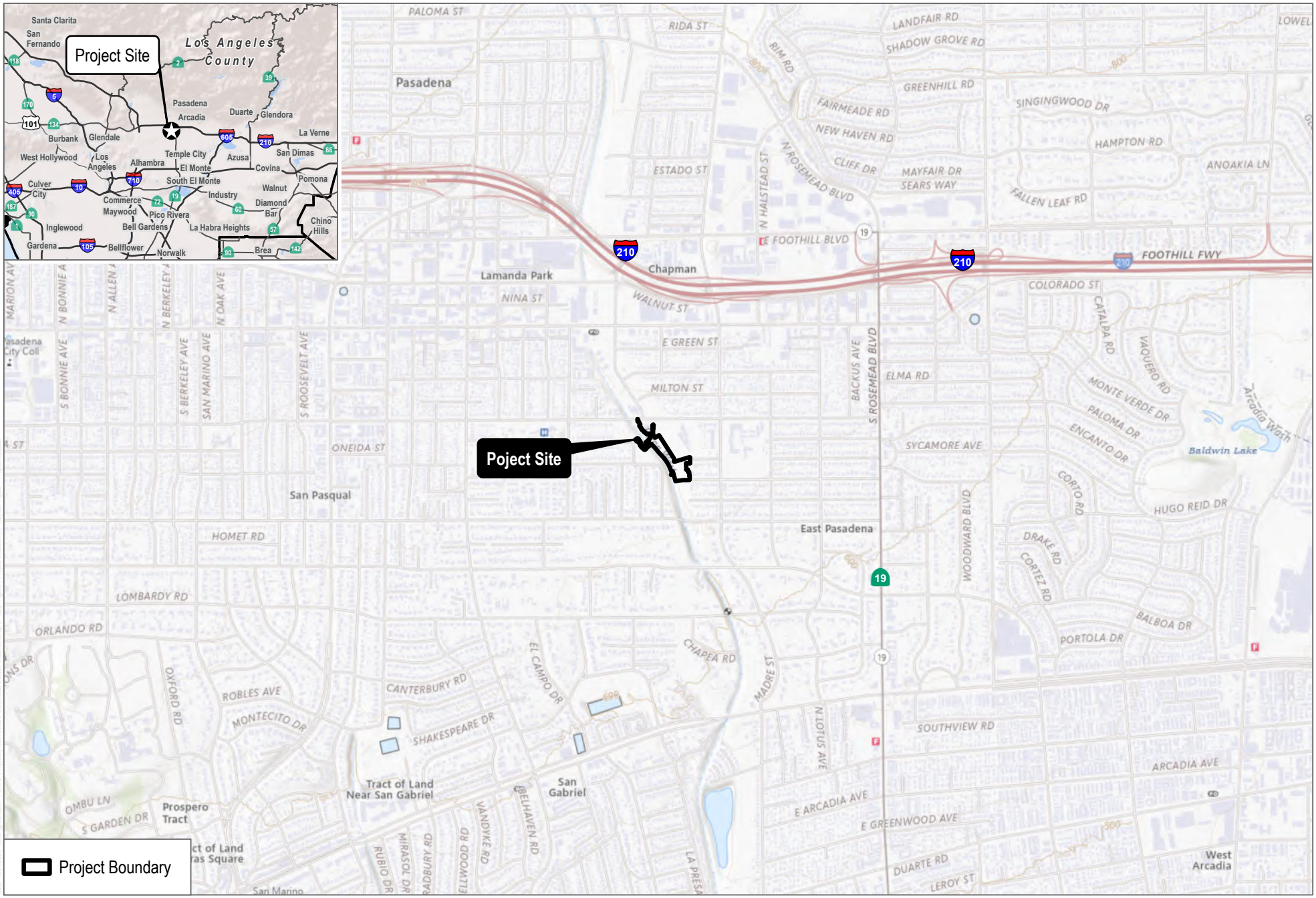
Dudek personnel involved in the preparation of this report are as follows: archaeologists Roshanne Bakhtiary, MA, RPA, and Ryan J. Glenn, MA, RPA, and architectural historians Katie Ahmanson, MHC, and Monte Kim, PhD. Resumes of key personnel are included in **Appendix A**.

### 2.1 Project Location and Environmental Setting

The Project site is located in the southeastern portion of the City, near the boundary with unincorporated Los Angeles County and within Section 25 of Township 1 North and Range 12 West of the *Mount Wilson, California* U.S. Geological Survey 7.5-minute series quadrangle (**Figure 1, Project Location)**. The site includes a channelized segment of the Eaton Wash Channel, which flows north to south from the San Gabriel Mountains north of the site to the Rio Hondo River approximately 5 miles southeast of the site **(Figure 2, Project Site)**. The primary location of the proposed facilities is a City-owned property east of the channel, which is vacant and disturbed. The property features scattered trees and shrubs, debris from prior vegetation-removal efforts, and remnants of former uses such as wooden railings and planter boxes, a concrete foundation, chain-link perimeter fencing, and a wooden sign. The southeastern portion of the Project site is within Southern California Edison (SCE) overhead electrical transmission right-of-way that features two steel towers. The SCE right-of-way is leased to a commercial nursery and used to grow and store container plants. The Eaton Wash Channel is maintained by the Los Angeles County Flood Control District, who has a 100-foot-wide easement around the channel. West of the channel, the Project site includes a portion of the City-owned Eaton Blanche Park, featuring mature trees along the edge of the channel and a grass field that abuts the park's playground, walking paths and picnic areas to the northwest. Farther northwest in the park are tennis courts, a basketball court, benches and picnic tables, shade structures, and a restroom building. Both sides of the Project site are mostly flat, but slope down toward the concrete channel. The Project site totals approximately 3.91 acres.

The Project site is in a developed part of the City that primarily features single-family residences and institutional uses. Institutional uses include an urgent care clinic abutting the site to the north, and the Boys & Girls Club of Pasadena, Willard Elementary School, CALRegional Pasadena adult education center, and a church, all located northeast of the site. The urgent care clinic facility is within the City-owned parcel and leases the land for their use. Regional access to the park is from Interstate 210, which is approximately 0.4 miles to the north. Direct access to the eastern part of site is from Thorndale Road and Grayburn Road, each of which dead-end at existing gates leading to the City property and the SCE right-of-way, along with a maintenance road along the

Eaton Wash Channel's eastern bank that connects to Del Mar Boulevard. Access to the western part of the Project site is from Oneida Street, La Presa Drive, and Millicent Way, with a small parking lot connected to Millicent Way. The Project site is designated as Open Space and Institutional in the City of Pasadena Land Use Diagram (City of Pasadena 2025a) and is zoned as Open Space and Public, Semi-Public in the City of Pasadena Zoning Map (City of Pasadena 2025b).




SOURCE: USGS National Map 2025

DUDEK

0 1,000 2,000 Feet

**FIGURE 1**

Project Location

Eaton Wash Stormwater Capture Project




SOURCE: Bing Maps 2024; Open Street Map 2024

DUDEK

0 75 150 Feet

**FIGURE 2**

Project Site

Eaton Wash Stormwater Capture Project

## 2.2 Project Description

The Project entails constructing and operating a stormwater capture, treatment, and infiltration facility on a vacant property east of the Eaton Wash Channel, developing passive park uses above the proposed facility, and constructing a pedestrian bridge over the channel connecting the passive park to Eaton Blanche Park. The Project is currently in the design phase, and the City has developed certain design and engineering assumptions for purposes of defining the Project for informational purposes and conducting environmental impact review pursuant to CEQA. Actual details of the Project may end up varying from the information provided below.

### 2.2.1 Stormwater Capture System

The stormwater capture and treatment facility would intercept stormwater and dry-weather flow from the Eaton Wash Channel and divert it into a subterranean concrete basin. The Project's stormwater capture features are described below.

***Stormwater Diversion Infrastructure and Pretreatment Devices***

A diversion structure would be installed in the bottom of the Eaton Wash Channel to collect flows and send water into a 20-inch-diameter ductile iron diversion pipeline that would be installed via trench. Water would be pumped through the diversion pipeline through a trash trap and pretreatment filter unit to remove debris, sediments, and solids present in the runoff. The pump and pretreatment unit would be installed in underground vaults with hatches for personnel access. The pretreatment device is a hydrodynamic separator, which directs water through a screen to filter out large debris and into a cylindrical separation chamber where water swirls and forces particles out of the runoff, settling them in an isolated sump. Hydrocarbons float to the top of the water surface and are prevented from being transported downstream.

***Storage Reservoir and Infiltration Galleries***

After pretreatment, water would flow into the underground storage reservoir installed beneath the vacant City property. The underground storage reservoir would have a capacity of 3.4 acre-feet and would have an area of approximately 0.59 acres according to preliminary design information. Existing vegetation and remnant hardscape features would be removed from the reservoir area, and earth material would be excavated, removed, and hauled off site for reuse or disposal. The underground reservoir would be formed as a series of precast cells made of reinforced, high-strength concrete that would be hauled to the site on flatbed trucks, lowered into place by a crane, and grouted together to form a single chamber. The reservoir would feature two personnel access points with stairs leading down from a hatch.

The reservoir will be designed to facilitate infiltration of captured stormwater, allowing water to seep into the underlying aquifer and providing natural filtration through the soil. To reduce the size of the reservoir and maximize treatment capacity, the system would not be designed to handle all captured storm flows solely through infiltration; during periods of heavy flow, some water would be pumped out of the basin and filtered again for discharge back into the Eaton Wash Channel.

***Discharge System and Treatment***

During smaller storm events, stormwater collected by the system is anticipated to infiltrate into the soils beneath the storage reservoir and infiltration gallery.

During larger storm events that fill up the reservoir, water would flow into an outlet pipe and flow-control structure with a valve to regulate flow into a post-treatment filter system. The filter would provide additional pollutant removal prior to discharging water back into the outlet pipe flowing into the Eaton Wash Channel. Two manholes would be installed along the outlet pipe. A flap gate would be installed at the outlet point to the channel, preventing water from entering the outlet system.

### 2.2.2 Park Improvements

The proposed park would feature nature-based recreational and educational elements at a site that once housed similar uses. The elements being considered rely upon site context; history, stakeholder and public input; and overall City needs. The location of this space, adjacent to the Eaton Wash Channel, provides an opportunity to re-create plant communities typically found near waterways, highlight other native plant communities, and create tailored gardens that support education and wildlife.

In addition to the extensive underground stormwater capture and infiltration system, filtered stormwater would be brought to the surface of the proposed park for interpretive water features and further filtration. At the Welcome Plaza, water bubbles would surface in a ring of river rocks resembling a natural spring. Interpretive signage at the Welcome Plaza would explain the stormwater capture system and detail different types of natural riparian ecosystems that can be found currently and historically in the watershed. The natural spring would overflow into a channel that flows under the maintenance road into a vegetated swale. The swale and basin would be surrounded by riparian planting and interpretive signage.

The design team has been and will continue to look towards the community for their input on desired amenities to be added to the proposed site design. From the initial conceptual design, the park sought to incorporate features such as new trees, native plantings, passive recreation features, walking paths, outdoor classrooms, community gardens, a pedestrian bridge to connect to Eaton Blanche Park, and gathering areas with park seating. There has been three community outreach meetings since the initial design was presented and certain design elements have been changed and added as a result of the community's input. The new Project site's surface improvement design includes community and pollinator gardens, an above ground water feature, a dog park, riparian garden, gathering areas, an outdoor classroom, and a pedestrian bridge connecting Eaton Blanche Park to the proposed Project site. The surface improvements are further described below.

***Welcome Plaza***

At the confluence of visitors arriving via pedestrian bridge from Eaton Blanche Park and from on-site parking, a paved pedestrian plaza will be developed. As visitors approach the new park from the bridge, the stormwater spring and an interpretive signage kiosk

will serve as a focal point. The paving of the plaza will have a pattern of scorelines and materials that represent the concept narrative of watersheds and solar systems, through pattern-making that resembles both planetary orbits and ripples in a body of water. Shade will be provided by trees and/or a shade structure integrated into the kiosk. The plaza surface will be separated from the adjacent parking and maintenance driveway by a raised curb, except for where the central access road leaves the main parking area via a rolled curb controlled by removable bollards. In-ground mounted site furnishings, a drinking fountain, and bike racks will be provided.

***Outdoor Classrooms***

Educational features will benefit strongly from involvement with nearby institutions such as Willard Elementary, the Boys & Girls Club, and CIS Academy, where student groups can use the space for outdoor education, and learn about the site's environmental benefits. A dedicated instruction area will be included next to the surface stormwater storage. This will consist of a DG outdoor "room" shaded by riparian trees or a permanent shade structure. Seating will be provided by a series of stone slabs arranged around a central low slab for instructional materials. Space for wheelchair and companion seating will be provided.

***Educational Signage***

Interpretive signage will help future visitors understand the history, context, and plant communities present on the site. Educational signage is proposed at the community garden, the entry kiosk, on the bridge, and in each gathering area. Sign materials are expected to be a mix of printed aluminum and laser-etched steel, depending on the location. Additional interpretive elements may be added throughout the Project site in forms other than signage, such as sandblasting into concrete or boulders, or as sculptural elements.

***Community Garden***

A community garden, which existed on the Project site in the past, is proposed near the entrance to the site. The garden would require strong commitment from a gardening group to keep the site clean and maintained, and to keep an active membership to prevent the garden from falling into disrepair. Should this partnership be achieved, a garden on the site will add to the educational benefits, and the native plants proposed for the site will help pollinate what is grown in the garden. Raised garden beds are more accessible for use by a wider range of abilities than ground-level beds. If beds aren't allocated for community use, or if the community garden group no longer maintains the space, beds can be converted to native plant and/or wildflower showcases, also maintaining the spirit of Earthside. A lockable storage shed would be provided for the gardening group.

***Gathering Spaces***

At least two small gathering spaces will be included throughout the park, connected by accessible DG pathways. The spaces will include seating for 10 or fewer visitors, in the form of boulders, site furniture, and/or picnic tables. Shade will be provided by trees and/or shade structures that reference the historic structure of Earthside.

***Dog Park***

A fenced-in dog park is proposed for the south end of the Project site and would be accessed through a double gate to prevent off-leash dogs from easily escaping the enclosure. Situating the dog park at the far end of the park from the two most commonly used access points is a strategy to get more visitors in the park. Bringing dog-walkers all the way through the park will bring more activity and greater perception of safety for other users who may discover the relatively hidden space. A natural, unirrigated surface is proposed to prevent fruitless future maintenance costs. Existing fallen logs could be retained as climbing features for dogs while preserving a natural aesthetic.

### 2.2.3 Eaton Wash Channel Pedestrian Bridge

As currently designed, the pedestrian bridge is proposed to be a 160-foot-long, single-span, pre-fabricated steel structure that will span the Eaton Wash Channel and connect the new passive park to Eaton Blanche Park. The bridge is anticipated to feature a 10-foot-wide reinforced concrete deck with vertical picket guardrails and pipe handrails made of weathering steel. Gates will be installed at both ends of the bridge to allow the City to prevent access when the park is not open.

Due to approximately 19 feet of undocumented fill beneath the bridge landings, each abutment will require deep foundations, consisting of four cast-in-place concrete drilled shafts per abutment anticipated to be 30 feet long and 24 inches in diameter.

### 2.2.4 Parking and Access

A small parking lot would be provided at the north end of the site, accessed through a new, lockable vehicular gate at the southeast corner of Exer Urgent Care parking lot. Six new parking spaces would be provided, including one that is ADA accessible. The parking lot is laid out to also serve as a maintenance driveway and turnaround for maintenance trucks servicing the access hatches to the underground stormwater capture system. The parking lot would be paved with a combination of permeable pavers and open-cell pavers to allow infiltration of stormwater. Any remaining surface runoff will enter the site's surface water features, and eventually the subsurface infiltration gallery. Short-term bike parking would be provided on site adjacent to the Welcome Plaza.

On the SCE easement, Thorndale Road would be extended from where it dead-ends to provide vehicular and pedestrian access to the eastern portion of the Project site. The extension of Thorndale Road would terminate in a parking lot with three parking spaces, including one that is ADA accessible. The vehicular access road extending from Thorndale Road would be gravel and the parking spaces would be paved with permeable pavers. The pedestrian access extending from Thorndale Road would intersect with the pedestrian path leading to the western portion of the site or continue to amenities in the eastern portion of the site such as a gathering area or community garden. Additionally, the sidewalk along Thorndale Road, adjacent to Willard Elementary School, would be improved and connect to the pedestrian path extending

from Thorndale Road to allow for pedestrian access from Willard Elementary School and the Boys and Girls Club of Pasadena to the Project site.

A 20-foot-wide road connects the parking lot at the north end of the Project site to a vehicular gate at the south end of the site, providing maintenance access to stormwater capture system hatches and fire truck circulation. A hammerhead is provided for turnaround at the south gate. A 10-foot-wide vehicular DG lane travels down the center of the road with 5-foot shoulders of drivable open-cell pavers on each side. The pavers would be seeded with wildflower seed and planted with durable species that withstand light foot traffic. Gates would be provided at all access points to the future park site, including at the Eaton Blanche side of the pedestrian bridge.

### 2.2.5 Temporary Construction Access, Staging, and Closures

Construction access would be coordinated with either the urgent care facility, SCE for use of their easement, or with LA County Flood Control District to utilize their channel maintenance road for construction access. Construction equipment, vehicles, and material would be staged and stored overnight on the Project site with adequate site security. Construction staging for the underground storage modules would likely be located off site and remain on staged delivery truck beds until they are ready to be installed. Measures to minimize construction noise and isolate construction debris such as dust would be implemented by the construction contractor. Eaton Blanche Park is expected to remain open to the public during construction. The Project site and area surrounding the Project site, east of Eaton Blanche Park across the Eaton Wash Channel, would be closed to the public.

## 3.0 AREA OF POTENTIAL EFFECTS

The APE was delineated pursuant to Section 106. According to Section 106, the APE is:

*The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if anysuch properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 Code of Federal Regulations [CFR] 800.16[d]).*

For the current undertaking, the APE delineated for the consideration of archaeological resources is represented by the area that may be subject to direct physical effects, which is approximately 3.91 acres. This includes the entire construction footprint for the activities requiring a USACE 404 permit for the Eaton Wash Channel. All ground-disturbing and staging activities will occur within the APE for archaeological resources, as represented in **Figure 3, Area of Potential Effects**

The APE for built environment resources considered the full legal parcel boundaries of Assessor Parcel Numbers 5754-031-901, 5754-030-901, 5754-030-802, Eaton Blanche Park, and a 145-foot segment of the Eaton Wash Channel where the undertaking could directly cause potential physical, visual, vibratory, auditory, or atmospheric effects on historic properties. The APE includes five, historic-age built environment resources,

including the Eaton Wash Channel (Map ID 1), Eaton Blanche Park (Map ID 2) at 3100 E Del Mar Boulevard (APN 5754-031-901), the Earthside Nature Center site (Map ID 3) at the rear of the property identified as 3160 East Del Mar Boulevard (APN 5754-030-901), Exer Urgent Care (Map ID 4), which is also located at 3160 East Del Mar Boulevard (APN 5754-030-901), and the SCE Mesa-Anita-Eaton Transmission Line (Map ID 5) on APN 5754-030-802. Because of the geographically constrained nature of the Project activities, the APE for built environment resources is confined to the area as represented in **Figure 3**.

The vertical underground extent of the APE is currently unknown, but it will be limited to the depth required for the underground water storage reservoir, as well as the depth required for the bridge abutment foundations. The vertical above ground extent of the APE is also not known but will likely be limited to the height of the proposed pedestrian bridge.

Finally, since there are no reasonably foreseeable Project activities that would occur later in time or that would be farther removed in distance that could indirectly affect historic properties, the APE contains no geographic areas under consideration for indirect effects.




SOURCE: ESRI Imagery 2025; OpenStreetMaps 2019

DUDEK

0 80 160 Feet

**FIGURE 3**

Area of Potential Effects

Eaton Wash Stormwater Capture Project

## 4.0 ENVIRONMENTAL SETTING AND BACKGROUND

The APE lies in southeastern Pasadena, bordered by San Pasqual Street to the south and Madre Street to the east, and is bisected by Del Mar Boulevard. The APE is within a suburban residential neighborhood typical of Pasadena, is relatively flat and has been used and maintained for agriculture, flood control, and residential development for more than 75 years (NETR 2025a, 2025b). Eaton Canyon Reservoir and Dam, used for flood and debris control and located upstream of the review area, were constructed in 1936 and are controlled by the Los Angeles County Department of Public Works (DWR 2023). Elevations within the review area range from 656 feet above mean sea level in the northern boundary to 621 above mean sea level on the southern boundary (Google Earth 2025). The Project is located within the Eaton Wash Channel subwatershed of the Rio Hondo Watershed (USGS 2025). The Rio Hondo watershed is approximately 142 square miles and flows into the largest watershed in the region, the Los Angeles River watershed. The Eaton Wash Channel flows for approximately 5.6 miles before entering the Rio Hondo approximately 3.5 miles upstream of Whittier Narrows.

### 4.1 Natural Setting

The APE is located within the upper reaches of California's Peninsular Ranges geomorphic province, which extends from the Channel Islands inland to the Colorado Desert and south to lower California (Norris and Webb 1990; CGS 2002). The Peninsular Ranges geomorphic province includes the Los Angeles Basin, a coastal lowland area bound by the San Gabriel and San Bernardino Mountains to the northeast, the Santa Susana Mountains to the northwest, and the Santa Monica Mountains to the west.

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Web Soil Survey (USDA 2025), three soil types have been identified in the APE: Palmview, 0% to 5% slopes; Tujunga, 0% to 5% slopes; and Soboba, 0% to 5% slopes. The available official USDA soil descriptions for the soil types identified within the APE are provided below.

**Palmview Series**: The Palmview series consists of very deep, well-drained soils that formed in alluvium on alluvial fans and floodplains Palmview soils are on alluvial fans at elevations of 240 to 1,990 feet (USDA 2025).

**Soboba Series**: The Soboba series consists of deep and excessively drained soils that formed in alluvium on alluvial fans and floodplains. Soboba soils are on alluvial fans and floodplains at elevations of 310 to 2,080 feet (USDA 2025).

**Tujunga Series:** The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium on alluvial fans and floodplains. Tujunga soils are on alluvial fans at elevations of 240 to 1,990 feet (USDA 2025).

The APE is underlain by Quaternary alluvium and marine deposits from the Pleistocene to Holocene period and Older Quaternary alluvium and marine deposits from the Pleistocene period (USGS 2025). The terminal Pleistocene-era alluvial formations do have the potential to support the presence of buried archaeological resources. These

soils are associated with the period of prehistoric human use and represent ongoing processes of development that have potential to preserve cultural material in context, depending on area-specific topographical setting.

## 4.2 Prehistoric Setting

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; while some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1769), and Ethnohistoric (post-AD 1769).

### 4.2.1 Paleoindian Period (Pre-5500 BC)

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. One of the earliest dated archaeological assemblages in the region is located in coastal Southern California (though contemporaneous sites are present in the Channel Islands) derives from SDI-4669/W-12 in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large-stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multi-component fluted point site, and MNO-680—a single component Great Basined Stemmed point site (see Basgall et al. 2002). At MNO-679 and MNO-680, ground stone tools were rare while finely made projectile points were common.

Warren et al. (2004) claimed that a biface (prehistoric stone tool that has been flaked on both faces), manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the region that possibly dates between 10,365 and 8,200 BC (Warren et al. 2004). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a

broader economic pattern. Gallegos's interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominantly of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of groundstone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date from a shell produced a date of 6630 BC. Grenda (1997) suggested this site represents seasonal exploitation of lacustrine resources and small game and resembles coastal San Dieguito assemblages and spatial patterning.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the early Holocene (see Basgall and Hall 1990).

#### 4.2.2 Archaic Period (8000 BC–AD 500)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (see Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among others), is relatively easy to define with assemblages that consist primarily of processing tools, such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage

variability over time and space among Archaic sites has been equated with cultural conservatism (see Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow was adopted around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

### 4.2.3 Late Prehistoric Period (AD 500–1769)

The period of time following the Archaic and before Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before AD 1400. Millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone-handstone versus mortar-pestle technology is tenuous due to incomplete information on archaeological assemblages.

## 4.3 Ethnographic Setting

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first written records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the precontact and culturally specific practices, ideologies, and languages that had survived the destabilizing effects of

missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his “memory culture” approach (Lightfoot 2005: 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of precontact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006: 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Golla contended that one can interpret the amount of variability within specific language groups as being associated with the relative “time depth” of the speaking populations (Golla 2007: 80). A large amount of variation within the language of a group represents a greater time depth than a group’s language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla observed that the “absolute chronology of the internal diversification within a language family” can be correlated with archaeological dates (Golla 2007: 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007: 74). These groups include the Gabrielino, Cahuilla, and Serrano. Golla interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2000).

#### 4.3.1 Tongva (Gabrielino)

The ethnohistoric (and to a lesser degree, archaeological) record indicates that the APE was occupied by the Tongva (Gabrielino). Based on evidence presented through past

archaeological investigations, the Gabrielino appear to have arrived in the Los Angeles Basin around 500 BC. Surrounding native groups included the Chumash and Tataviam to the northwest, the Serrano and Cahuilla to the northeast, and the Juaneño and Luiseño to the southeast.

The names by which Native Americans identified themselves have, for the most part, been lost and replaced by those derived by the Spanish people administering the local missions. These names were not necessarily representative of a specific ethnic or tribal group, and traditional tribal names are unknown in the post-Contact period. The name “Gabrielino” or “Gabrieleno” was first established by the Spanish from the San Gabriel Mission and included people from the established Gabrielino area as well as other social groups (Bean and Smith 1978; Kroeber 1925). Many modern Native Americans commonly referred to as Gabrielino/Gabrieleno identify themselves as descendants of the Indigenous people living across the plains of the Los Angeles Basin. While distinct bands of the Indigenous people of Los Angeles Basin have adopted their own unique name, the term Gabrielino is applied here.

The Gabrielino established large, permanent villages along rivers and streams, and lived in sheltered areas along the coast. Gabrielino lands included the greater Los Angeles Basin and three Channel Islands, San Clemente, San Nicolas, and Santa Catalina and stretched from the foothills of the San Gabriel Mountains to the Pacific Ocean. Tribal population has been estimated to be at least 5,000 (Bean and Smith 1978), but recent ethnohistoric work suggests a much larger population, approaching 10,000 (O’Neil 2002). Archaeological sites composed of villages with variously sized structures have been identified through the Los Angeles Basin. Within the permanent village sites, the Gabrielino constructed large, circular, domed houses made of willow poles thatched with tule, each of which could hold upwards of 50 people (Bean and Smith 1978). Other structures constructed throughout the villages probably served as sweathouses, menstrual huts, ceremonial enclosures, and communal granaries. Cleared fields for races and games, such as lacrosse and pole throwing, were created adjacent to Gabrielino villages (McCawley 1996).

The largest, and best documented, ethnographic Gabrielino village in the vicinity was that of Yanga (also known as Yaangna, Janga, and Yabit), which was in the vicinity of the downtown Los Angeles (McCawley 1996:56-57; NEA and King 2004). This village was reportedly first encountered by the Portola expedition in 1769. In 1771, Mission San Gabriel was established. Yanga provided a large number of the recruitments to this mission; however, following the founding of the Pueblo of Los Angeles in 1781, opportunities for local paid work became increasingly common, which had the result of reducing the number of Native American neophytes from the immediately surrounding area (NEA and King 2004). Mission records indicate that 179 Gabrielino inhabitants of Yanga were recruited to San Gabriel Mission (King 2000: 65; NEA and King 2004: 104). Based on this information, Yanga may have been the most populated village in the Western Gabrielino territory. Second in size, and less thoroughly documented, the village of Cahuenga was located slightly closer, just north of the Cahuenga Pass.

The environment surrounding the Gabrielino included mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. Like most native Californians, acorns (the processing of which was established by the early Intermediate Period) were the staple food source. Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora (e.g., islay, cactus, yucca, sages, and agave). Fresh water and saltwater fish, shellfish, birds, reptiles, and insects, as well as large and small mammals, were also consumed (Bean and Smith 1978:546; Kroeber 1925; McCawley 1996).

Tools and implements used by the Gabrielino to gather and collect food resources included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Trade between the mainland and the Channel Islands Groups was conducted using plank canoes as well as tule balsa canoes. These canoes were also used for general fishing and travel (McCawley 1996).

The collected food resources were processed with hammerstones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Catalina Island steatite was used to make ollas and cooking vessels (Blackburn 1963; Kroeber 1925; McCawley 1996).

The Chinigchinich cult, centered on the last of a series of heroic mythological figures, was the basis of religious life at the time of Spanish contact. The Chinigchinich cult not only provided laws and institutions, but it also taught people how to dance, which was the primary religious act for this society. The Chinigchinich religion seems to have been relatively new when the Spanish arrived. It was spreading south into the Southern Takic groups even as Christian missions were being built. This cult may be the result of a mixture of native and Christian belief systems and practices (McCawley 1996).

Deceased Tongva were either buried or cremated, with inhumation more common on the Channel Islands and the neighboring mainland coast and cremation predominating on the remainder of the coast and in the interior (Harrington 1942; McCawley 1996). Cremation ashes have been found buried within stone bowls and in shell dishes (Ashby and Winterbourne 1966), as well as scattered among broken ground stone implements (Cleland et al. 2007). Supporting this finding in the archaeological record, ethnographic descriptions have provided an elaborate mourning ceremony. Offerings varied with the sex and status of the deceased (Johnston 1962; McCawley 1996; Reid 1926). At the behest of the Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996).

### 4.4 Historic Setting

The written history of the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1821–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the

signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

### 4.4.1 Spanish Period (1769–1821)

Spanish explorers made sailing expeditions along the coast of Southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present-day Catalina Island and San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1884: 1-3).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July 1769, while Portolá was exploring Southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823 (Bancroft 1884: 4-31).

Mission San Gabriel Arcángel, in San Gabriel Valley (modern-day Alhambra), was established in 1771 as the fourth mission. Though the original 1771 mission was destroyed in a flash flood, a new mission was built in 1776 and el Pueblo de Nuestra Señora la Reina de Los Ángeles, farther west, was established in 1781 to support this mission. The mission, like many other Spanish occupations, used Spanish military forces to compel the local Tongva population into the mission's service, baptizing them as neophytes and renaming them the Gabrieliños. The San Gabriel Mission lands extended from Los Angeles east as far as San Bernardino de Sena Estancia (1810) and the San Bernardino Valley (Brown and Boyd 1922: 5-9).

### 4.4.2 Mexican Period (1821–1848)

In the early 1820s, Spanish control over its expansive subjugated territories began unraveling, which greatly affected the political and national identity of the Southern California territory. Mexico established independence from Spain in 1821, secured California as a Mexican territory in 1822, and became a federal republic in 1824. After Mexican independence and the 1833 confiscation of former mission lands, Juan B. Alvarado became governor of the territory. Secularization of the mission system began in 1834, and in 1836, Alvarado commenced with subdividing the former mission lands into large land grants called ranchos (Brown and Boyd 1922: 15).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary Southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico (Brown and Boyd 1922: 26-28).

During this time, however, the subject property location fell outside of the ranchos. In 1841, the Rancho Santa Ana del Chino, south of the Project area, was awarded to Antonio Maria Lugo. In 1842, Lugo turned over management to Isaac Williams, who was operating the rancho during the Battle of Chino. West of the Project area, Rancho San Jose, encompassing the adjacent City of Pomona, portions of the City of Claremont, and the Cities of La Verne, San Dimas, Azusa, and Glendora, was awarded to Ygnacio Palomares and Ricardo Vejar. Because the subject property was not part of a rancho, the land was not in dispute when Anglo–American settlers began to settle the region in the American Period, establishing the citrus orchards that the area was known for (Brown and Boyd 1922: 26-30).

#### 4.4.3 American Period (1848–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican–American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period. California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories. Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the Southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but were also desired as a source of meat and other goods. During the 1850s there was a significant cattle boom in the Los Angeles Basin and Southern California at large, and rancho vaqueros drove large herds from Southern to Northern California to feed that region’s burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Old Spanish Trail, then were transported by trains when available. The cattle boom ended for Southern California as neighbor states and territories drove herds to Northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Brown and Boyd 1922: 30-36).

Meanwhile, Los Angeles County was established on February 18, 1850, as one of 27 counties developed in the months prior to California acquiring official statehood in the United States two years after the Mexican–American War. In 1870, efforts to establish a southern transcontinental railroad, which had been on hold during the Civil War, were revived. The County’s location and topography allowed for efficient railroad routes to the west across the greater United States facilitating the mass distribution of crops and oil. In the 1870s, railroads became the driving force for selecting town locations throughout

the County, as many industries would come to rely on railroads for shipping. In 1876, Los Angeles became the southern terminus of the Southern Pacific Railroad (SPRR), linking the region to the global economy. The SPRR continued east to Yuma the following year in 1877. In 1885, a rival railroad company—the Atchison, Topeka, and Santa Fe Railroad—chose Los Angeles as the western terminus for their railroad. The SPRR and Atchison, Topeka, and Santa Fe Railroad traveled through the County with two transcontinental railroads that transported products from the Port of Los Angeles. The two railroads' competition touched off the land speculation boom of the mid and late 1880s in the area (Dumke 1944: 3–7).

### 4.4.4 Historical Overview of the City of Pasadena

The City of Pasadena was established in 1886 when it was incorporated into Los Angeles County. Initially, the area was inhabited by the Hahamogna people, who dominated the area until the arrival of the Spanish. During the Spanish period in the 1770s, the area was part of the lands under the jurisdiction of the San Gabriel Mission. The term "Gabrielino" or "Gabrieliño" was assigned to the local native people by the Spanish settlers who colonized the area and developed the mission. Members of the local tribes were forced to build the mission structure and work on the ranch to cultivate crops. After Mexico won its independence from Spain in 1822, Alta California became part of the Mexican Republic, and the Mexican government opened California to foreign trade. Private land grants were issued in the early 1820s, creating the rancho system of large agricultural estates. The area comprising present-day Pasadena became part of Rancho el Rincon de San Pascual in 1926, before it was acquired by Jose Perez and Enrique Sepulveda in the 1840s. Perez and Sepulveda subdivided a portion of the land for the development of the several single-family residences, and in 1843 Manual Garfias purchased part of the rancho to construct a hacienda. By 1848, the United States had assumed formal control of California with the Treaty of Guadalupe Hidalgo and introduced Anglo culture and society. Garfias continued to own the ranch until the 1860s, when he sold the property to Dr. John S. Griffin and Benjamin Davis Wilson who subdivided the land and sold off portions. Development in Pasadena continued during the 1860s, and by 1873, Griffin and Wilson divided and developed the last four separate tracts of their land (HRG and Teresa Grimes Historic Preservation 2025: 31; O'Connor 1993: 7-10).

The City of Pasadena was incorporated in 1886 during a period of agricultural growth. The fertile soil in the area lent itself to a successful local citrus industry that encouraged settlers to move to the area. Additionally, the completion of the transcontinental railroad in 1869 aided in the growth of the area as well as the transportation of local produce. The citrus industry continued to dominate the City's economy throughout the early twentieth century followed by the cultivation of wheat and barley. Completion of the Atchison, Topeka and Santa Fe Railway lie through the area in 1886 spurred a building boom that resulted in increased land prices in the city. Development of early homes reflected the City's humble beginnings with simple one and two-story wood-frame vernacular farmhouses that were later replaced with more substantial masonry buildings. Infrastructure such as sewers, paved streets, and electrical street lighting were installed during 1880s and 1890s (O'Connor 1993: 12-19; City of Pasadena 2025a).

By the turn of the century, Pasadena's economy began to shift to a tourist-based economy due to its picturesque location in the foothills of the San Gabriel Mountains. Early hotels, such as the Sierra Madre Villa from 1877, were modest in scale and primarily promoted to tuberculosis patients who traveled to the area to benefit from its temperate climate, known to have a positive effect on health. As the regions curative nature was promoted, it became known as the "Great Orange Belt and Sanitarium" in John Baur's book, *The Health Seekers*, in 1880 (O'Connor 1993: 17). Pasadena's prominence as a tourist destination began when the Pasadena Board of Trade formed in 1888 and began to "promote and encourage everything that will make our beloved city more beautiful, more healthful morally and physically" (O'Connor 1993: 17). The board published *Pasadena: Crown of the Valley* in 1892 to promote the many recreational opportunities to tourists and residents in hopes of stimulating tourism. The San Gabirel Mountains offered visitors various recreational activities including picnicking, horseback riding, hiking, hunting, and fishing. Developed of grand hotels such as the Hotel Green, in 1894, the Raymond Hotel in 1901, and the Hotel Maryland in 1903, led to a wave of tourists enamored by the local climate and amenities (O'Connor 1993: 17-20).

During the 1910s and 1920s, tourists began to purchase land and construct vacation homes for their winter stays. Mansions replaced many of the early modest residences associated with the agricultural industry, and the street Orange Grove, named after its vicinity to local citrus orchards, became known as "Millionaires' Row." The demand for fine housing attracted artisans and architects such as Louis Easton, and Henry and Charles Greene, who spearheaded the Arts and Crafts movement in the area. As Pasadena developed into a modern city, it enticed middle and working-class residents who supported the construction industry with laborers, brick makers, and hospitality workers at the hotels. Residential development patterns at this time reflected socioeconomic and racial boundaries. The southwest portion of the city consisted of wealthy, primarily white residents, while middle-class residents occupied the areas north and east of the city center. Immigrant communities settled in the city center, where over 3,000 immigrants from 24 different nationalities lived by 1910. Most of the immigrant population lived in modest bungalows and multi-family residences within the commercial-industrial district along Fair Oaks Avenue between Colorado Boulevard to the north and Raymond to the south (O'Connor 1993: 20-21).

The Great Depression (1929–1939) impacted industries and communities throughout the city, especially working-class jobs such as domestic workers and retail clerks. Although the population of Pasadena reached 76,000 residents by 1930, the city's industrial base decreased from 191 companies in 1920 to 150 companies in 1930. Many of the large hotels that struggled at this time resulted in the demolition of some, like the Hotel Maryland in 1935, and the conversion of others for different uses (O'Connor 1993: 21-22). Additionally, many of the mansions along Millionaires' Row were abandoned or converted into boarding houses, leading to the area being rezoned for multi-family development in 1948. Wartime employment during the onset of World War II in 1941 saw a small increase in the population as servicemen passed through Los Angeles on their way to and from the war. However, development largely slowed during the beginning of the war (O'Connor 1993: 33).

After World War II, a massive wave of migration and building boom occurred throughout California. Pasadena experienced a population increase of over 22,000 residents between 1940 and 1950, with new residential tracts developed in the Allendale, Upper Hastings, Kinneloa, San Rafael, and Linda Vista neighborhoods of the city. With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the city's economy and spurred growth in the surrounding areas. This growth is reflected in the city's present-day built environment that includes residential development along public transportation lines and commercial development along major commercial routes. Residential partitioning enforced zoning ordinances with specific building standards and lot controls characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (O'Connor 1993: 33-43).

Historical aerial photographs show that Pasadena was primarily developed by the 1980s (NETR 2025a). In recent years, the economy has shifted to support a variety of industries, including health care and social assistance, professional, scientific, and technical services, and educational services. As of 2023, the population in Pasadena included over 136,000 residents (Data USA 2025).

### 4.4.5 Development of Public Parks in Pasadena

In April 2025, Historic Resources Group completed a citywide historic context for the City of Pasadena as a part of the City's effort to create a historic preservation program to provide a baseline through which to evaluate historical resources (HRG and Teresa Grimes Historic Preservation 2025). Chapter 5 of the historic context statement provides an in-depth study of Pasadena's parks and recreation facilities. The following information was summarized from the City of Pasadena's Historic Context Statement report. In addition, this overview is organized by the periods of development identified in the historic context statement. A citation with information on accessing the full historic context statement is included in Chapter 10.0, References, of this report.

The geography and topography of the City of Pasadena are defined by its location within the northern portion of the San Gabriel Valley, a large sloping alluvial plain within the Los Angeles Basin. Pasadena is bounded by the Raymond Fault line, the San Rafael Hills, and the San Gabriel Mountains. Water is naturally available via numerous rivers, springs, and artesian wells, including the Arroyo Seco (referred to as the Arroyo) and the Eaton Wash Channel (located within Eaton Canyon). The area's plant communities include Coastal Sage Scrub and Southern Oak Woodlands (HRG and Teresa Grimes Historic Preservation 2025: 10).

#### *Late Nineteenth Century to Early Twentieth Century Development*

During the late nineteenth century, the Arroyo informally functioned as a public park, having become part of a trail system leading up to a famous retreat in the San Gabriel Mountains above Pasadena. Established by Harvey Walker and Perry Switzer in 1880,

the retreat was commonly referred to as Switzer's Camp and was popular with nature enthusiasts who were drawn to the scenery and fresh air. During this period, the Arroyo was used for a variety of activities such as horseback riding, camping, hunting, fishing, hiking, and picnicking, although it was privately owned (HRG and Teresa Grimes Historic Preservation 2025: 357).

The first public parks in Pasadena were modest land acquisitions that had dual purposes. Library Park (1902, now Memorial Park) on N. Raymond Avenue is a 5-acre park that embraced the City's first public library. Central Park (1902) is a 10-acre park that mostly benefited the guests of the Hotel Green, located just to the north. Indeed, in his history of Pasadena, Hiram Reid referred to it as the Hotel Green Park. With the creation of these two parks, the City formed a new Department of Public Parks and Buildings (HRG and Teresa Grimes Historic Preservation 2025: 357).

Historically, as streets were developed, property owners planted their favorite trees resulting in a random mixture of trees on any given block. As early as 1904, the Park Department had established rules for watering, pruning, and planting trees. The City, however, did not yet have a street tree planting program due to the cost. In 1907, architect Alfred Heineman (1882-1974) proposed to the City Board of Trustees the creation of a municipal nursery. He argued that trees could be grown on City property for a lower cost than buying them from a commercial nursery. Such trees could be used to expand the street tree system, which would beautify the city and enhance property values. In 1908, a municipal nursery was established near Devil's Gate Gorge. Soon, another municipal nursery was established at the south end of town on Glenarm Street. By 1916, the City had planted 17,306 trees but did not always adhere to the plan for uniformity (HRG and Teresa Grimes Historic Preservation 2025: 359).

***Lower Arroyo Seco Park and Brookside Park***

Arguably, the Department's greatest achievement was the development of the Lower Arroyo Seco Park between 1909 and 1918 and Brookside Park in 1914. By this time, the Department was simply called the Park Department. Although the Arroyo was used for recreational purposes, as the population grew it was also used for dumping and logging. Nevertheless, its value was still recognized. In 1898, journalist Charles Lummis started a campaign for the preservation of the Arroyo and became the first president of the Arroyo Seco Foundation (HRG and Teresa Grimes Historic Preservation 2025: 359).

This was the first time a group banded together to promote the preservation of the Arroyo. The Lower Arroyo became the focus of the early plans developed by the Arroyo Park Association, another group that formed in 1906. Dr. Rudolph Schiffmann (1845-1926), who also sat on the Board of City Commissioners, was elected as the president of the group in 1907. In 1909, he purchased a 2.5-acre wooded lot at the end of Bradford Street and donated it to the City for use as a public park. This was the first step in realizing the dream of creating a large park in the Arroyo. In 1911, a bond issue was passed by voters, authorizing the purchase of private land in the Arroyo. The City bought the first parcel of 30 acres for $4,500. By 1912, the City held or had options on 200 acres. A syndicate of wealthy citizens bought up most of the remaining options and

held them in a trust until the City could purchase the parcels (HRG and Teresa Grimes Historic Preservation 2025: 360).

The 30 acres purchased in 1912 was historically known as Sheep Corral Springs, as sheep from the San Gabriel Mission grazed there. The springs located there were part of Pasadena's early water supply. Throughout the beginning of 1914, the park was referred to as Arroyo Springs Park. However, the name was not used for very long. That same year Anna Jennings Brooks (1847-1917) donated $3,000 for the construction of a municipal plunge in the park. Apparently, the cost of the plunge exceeded the donation as the City contributed another $2,000 towards its construction. The park was named Brookside Park in Brooks' honor (HRG and Teresa Grimes Historic Preservation 2025: 360).

The facilities in Brookside Park reflected the growth of competitive sports and the changing recreational tastes and needs of the population. In recognition of those trends, a committee of the Pasadena Civic Federation hired landscape architect Emanuel Tillman Mische (1870-1934) to prepare a comprehensive plan for the Arroyo. Between 1917 and 1918, Mische developed a plan for the Arroyo that encompassed the entire area from the South Pasadena city limits to the mountains north of Devil's Gate Gorge. The 1918 Arroyo Seco Park Plan combined both passive and active recreational uses. At this time, the Lower Arroyo was still densely wooded in places. As it was so narrow and deep, bridle paths were considered more appropriate than automobile roads. It was recommended that landscaping be confined to the replacement of native plants and that exotics be avoided (HRG and Teresa Grimes Historic Preservation 2025: 362-363).

***Recreation in the Arroyo Seco and The Rose Bowl Stadium***

Two practical matters dictated using the Central Arroyo for sports and recreational facilities: Brookside Park already existed, and it was the widest, flattest land in the canyon. The 1918 Plan was implemented to the extent that the Lower and Central Arroyo were developed with passive and active recreational uses, respectively. The present-day circulation system, landscaping, and golf course are also remnants of the 1918 Plan. However, the Rose Bowl Stadium, which dominates the Central Arroyo, was not anticipated. The area occupied by the stadium is shown as an undefined open space in the 1918 Plan (HRG and Teresa Grimes Historic Preservation 2025: 363).

Completed in 1922, the Rose Bowl Stadium is the long-term site of the oldest and most renowned post-season college football game, the Rose Bowl. In 1902, a football game was added to the long list of activities that revolved around the Tournament of Roses. As the game became more popular, the Tournament of Roses Association began looking for a site that would be large enough to accommodate more spectators. In 1897, the City purchased 10 acres of land located in the Arroyo. In 1921, construction commenced, and the structure was completed the following year with the south end open, giving the stadium its original "horseshoe" shape. Architect Myron Hunt, in collaboration with Tournament President William Leishman (1869-1940), designed the original structure, which was intended to accommodate as many patrons as possible, sitting close to the action.

***1920s–1930s Park Expansion***

By 1930, Pasadena boasted over 1,000 acres of parkland for its 76,086 residents. As the population of the city grew dramatically during the 1920s and 1930s, parks and recreation facilities became less of a luxury and more of a necessity. There were more residents with more leisure time as houses were replaced by apartment buildings and the 40-hour work week was instituted. Skutt also oversaw the redesign and improvement of several of the older parks including Central Park, Memorial Park, La Pintoresca Park, Brookside Park, and Lower Arroyo Seco Park (HRG and Teresa Grimes Historic Preservation 2025: 365).

In 1924, the Department conducted a survey and created a plan for each street based upon the zoning (residential, commercial, industrial), width of the street and sidewalk, and consideration of overhead utility wires. The survey concluded that the most effective way to prevent the spread of pests and diseases was through diversity. While the trees on any given street would be uniform, from one street to another they could be different (HRG and Teresa Grimes Historic Preservation 2025: 368).

Between 1924 and 1930, on average the Park Department was planting 5,000 trees annually. One of the more dramatic streetscape transformations occurred in 1930 when the City began replacing the old pepper trees on Colorado Boulevard with coco plumosa palms. Beginning in 1940 with the inception of the Official Street Tree List, the City adopted a policy to adhere to a uniform street tree planting program. At this time, 136 of the 392 streets had been planted with California live oaks. Over time, the Park Department (later the Public Works Department) revised the Official Street Tree List based upon horticultural and environmental factors indicating that some species were no longer suitable as street trees (HRG and Teresa Grimes Historic Preservation 2025: 368).

The Department’s most ambitious plan was the development of a large scenic public park in Eaton Canyon, similar to the one in the Arroyo. He sought to correct the imbalance in the distribution of park space in Pasadena, which favored the west side of town. During the Great Depression, however, the City could not afford to purchase the land. Slowly, the City obtained approximately 24 acres of land through small donations, while the Water Department separately acquired 200 acres in the upper portion of the canyon. In 1932, the City began working in cooperation with the Los Angeles County Flood Control District and the Los Angeles County Planning Commission for the development of the Eaton Canyon Regional Park. Eventually the entire project was taken over by the County of Los Angeles and now includes a natural park and a golf course (HRG and Teresa Grimes Historic Preservation 2025: 369).

***Post-World War II Expansion***

After World War II, numerous new parks were created in Pasadena to keep pace with the growing population. Most post-war parks were 2 to 3 acres in size and their design emphasized recreation for the body over restoration of the spirit. Most include picnic areas, play areas with equipment for children, and restroom buildings at a minimum. Depending on the neighborhood which increasingly included northern and eastern

Pasadena, sports and recreation facilities might include basketball, tennis, and volleyball courts; baseball and softball diamonds; and multi-purpose athletic fields. The first two parks created during the post-war period involved land purchased from the Board of Education. Jefferson Park in 1945 and Grant Park in 1948 were created on land that was previously occupied by public schools with the same names. Created in 1951, Allendale Park is like La Pintoresca Park in that it includes a public library branch building (HRG and Teresa Grimes Historic Preservation 2025: 370).

Three other parks are associated with City reservoirs as opposed to libraries. Hamilton Park was created in 1952 and was originally called Hastings Ranch Park. It was renamed in 1958 in honor of Arthur L. Hamilton (1859-1953) who was the principal of the Garfield School (1888-1893), the superintendent of schools (1906-1911), and a member of the Board of City Commissions (1913-1921). The park sits on top of the Morris Jones Reservoir that was constructed to supply water to the new subdivision. McDonald Park was dedicated in 1920 in honor of Judge Robert W. McDonald (1868-1918), who succumbed to the 1918 influenza pandemic. Originally the park was only a narrow strip on the south side of the Wilson Reservoir. The abandonment of the reservoir in 1977 led to the idea of creating a park on the rest of the block (HRG and Teresa Grimes Historic Preservation 2025: 370).

The Villa Parke Community Center has a somewhat similar origin story. The land includes what was originally the Villa Reservoir, which was constructed in 1925. With changes in the City's water distribution system, the structure was abandoned in 1947 and the property was sold to the Pasadena Boys Club, but the City retained an easement. The City reactivated the well in 1962. In the early 1970s, the City created a public park on the property, which still includes the Garfield Well on the west, and a community center on the south that was designed by architect Frank Sata in 1973. This community center served an increasingly diverse population including African, Mexican, and Japanese Americans in northwestern Pasadena (HRG and Teresa Grimes Historic Preservation 2025: 370-371).

The largest park in Pasadena created during the post-war era is Victory Park. It was conceived in 1945 by the Pasadena War Memorial Committee as a tribute to those in the community who served in World War II; however, as soon as planning began, the program included an exhibition area for the display of Rose Parade floats in addition to a multi-purpose building for veteran's activities. Prior to the development of Victory Park, there were proposals for other memorials such as planting a grove of redwood trees in Eaton Canyon Park and renaming Eaton Canyon Park to Victory Park or Unconditional Surrender Park. By 1946, a 45-acre site near Eaton Canyon had been identified. The City had attempted to buy a 50-acre site in the area owned by Los Angeles County; however, the offer was rejected. By this time, the Pasadena Citizen's Council for Planning was also advocating for more parks and recreation facilities in eastern Pasadena. The park was dedicated in 1952, but in 1961 it was redesigned after the Pasadena High School campus moved from Pasadena City College to Sierra Madre Boulevard. To the chagrin of many members of the community, the north 15 acres of Victory Park were sold to the Pasadena Unified School District for

sports facilities for Pasadena High School (HRG and Teresa Grimes Historic Preservation 2025: 371-372).

In December 1967, Ronald B. Townsend (1913-1997), the City's director of parks since 1954, attempted to revive the 1932 plan for Eaton Canyon. He approved a plan entitled the Eaton Canyon Area Development. This plan also proposed an interconnected system of parks and open space areas along the Eaton Canyon drainage. The proposed improvements were laid out in great detail and connections with the City's existing parks, such as Victory Park and Eaton Blanche Park, were included. The City's current Green Space, Recreation and Parks Master Plan revisits this concept and offers recommendations for implementation measures that would fulfill a portion of the vision that was expressed in the 1932 and 1967 plans (HRG and Teresa Grimes Historic Preservation 2025: 372).

### 4.4.6 Urgent Care Center Typology

Although urgent care centers first emerged in the 1970s, it was decades before they were integrated with the broader national healthcare system. Growth in the development of urgent care centers during the last two decades has been a result of consumer demand for convenient healthcare and a lack of access to primary care. The number of urgent care centers in the United States almost doubled between 2014 and 2023, from 7,220 centers to 14,382. The development of urgent care centers varies by state, depending on the per capita concentration of an area. During the COVID-19 pandemic from 2020 to 2023, consumers disregarded initial guidance from regulators advising patients not to pursue COVID-19 testing at urgent care centers, leading to an exponential increase in urgent care visits. Continued growth of urgent care centers resulting in further development of centers in the 2020s (Trilliant Health 2024). More recent urgent care centers adapt existing buildings such as strip malls, office buildings, or existing medical facilities for efficient development. Centers must meet local health department regulations and comply with the Stark Laws' provisions against special favors, special compensation, or givebacks to doctors, particularly if a building is leased space from a hospital (Manley 2013). The Cedars-Sinai Urgent Care building in Culver City was completed in 2015 by Abramson Architects and won the 2015 AIA-San Fernando Valley Design Award as well as recognition from Healthcare Design's 2015 Remodel/Renovation Competition. Additionally, the Cedars-Sinai Los Feliz Urgent Care & OB/GYN, designed by Abramson Architects, won both the 2022 AIA LA Design Award and the 2022 SCDF Design Award. Both designs were noted for their use of floor-to-ceiling windows to provide light and space within the interiors (AA 2025a; AA 2025b).

Characteristics of the department store typology (Manley 2013):

- High visibility
- Ease of access
- Parking lot
- Exterior signage
- Building lobby

### 4.4.7 Southern California Edison Company History

The SCE Company is a subsidiary company of Edison International and is the largest electrical supply company in Southern California. Edison International was formed by the merger and acquisition of smaller electrical companies in 1886. At the time, Thomas Edison only allowed electrical utilities to use his patent if his name was used in the title of the company (EI 2023; SCE 2023).

As the population of the city of Los Angeles steadily increased during the late 1890s, the need for power grew. Several businessmen in Los Angeles formed the Westside Lighting Company, later known as the SCE, as a subsidiary of Edison International to address residents' needs. By 1897, Los Angeles adopted an undergrounding ordinance to reduce the overhead clutter of power infrastructure. To create underground lines throughout the city of Los Angeles, Westside Lighting used Thomas Edison's patented three-wire conduit technology. However, because of the use of Edison's patent, the company was required to change its name and chose the Edison Electric Company. By 1907, Edison Electric completed construction of the Kern River Hydro Powerhouse and began producing power to the Los Angeles Basin with a 75kV transmission line, the highest voltage in the nation at the time and the first line to be built on steel towers. In 1909, Edison Electric merged with several smaller electrical companies throughout the southern California region to form the SCE Company (EI 2023; SCE 2023).

In 1912, the Los Angeles Water Department extended its operations to include hydroelectric generation and local electricity distribution after the Los Angeles City Council voted to begin negotiations to purchase local electrical facilities. Between 1922 and 1937, SCE sold its hydroelectric facilities to the city. However, its loss of business was offset by the suburban growth of Los Angeles County. With more energy generation needed throughout the area, SCE created a transmission line with the capacity to retain 220kV by 1922. As a result of their innovative achievement, SCE became the first recipient of the Charles A. Coffin Medal, known today as the Thomas A. Edison Award. In 1926, SCE completed construction of the largest multiple-arch dam in the world at the time, the Florence Lake Dam. The groundbreaking design reduced the amount of concrete needed to be carried up the mountains. By 1929, construction began on the SCE's headquarters in downtown Los Angeles, completed in 1931. In 1939, the SCE received its share of power from the Hoover Dam after completing a 220kV transmission to the dam (EI 2023).

During the outbreak of World War II, Edison International collected scraps of materials from their plants, such as rubber, copper, iron, steel, and brass to donate to the war effort. Additionally, SCE engineers helped design the electrical system for a plutonium extraction facility to develop nuclear weapons for the war. Because of their efforts, SCE was awarded the Charles A. Coffin Award and the National Security Award. By 1946, the country established a standard for electricity that required a currently alternating at 60 cycles per second. To accommodate the new standard, SCE changed its 50-cycle system to a 60-cycle system, requiring a massive rewiring program taking nearly three years to complete. In addition, the company completed construction of 10 gas and oil-fired steal plants between 1945 and 1970 (EI 2023).

By 1957, SCE completed construction of the 7.5MW nuclear power plant, the Santa Susana Experimental Nuclear Station, in the Santa Susanna Mountains. The company became the first investor in the country to generate electricity commercially from a nuclear reactor. During the 1960s, SCE continued to expand its facilities. In 1962, SCE purchased the electric, gas, and water systems on Catalina Island and installed modern facility as well as a seawater desalination plant to support the production of freshwater on the island. The company further expanded in 1964 when they acquired the California Electric Power Company. By 1968, SCE completed construction of the 450MW San Onofre Nuclear Generation Station Unit 1, and between 1967 and 1970, they built the Pacific AC–DC (alternating current–direct current) Intertie, the first major high-voltage DC line in the country capable of transporting 8,000MW of power. In 1972, Units 2 and 3 of the San Onofre Nuclear Generation Stations were completed (EI 2023).

The rising cost of fossil fuel during the 1970s led to SCE's interest in producing renewable energy technologies to generate alternative power. Throughout the 1970s and 1980s, SCE's research, development, and demonstration department researched cutting-edge power development. By 1978, they established the Wind Energy Research Center in Palm Springs, California, and the construction of a 10MW geothermal power plant in Brawley, California. In 1980, the SCE Chief Executive Officer William R. Gould, announced the company's initiative to develop 2,000MW of alternative and renewable energy. Along with the department of energy and the Los Angeles Department of Water and Power, SCE developed a solar thermal plant in the Mojave Desert during the 1980s that began operating by 1996 (EI 2023).

The California energy crisis of the early 2000s saw the price of independent power rise. As a result, SCE purchased abandoned plants throughout Southern California to relieve power shortages. To alleviate power costs, SCE began construction of the first transmission line to only carry renewable power with the Tehachapi Renewable Transmission line in 2007. Likewise, in 2008, SCE launched their solar photovoltaic rooftop program to promote the addition of solar panels to buildings. Today SCE owns over 104,000 miles of circuits across its service territory. SCE maintains its infrastructure with individually constructed substations that distribute electricity throughout the area through transmission lines. The SCE service territory includes portions of Fresno, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Tulare, and Ventura counties (Tinsley-Becker and Chiang 2015: 13; SCE 2023; EI 2023).

### 4.4.8 Transmission Lines

Transmission lines are a series of vertical poles or towers that hold electric conductors to power plants and substations to serve individual customers in cities, towns, industrial plants, and utility districts. Transmission line structures include three main architectural design components: the tower structure, the conductors, and the insulators. The tower is the structure that holds the insulators, and the insulators hold the conductors, which come in the form of a transmission line. The electricity transmission includes anything above the electrical voltages of 60kV or more. Transmission lines with a voltage of 500kV are the highest voltage connected to energy grids throughout the western United

States. Lines with higher voltages (230kV and above) are primarily carried on metal towers, while lines below 230kV are usually on wooden pole structures. Extra-high voltage lines (500kV and above) usually have steel lattice towers, which are larger than the those constructed for lower voltage lines, that feature a cinched waist, massing with a wide base, narrow mid-point, and extended horizontal cross arms. With technological advances in insulator and conductor design, components are replaced and repaired regularly. Transmission lines and systems are generally categorized by their conductor positioning, construction materials, and voltage (NVE 2017; Tinsley-Becker 2017: 51).

Key character-defining features of transmission lines often include the following:

- Alignment of transmission line from the date of original construction
- Intact primary tower structures
- Connectivity and association to power-generating plants and substations and transmission lines

In addition to possessing the character-defining features outlined above, the *Southern California Edison Historic-Era Electrical Infrastructure Management Program* identified periods of historic significance for SCE transmission line systems according to their voltage. For systems transmitting electrical power at 66kV or below, the period of significance is limited to 1907 to 1930. For systems transmitting electrical power between 67kV to 230kV, the period of significance is limited to 1912 to 1941. For systems transmitting electrical power at 500kV, the period of significance is limited to 1965 to 1970 (Tinsley-Becker 2017: 64).

### 4.4.9 Development of the Subject Properties Within the APE

***Eaton Wash Channel***

The Eaton Wash Channel is a stormwater channel in Pasadena, California, that drains into the Rio Hondo River and then into the Los Angeles River. The wash lies along the foothills of the San Gabriel Mountains and collects water from the steep ridges of the surrounding Eaton Canyon. Historically, the wash was a natural creek that provided water to the area since before Spanish settlement and flowed into the San Gabriel River. Native American villages were located along the creek, and subsequent European and American settlers used it for drinking water. Initially, the surrounding canyon was called “El Precipicio” by the Spanish because of its steep cliffs, but it was later named Eaton Canyon after the first American rancher to use the creek for irrigation, Judge Benjamin Eaton. In 1865, Eaton built the Fair Oaks Ranch House along Eaton Creek and used the water to grow grapes on the cliffs of the canyon. As more people continued to settle in the canyon, the need for water began to grow. By 1887, the Precipice Canyon Water Company was established to mine Eaton Canyon for water. The company mined a total of 50 tunnels that allowed access to underground water that was used for drinking water and to irrigate the area (ECNCA 2025; HRG and Teresa Grimes Historic Preservation 2025: 10, 34).

From its earliest years as a predominantly agrarian community, Eaton Canyon experienced intense flooding that destroyed crops and property. By 1894, the Los Angeles County Board of Supervisors proposed the development of the wash to drain stormwater through the canyon (PDES 1894: 3). The Eaton Wash is visible in historical topographic maps from 1894 (NETR 2025b). Heavy rains in 1914 led to a need for repairs to the wash (PS 1914: 9). As a result, the County Board of Supervisors proposed the formation of the Eaton Canyon Wash Protection District to develop drainage ditches in the canyon to carry stormwater into the Eaton Wash in 1914 (PS 1915: 6). This allowed the surrounding canyon area to be subdivided and developed with residential properties during the late 1910s followed by the development of infrastructure such as bridges and roadways across the wash during the 1920s (PS 1911: 14; PSN 1925a: 10; PSN 1925b: 1).

However, heavy rains and increased development led to greater loss of property as flooding continued. The Eaton Wash Association was organized in 1938 to find a solution to the flood control problem. The association sought to obtain federal aid to channelize the wash and divert flood water (PSN 1938: 13). In 1939, the Los Angeles County Flood Control Department included the development of the Eaton Wash diversion channel in the United States District Engineer's comprehensive flood control plan for Los Angeles County (PSN 1939: 10). The bill was approved in 1940, and plans were approved by the United States Army Corps of Engineers in 1943 with $3,462,000 allocated to flood control improvements throughout Pasadena and Altadena (PSN 1940: 13; PP 1943: 5). Improvements and repairs were made to the wash in 1952 and 1954 after torrential storms (PI 1952: 4; PI 1954: 31). Historical aerial photographs indicate that the Eaton Wash Channel has remained in the same alignment and has been relatively unchanged since 1952. The wash was channelized with concrete between 1953 and 1964 (NETR 2025a).

***Eaton Blanche Park***

Eaton Blanche Park is a 5.5-acre public park located at 3100 E Del Mar Boulevard (APN 5754-031-901) in the southeast section of the City of Pasadena, California. Facilities include two tennis courts, a softball field, a basketball court, play structures, picnic tables, open green space, restrooms, and two parking lots (City of Pasadena 2025b). The park was developed ca. 1960 in conjunction with the County Parks and Recreation Department as part of their planned program to equalize park facilities (LAT 1961a: 210). Historical aerial photographs show that the softball field was present on the property as early as 1952. Eaton Blanche Park was developed with two tennis courts, a basketball court, a restroom, and a covered picnic area ca. 1960 (NETR 2025a). In 1967, the Eaton Canyon Area Development plan proposed improvements to the park that would connect it to the other existing parks along the Eaton Canyon Wash (HRG and Teresa Grimes Historic Preservation 2025: 372). The Mount Wilson hiking trail was developed by 1968 to connect the parks from Eaton Canyon to Eaton Blanche Park to the south (LAT 1968: 108). Another covered picnic area was added by 1980; however, it was demolished by 1992 for the construction of a play area with play structures. The restroom was demolished in 2016, and a new restroom was constructed

by 2018. The park appears to remain primarily unaltered since then and appears to have continued to function as a public park to the present (NETR 2025a).

***Earthside Nature Center***

The Earthside Nature Center, located on the rear of the property at 3160 East Del Mar Boulevard (APN 5754-030-901) in Pasadena, California, was established on about 2 acres in 1971. Before the development of the nature center, SCE purchased the property and used it for a transmission line corridor beginning in 1951. The property originally contained 66 kilovolt (kV) transmission lines, and by ca. 2005, SCE had also installed 220kV lines supported by steel lattice towers within the utility corridor, which was also used as a dumping site (NETR 2025a). The Pasadena Girls Club acquired use of the property from SCE ca. 1955 and constructed a clubhouse on the northern portion along East Del Mar Boulevard. The girls helped to plant a garden on the property and used the site for activities before the Earthside Nature Center was founded by naturalist Elna Bakker, and Kevin Connelly in 1971. Volunteers helped to develop a garden on the property with donated plants of a variety of native species (Gilmore et al. 2009; Barber 1985). By 1987, the nature center was reported to be a “microcosm of the California plant work” with a flourishing garden tended to by the volunteers. During the 1980s, the nature center provided tours to the public and held annual Wildflower Walkabouts that encouraged visitors to picnic and explore the property (Exhibit 1) (LAT 1987: 76). In 1989, the Earthside Nature Center was awarded the American Horticultural Society’s (AHS) Award for Urban Beautification for its grassroots efforts to create an equitable community space using plants and nature. The AHS Awards Program was established in 1953 with four awards: the Horticultural Writing, Professional, Teaching, and Scientific awards. It was expanded in 1985 to include the Urban Beautification Award, now known as the Community Greening Award, to honor community beautification efforts across the nation. During the mid-1990s, the AHS Awards Program evolved to the Great American Gardeners Awards program and was expanded to include diverse categories of awards that “celebrate those who exemplify dedication to the art, science, and environmental stewardship of horticulture across the United States” (AHS 2025). Volunteers continued to maintain the gardens and conduct tours of the nature center in the early 1990s. However, it was abandoned in 1995 after the deaths of Bakker and Connelly (Gilmore et al. 2009).

**Exhibit 1.** Students exiting the Earthside Nature Center in 1985.




**Source:** *Los Angeles Times*, April 7, 1985.

In 2008, local open space activist Michael Coppess discovered the abandoned Earthside Nature Center site and began efforts to revitalize the property. Coppess documented the remains of the nature center in his blog, East of Allen, which highlighted the history of the site and garnered community attention (Exhibit 2). In 2009, a group of graduate students from California Polytechnic University, Pomona, conducted a study of the site and inventoried the remnants of the center, including the wood post entrance, a kiosk, benches, tables, a potting shed, a storage shed, signage, trails, and plaques. However, the study concluded that most of the plantings, such as wildflowers, shrubs, trees, and exotic plants, are in poor health or have been replaced with weeds. After over a decade of abandonment, the site lacked maintenance and had become overrun with non-native grasses, shrubs, and trees, and an extensive removal and replanting process would be necessary to revitalize the site. The students presented their findings at the Pasadena Open Space Fair on February 28, 2009, to promote community engagement with the site and recommend alternative designs for the property. Although public interest in the revitalization of the property prompted the city to adopt its Open Space Element to reestablish the center, it has remained abandoned to the present (Coppess 2008; Gilmore et al. 2009; LAT 1995: 20). As of 2025, the site remains in poor condition, and only the wood post entrance and a plaque remain, with few original plantings left. Pasadena's proposed Eaton Wash Stormwater Capture Project has spurred interest in the site once again, and the city has developed a Site Concept Design that is out for public comment. The final design for the site is expected to be approved by spring 2026, and it will possibly result in the redevelopment of the site in the future (Exhibit 3) (Coppess 2025).

**Exhibit 2.** View of the Earthside Nature Center entrance in 2008.




**Source:** Coppess 2008.

**Exhibit 3.** City of Pasadena's Site Concept Design for the Earthside Nature Center, 2025.




**Source:** Coppess 2025.

***Exer Urgent Care***

The Exer Urgent Care building at 3160 East Del Mar Boulevard (APN 5754-030-901) was initially developed as a clubhouse for the Girls Club of Pasadena ca. 1955 by the City of Pasadena (LAT 1959: 238; ParcelQuest 2025). The clubhouse was expanded in 1961 to include a patio area, a library, three additional craft rooms, and a teen room (LAT 1961b: 349). Activities, events, and training sessions were hosted at the clubhouse from the 1950s to the 1990s (LAT 1959: 238; LAT 1964: 13; LAT 1970: 473; LAT 1980: 514; LAT 1990: 212). Research indicates that the building was owned by the City of Pasadena and operated by the Pasadena Girls Club until 2009, when it was converted to the Pasadena Urgent Care Center (Google Earth 2025). A study by Huntington Hospital in 2006 determined the community's need for more healthcare in the growing underserved areas of Pasadena and proposed the construction of a new urgent care center. Two City-owned properties were suggested at 3160 East Del Mar Boulevard (the subject property) and the former St. Luke Hospital facility at 2690 East Washington Boulevard. The study concluded that the northwest portion of the city had the greatest need for an urgent care center, so the East Del Mar Boulevard property was chosen for the development of the Pasadena Urgent Care Center in 2009 (HH 2006). Historical aerial photographs show that additions were added to the primary (north) and rear (south) elevations of the building to accommodate the urgent care in 2009 (NETR 2025a). By 2019, the building was occupied by Exer Urgent Care, which has remained at the property to the present under the ownership of the City of Pasadena (Google Earth 2025; ParcelQuest 2025).

***SCE Mesa-Anita-Eaton Transmission Line***

The SCE Mesa-Anita-Eaton Transmission Line is a 13-mile 66kV transmission line installed in 1951 between the SCE Mesa Substation, Anita Substation, and Easton Substation. Prior to the development of the transmission line segment in APE, historic aerial photographs indicate the corridor on APN 5754-030-802 was undeveloped. During the late 1970s, SCE leased the property to a commercial nursery, which has continued to operate on the property to the present. By 2005, SCE had also installed 220kV lines supported by steel lattice towers within the utility corridor (NETR 2025a).

Research did not identify the original engineer, builder, or contractor of the SCE Transmission Line. Additional research conducted at Newspapers.com, Calisphere, and the Oline Archive of California, also did not identify the original architect, builder, or contractor. It appears unlikely that the SCE Transmission Line was constructed by a master architect or builder.

## 5.0 REGULATORY FRAMEWORK

### 5.1 Federal

#### 5.1.1 National Historic Preservation Act

The principal federal law addressing historic properties is the NHPA, as amended (54 United States Code of Laws [USC] 300101 et seq.), and its implementing

regulations (36 CFR Part 800). Section 106 requires a federal agency with jurisdiction over a proposed federal action (referred to as an “undertaking” under the NHPA) to take into account the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. The term “historic properties” refers to “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register” (36 CFR Part 800.16(l)(1)). The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties, for assessing the potential adverse effects of federal undertakings on historic properties, and for seeking to develop measures to avoid, minimize, or mitigate adverse effects. The Section 106 process does not require the preservation of historic properties; instead, it is a procedural requirement mandating that federal agencies take into account effects to historic properties from an undertaking prior to approval.

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Office, federally recognized Indian tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR Part 800.1(a)). Consultation withIndian tribes regarding issues related to Section 106 and other authorities (such as the National Environmental Policy Act and Executive Order No. 13007) must recognize the government-to-government relationship between the federal government and Indian tribes, as set forth in ExecutiveOrder 13175, 65 FR 87249 (Nov. 9, 2000), and Presidential Memorandum of Nov. 5, 2009.

### 5.1.2 National Register of Historic Places

The NHPA of 1966 established the National Register as “an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR Section 60.2). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered “historic property” under NHPA Section 106.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established criteria:

A. Are associated with events that have made a significant contribution tothe broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method ofconstruction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishableentity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance.” The National Register recognizes seven qualities that,in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Ordinarily religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (A-G), in addition to meeting at least one of the four significance criteria and possessing integrity.

## 5.2 State

### 5.2.1 California Environmental Quality Act

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines “unique archaeological resource.”
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines “historical resources.” In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource”; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines “tribal cultural resources.”
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to tribal cultural resources and significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

If a site is listed or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is an “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of a tribal cultural resource or an historical resource.” A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 15064.5(b)(2)).

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2(a)–(c)).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2(g)).

Impacts on nonunique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a nonunique archaeological resource qualifies as a Tribal Cultural Resource (TCR) (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

### 5.2.2 The California Register of Historical Resources

In California, the term “historical resource” includes, but is not limited to, “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code (PRC), Section 5020.1(j)). In 1992, the California legislature established the CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to possessing significance, the CRHR requires that a resource also possess integrity, which is defined under 14 CCR § 4852(c) as “the authenticity of an historical

resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance."

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 California Code of Regulations [CCR] 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

### 5.2.3 Native American Historical Cultural Sites (California Public Resources Code Section 5097

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American human remains are discovered during ground-disturbing activities; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

### 5.2.4 California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

### 5.2.5 California State Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that tribal cultural resources must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. PRC Section 21074 describes a tribal cultural resource as a site,

feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the Project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

PRC Section 21084.2 establishes that a project that may cause "a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. PRC Section 21080.3.2 states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

### 5.2.6 California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the

site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

## 5.3 Local

### 5.3.1 City of Pasadena Landmark Criteria

Chapter 17.62 of City's Municipal Code from September 8, 2025, also known as the City's Historic Preservation Ordinance, establishes the eligibility criteria for historic resources within Pasadena. Municipal Code Section 17.62.040 identifies that a landmark shall include all historic resources previously designated as a cultural heritage landmark before adoption of this Chapter in 2002 and any historic resource that is of a local level of significance and meets at least one (1) of the following criteria (City of Pasadena 2025c):

A. It is associated with events that have made a significant contribution to the broad patterns of the history of the City; or
B. It is associated with the lives of persons who are significant in the history of the City; or
C. It embodies the distinctive characteristics of a type, architectural style, period, or method of construction, or represents the work of a architect, designer, engineer, or builder whose work is of significance to the City or possesses artistic values of significance to the City; or
D. It has yielded, or may be likely to yield, information important locally in prehistory or history.

# 6.0 ARCHIVAL RESEARCH

## 6.1 Records Search

Dudek archaeologist Brenda Rogers conducted a CHRIS records search on April 17, 2025, at the SCCIC located on the campus of the California State University, Fullerton. The records search encompassed the entire APE and a 1-mile search radius. The purpose of the records search is to identify any previously recorded cultural resources that may be located in or adjacent to the APE and to identify previous studies in the Project vicinity. In addition to a review of previously prepared site records and reports, the records search also included a review of historical maps of the APE, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility.

### 6.1.1 Previously Conducted Cultural Resources Studies

The SCCIC records search results indicate that 36 previous cultural resources studies have been conducted within 1 mile of the APE. Of these, two previous studies overlap with the APE (LA-9705 and LA-10175), both of which are characterized as cultural resources inventories (Table 1). Approximately 100% of the Project site has been

subject to past cultural resources investigations. See **Confidential Appendix B** for the complete SCCIC records search results and associated documentation.

**Table 1. Previously Conducted Studies Intersecting APE**

| Report ID | Year | Author | Title |
|---|---|---|---|
| **Intersects APE** | | | |
| LA-9705 | 2007 | Pacific Legacy, Inc. | Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California. ARR #05-01-01046 |
| LA-10175 | 2009 | Applied EarthWorks, Inc. | Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project |

***Report LA-9705***

Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California, ARR #05-01-01046 (Pacific Legacy Inc. 2007) documents the results of an inventory conducted for the Tehachapi Renewables Transmission Project. The report was prepared by Pacific Legacy and consisted of an archival records search, literature review, pedestrian survey, data evaluation, and report preparation. The study area overlaps with 100% of the Project site. The report cites 43 prehistoric resources, 48 historic-period archaeological sites, 4 multi-component sites, and 8 isolate finds within the 250- to 500-foot-wide survey corridor. None of the cultural resources identified intersect the current proposed APE.

***Report LA-10175***

*Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project* (Applied EarthWorks Inc. 2009) documents the results of an inventory conducted for the Tehachapi Renewables Transmission Project. The report was prepared by Applied EarthWorks, Inc., and consisted of an archival records search, literature review, pedestrian survey, data evaluation, and report preparation. The study area overlaps with 100% of the Project site. The report cites 57 prehistoric resources, 73 historic-period archaeological sites, and 5 multi-component sites within the 250- to 500-foot-wide survey corridor. None of the cultural resources identified intersect the current currently proposed APE.

### 6.1.2 Previously Recorded Cultural Resources

The SCCIC records search results indicate that 62 cultural resources have been previously recorded within 1 mile of the APE (Table 2). Of these, one resource

intersects with the APE (P-19-190502). P-19-190502 is characterized as a historic-age transmission line constructed ca. 1951. The vast majority of the remaining 61 resources are historic-era built environment resources associated with the development of the City of Pasadena during the twentieth century. See **Confidential Appendix B** for the complete SCCIC records search results, associated documentation, and California Department of Parks and Recreation (DPR) 523 Forms, and below Table 2 for a discussion on the resources described above.

**Table 2. Previously Recorded Cultural Resources Within 1 Mile of the APE**

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| **Intersects APE** | | | | |
| P-19-190502 | - | Historic | SCE Mesa-Anita-Eaton 66kV Transmission Line | Recommended ineligible |
| **Outside of APE** | | | | |
| P-19-003682 | CA-LAN-003682/H | Prehistoric, Historic | Suangna Native American Village | Not Evaluated |
| P-19-003804 | CA-LAN-003804H | Historic | Las Encinas Hospital | Not Evaluated |
| P-19-183162 | - | Historic | Pasadena Motel Grouping | Not Evaluated |
| P-19-183164 | - | Historic | Travelodge | Not Evaluated |
| P-19-183165 | - | Historic | Swiss Lodge | Not Evaluated |
| P-19-183166 | - | Historic | Astro Motel | Not Evaluated |
| P-19-183167 | - | Historic | Vagabond Inn | Not Evaluated |
| P-19-183168 | - | Historic | Ace Motel | Not Evaluated |
| P-19-183181 | - | Historic | United Picture & Frame Co. | Recommended ineligible |
| P-19-183182 | - | Historic | Sierra Madre Blvd Commercial Grouping | Not Evaluated |

**Table 2. Previously Recorded Cultural Resources Within 1 Mile of the APE**

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-183185 | - | Historic | Pasadena Fire Station #7 | Not Evaluated |
| P-19-183186 | - | Historic | Lamanda Park Commercial Area | Not Evaluated |
| P-19-183187 | - | Historic | Proctor Insurance Co. | Not Evaluated |
| P-19-183191 | - | Historic | Morton C Hartzell Methodist Episcopal Church | Not Evaluated |
| P-19-183192 | - | Historic | Third Church of Christ Scientist | Not Evaluated |
| P-19-183195 | - | Historic | Dudley & White Blacksmiths | Recommended ineligible |
| P-19-183196 | - | Historic | C M Northrup & Son Real Estate | Not Evaluated |
| P-19-183198 | - | Historic | Royal Palms Trailer Court | Not Evaluated |
| P-19-183199 | - | Historic | California Sewing Machine Co. | Not Evaluated |
| P-19-183328 | - | Historic | Pasadena Rubber Stamp Works | Not Evaluated |
| P-19-183477 | - | Historic | Pasadena Trailer Park | Not Evaluated |
| P-19-183478 | - | Historic | Sparkle Laundry & Cleaners | Not Evaluated |
| P-19-183479 | - | Historic | Siam Gourmet | Not Evaluated |
| P-19-183480 | - | Historic | Pasadena Hub Caps | Not Evaluated |
| P-19-183481 | - | Historic | VCR TV MW Stereo Repair | Not Evaluated |
| P-19-183482 | - | Historic | Mutual Bldg & Loan Assn. | Not Evaluated |

**Table 2. Previously Recorded Cultural Resources Within 1 Mile of the APE**

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-183483 | - | Historic | Post Office | Not Evaluated |
| P-19-183484 | - | Historic | Locators Agency | Not Evaluated |
| P-19-183485 | - | Historic | Sharon Newbold Realtor | Not Evaluated |
| P-19-183486 | - | Historic | Sud'N Service | Not Evaluated |
| P-19-183487 | - | Historic | Silver-Reed | Not Evaluated |
| P-19-183488 | - | Historic | Gwinn's Restaurant | Not Evaluated |
| P-19-183489 | - | Historic | Serendipity | Not Evaluated |
| P-19-183490 | - | Historic | Serendipity | Not Evaluated |
| P-19-183491 | - | Historic | Serendipity | Not Evaluated |
| P-19-183492 | - | Historic | Serendipity | Not Evaluated |
| P-19-183943 | - | Historic | Stuart Co. Plant & Office Bldg | Listed |
| P-19-184686 | - | Historic | Hempel Tile | Not Evaluated |
| P-19-184687 | - | Historic | Glo-Quartz Mfg. | Not Evaluated |
| P-19-184688 | - | Historic | Pasadena Indoor Swapmeet | Not Evaluated |
| P-19-188038 | - | Historic | Warner's Egyptian Theater | Recommended ineligible |
| P-19-189110 | - | Historic | AT & SF RR bridge over Rosemead Blvd | Recommended ineligible |
| P-19-189225 | - | Historic | First Western Bank | Appears eligible |

**Table 2. Previously Recorded Cultural Resources Within 1 Mile of the APE**

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-189226 | - | Historic | First National Bank of Lamanda Park | Listed |
| P-19-189227 | - | Historic | Denny's | Listed |
| P-19-189228 | - | Historic | Suzuki Dealership | Appears eligible |
| P-19-189229 | - | Historic | Fred C Henson Co. | Listed |
| P-19-189230 | - | Historic | Factory Service | Recommended ineligible |
| P-19-189231 | - | Historic | Vista Paint & Wallcovering | Appears eligible |
| P-19-189232 | - | Historic | Glatts Lumber | Recommended ineligible |
| P-19-189233 | - | Historic | Simpson Bldg. | Recommended ineligible |
| P-19-189236 | - | Historic | Street Lights | Appears eligible |
| P-19-190399 | - | Historic | Single-family residence | Not Evaluated |
| P-19-190917 | - | Historic | Single-family residence | Recommended ineligible |
| P-19-192125 | - | Historic | Single-family residence | Not Evaluated |
| P-19-192131 | - | Historic | Single-family residence | Not Evaluated |
| P-19-192132 | - | Historic | Single-family residence | Not Evaluated |
| P-19-192133 | - | Historic | Single-family residence | Not Evaluated |
| P-19-192134 | - | Historic | Single-family residence | Not Evaluated |

**Table 2. Previously Recorded Cultural Resources Within 1 Mile of the APE**

| Primary Number | Trinomial | Age | Description | NRHP/CRHR Eligibility |
|---|---|---|---|---|
| P-19-192221 | - | Historic | Single-family residence | Recommended ineligible |
| P-19-192479 | - | Historic | Naval Ordinance Test Station (NOTS); Pasadena, Foothill Plant | Appears eligible for CR |

***P-19-190502***

P-19-190502 is characterized as a historic-age transmission line that runs generally north to south for approximately 13 miles to distribute power between the SCE Mesa Substation, Anita Substation, and Eaton Substation. A segment of the resource intersects the APE. The resource was originally documented in 2010 by Wendy L. Tinsley Becker, who reports it as first constructed in 1951, and notes that historical research did not identify a significant association with any of the three substations. This resource was given the California Office of Historic Preservation status code of 6Z: Found ineligible for National Register, California Register, or local designation through survey evaluation (Becker 2010). Dudek provided an updated inventory and evaluation of the transmission line segment in the APE as part of the current study and is discussed further Chapter 8, Significance Evaluation.

### 6.2 Native American Heritage Commission Sacred Lands File Search

Dudek requested a NAHC SLF search of the APE and a 1-mile radius on April 24, 2025. The SLF consists of a database of known Native American resources. These resources may not be included in the SCCIC database. The NAHC replied via email on May 7, 2025, stating that the SLF search was completed with positive results. Positive results indicate the presence of Native American cultural resources within 1 mile of the APE, and not necessarily directly within the APE. The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area. To date, Dudek has not sent outreach letters to any of the entities identified by NAHC. See **Appendix C** for complete documentation of NAHC correspondence and SLF search results.

In compliance with Section 106, USACE, as the federal lead agency, is responsible for conducting government-to-government consultation with federally recognized California Tribes, and the City, as the lead agency responsible for compliance with CEQA, is responsible for conducting government-to-government consultation with California Native American Tribes pursuant to AB 52.

## 6.3 Historical Maps and Aerial Photographs

### 6.3.1 Historical Topographic Maps

Historical topographic maps can often depict the natural elevation of the APE as well as the historic development of the surrounding area. Although topographic maps are not comprehensive, they are another tool in determining whether the APE has been disturbed. Historical topographic maps of the APE are available for the years of 1884 to 2022 (NETR 2025b). The topographic map from 1930 reveals the first development around the APE with the construction of Blanche Street to the north, now Del Mar Boulevard, as well as a larger gridwork of roads farther north of the APE. In 1930, transmission lines running on a north to south axis across the APE first appear, as do two small structures that appear on the eastern edge of the Eaton Wash Channel and within the APE. The 1941 topographic map depicts the current gridwork of streets around the Eaton Wash Channel, as well as a large structure to the northeast of the APE, now Exer Urgent Care, and two small structures to the south and within the APE. By 1967, there is only one small structure now located south of the Exer Urgent Care Building. There are no substantial observable changes in the historic depiction of the APE and surrounding areas from 1967 until the last available historical topographic map from 2022 (NETR 2025b).

### 6.3.2 Historical Aerial Photographs

Historical aerial photographs of the APE are available from 1952 to 2022 (NETR 2025a). The 1952 historical aerial photograph depicts an open landscape with some trees and a baseball diamond located within the western portion of the APE, while the eastern portion of the APE has several undeveloped paths paralleling the channelized Eaton Wash leading to a small structure visible in the northeast portion of the APE. By 1964, there are two additional structures located within the eastern portion of the APE, in the location of the extant Exer Urgent Care building. The informal paths noted in 1952 are no longer visible, but there appears a dirt access road following the alignment of the transmission lines located to the southeast and within the APE. By 1972, The Exer Urgent Care building, in its current extent, is depicted within the northern portion of the APE, in place of the two buildings first noted in 1964. By 1972, there also appears an additional structure located within the central portion of the APE, in the location of the previous Earthside Nature Center. There are no observable changes to the APE until 1993. By 1993, several informal pathways and paved parking areas appear around the Exer Urgent Care building. South of those parking areas, on the eastern portion of the APE are groves of trees lining the east bank of the Eaton Wash Channel, while western portion remains an open grassy area with trees lining the Eaton Wash Channel. The 2009 historical aerial photograph reveals that all structures located within the eastern portion of the Project area (with the exception of the Exer Urgent Care building) have been demolished and the area graded. There are no substantial observable changes in the historic depiction of the APE and surrounding areas from 2010 until the last available historical aerial photograph from 2022 (NETR 2025a).

Overall, this review of historical topographic maps and aerial photographs indicates that the APE has been subject to past disturbances associated with the channelization of

Eaton Wash, building development, demolition, and grading. Additionally, this archival review revealed the presence of historic-era several built environment located within the APE, those of which are discussed in further detail in Chapters 7.0, Cultural Resources Survey, and 8.0, Significance Evaluation, of this report.

# 7.0 CULTURAL RESOURCES SURVEY

## 7.1 Survey Methods

### 7.1.1 Archaeological Survey Methods

Dudek archaeologist Roshanne Bakhtiary, MA, RPA, conducted an intensive-level pedestrian survey of the APE for archaeological resources on June 26, 2025. Standard archaeological procedures and techniques consistent with the Secretary of the Interior's Standards and Guidelines for archaeology were employed during the pedestrian survey. When possible, 10-meter interval survey transects were conducted and oriented in cardinal directions, east to west. Where visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock, imported marine shell), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials. All fieldwork was documented using field notes and Apple Generation 14 (iPhone) equipped with Esri Field Maps and Avenza PDF Maps software with close-scale georeferenced field maps of the APE for archaeological resources. All field notes, photographs, and records related to the study are on file at Dudek's Pasadena, California office. A discussion of existing conditions and survey results are provided in Section 7.2.1, Archaeological Survey Results.

### 7.1.2 Built Environment Survey Methods

On June 26, 2025, Dudek architectural historian Katie Ahmanson, MHC, conducted an intensive-level survey of the APE for built environment resources. Four resources were documented using digital photography and field notes, which are on file at Dudek's Pasadena, California, office. All photographs were taken on June 26, 2025.

## 7.2 Survey Results

### 7.2.1 Archaeological Survey Results

The APE for archaeological resources consists primarily of flat, fallow land, with portions currently used as grounds for an operational nursery. Ground surface visibility ranged from non-existent (virtually 0%) to moderate (25%–50%). Approximately 75% of the APE for archaeological resources had zero ground surface visibility (Photograph 1), while the remainder had moderate ground surface visibility (Photograph 2). Overall, the APE encompasses portions of the former Earthside Nature Center, the Eaton Wash Channel, the City of Pasadena's Eaton Blanche Park, and an operational nursery. The majority of the area is currently used as an informal dumping ground and for bee box storage. Observed

disturbances include evidence of grading and vegetation clearing and modern debris throughout. Although the remains of the former Earthside Nature Center were recorded during this field effort, this resource is being treated as a built environment resource. No archaeological resources were identified during the pedestrian survey of the APE for archaeological resources.

**Photograph 1.** Example of zero ground surface visibility, view facing south.



**Source:** Dudek 2025, IMG_4198.

**Photograph 2.** Example of moderate ground surface visibility. View facing west.



**Source:** Dudek 2024, IMG_4087.

#### 7.2.2 Built Environment Survey Results

The built environment survey identified five historic-era (45 years of age or older) properties within the APE for built environment resources, consisting of the Eaton Wash Channel (Map ID 1), Eaton Blanche Park (Map ID 2), the Earthside Nature Center site (Map ID 3), an urgent care center at 3160 East Del Mar Boulevard (Map ID 4), and the SCE Mesa-Anita Eaton Transmission Line (Map ID 5). All historic-era properties are recorded and evaluated on DPR 523 Forms located in **Appendix D**.

## 8.0 SIGNIFICANCE EVALUATION

### 8.1 Map ID 1: Eaton Wash Channel

#### 8.1.1 Description

The Eaton Wash Channel is a stormwater channel in Pasadena, California spanning approximately 8 miles south from the San Gabriel Mountains to the Rio Hondo River In South El Monte. It is completely paved with concrete and has a width of about 30 feet with a depth of about 10 feet (Photograph 3). The channel body includes a low-flow channel along the western boundary that carries a regular streamflow and a bank for excess water. Chain-link fencing lines the top of the channel walls along its west and east boundaries of the wash. The intensive survey recorded a segment of the alignment that measured approximately 145 feet in length (Photograph 4). Known alterations to the wash include repairs in 1952 and 1954, and concrete paving between 1953 and 1964 (PI 1952: 4; PI 1954: 31; NETR 2025a).

**Photograph 3.** View of the Eaton Wash Channel, looking north.



**Source:** Dudek, IMG_1114.

**Photograph 4.** View of the Eaton Wash Channel, looking south.



**Source:** Dudek, IMG_1124.

### 8.1.2 Statement of Significance

***NRHP/CRHR Criteria***

The Eaton Wash Channel was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, the Eaton Wash Channel is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

CRITERION A/1: EVENTS

Under NRHP Criterion A and CRHR Criterion 1, the segment of the Eaton Wash Channel lacks a direct and important association with any event significant in local, state, or national history. The Eaton Wash Channel was initially developed as an unpaved wash ca. 1894 to drain stormwater in the surrounding canyon. During the late 1910s, the area was subdivided and developed with single-family residences. However, as development increased, so did flooding, leading to increased reports of property damage. To quell the flooding, the wash was channelized with concrete between 1953 and 1964 and has likely been repaved to allow for its continuous use. Although the Eaton Wash Channel contributed to the overall development of the Eaton Canyon, its contribution to this growth was a consequence of the residential expansion in the area, rather than the initial impetus for development. Lacking sufficient associative significance, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criterion A/1.

CRITERION B/2: SIGNIFICANT PERSONS

Under NRHP Criterion B and CRHR Criterion 2, the Eaton Wash Channel lacks a significant association with the productive life of any person important in local, state, or national history. The Eaton Wash Channel was developed as a flood control channel ca. 1894 and channelized between 1953 and 1964. Because the wash is essentially an undertaking of the Los Angeles County Flood Control Department, it represents the collective efforts of many individuals. Therefore, the channel lacks a significant association with any single individual whose work rose to the level of singular importance necessary for listing, and it is recommended not eligible under NRHP/CRHR Criterion B/2.

CRITERION C/3: DESIGN/CONSTRUCTION

Under NRHP Criterion C and CRHR Criterion 3, the subject segment of the Eaton Wash Channel is not distinctive in terms of a particular stormwater channel type, a period, or a method of construction. Research did not identify the engineer, architect, or builder of the channel, but it appears unlikely that it was the work of a master in engineering. The Eaton Wash Channel was channelized sometime between 1953 and 1964 using standard concrete paving, and it lacks innovation concerning its overall design, form, and function. The Eaton Wash Channel exemplifies common, standardized flood channel designs and construction methods characteristic of channels built during the mid-twentieth century and subsequently modernized throughout the twenty-first century. Additionally, research did not indicate that the Eaton Wash Channel represents an

important variation, evolution, or transition of flood channel development. Lacking sufficient design and construction value, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criterion C/3.

### CRITERION D/4: DATA POTENTIAL

Under NRHP Criterion D and CRHR Criterion 4, the Eaton Wash Channel is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. Therefore, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criterion D/4.

#### *City of Pasadena Landmark Criteria*

The Eaton Wash Channel also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

### CRITERION A: EVENTS

Under the City of Pasadena Landmark Criterion A, the Eaton Wash Channel is not associated with any events that have made a significant contribution to the broad patterns of the history of the City As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

### CRITERION B: SIGNIFICANT PERSONS

Under the City of Pasadena Landmark Criterion B, the Eaton Wash Channel is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

### CRITERION C: DESIGN/CONSTRUCTION

Under the City of Pasadena Landmark Criterion C, the Eaton Wash Channel is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of a standardized flood channel built during the mid-twentieth century, and therefore, is recommended not eligible under City of Pasadena Criterion C.

### CRITERION D: DATA POTENTIAL

Under the City of Pasadena Landmark Criterion D, the Eaton Wash Channel has not yielded, and is not likely to yield, information important locally in prehistory or history. As

discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Criterion D.

#### 8.1.3 Statement of Integrity and Conclusion

Because the Eaton Wash Channel lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

### 8.2 Map ID 2: Eaton Blanche Park

#### 8.2.1 Description

Eaton Blanche Park is located at 3100 E Del Mar Boulevard (APN 5754-031-901) and encompasses 5.5 acres on the west side of the Eaton Wash Channel and south side of Del Mar Boulevard. The park consists of a softball field developed ca. 1952, followed by the construction of two tennis courts, a softball field, a basketball court, picnic tables, open green space, a restroom, and two parking lots ca. 1960, when the park was established. Play structures were developed ca. 1992, and the bathroom was replaced in 2018. The park is accessed by an asphalt-paved parking lot on the south side of Del Mar Boulevard and an asphalt-paved parking lot on the north side of Millicent Way. Concrete walking paths lead from the parking lots to the sports courts, play structures, picnic area, and the restroom on the northern portion of the park (Photographs 5–7). The softball field on the southern portion of the park includes a grass lawn with a baseball diamond and outfield. A metal batting cage surrounds home plate of the baseball field on the southwest corner of the lawn (Photograph 8). According to historical aerial photographs, the park appears to remain primarily unaltered since 2018. Landscaping includes a variety of plants, shrubs, mature trees, and lawns.

**Photograph 5.** View of the sports courts and parking lot, looking northwest.



**Source:** Dudek, IMG_1095.

**Photograph 6.** View of the play structure, looking northeast.



**Source:** Dudek, IMG_1094.

**Photograph 7.** View of the picnic area, looking north.



**Source:** Dudek, IMG_1099.

**Photograph 8.** View of the softball field, looking southwest.



**Source:** Dudek, IMG_1104.

### 8.2.2 Statement of Significance

***NRHP/CRHR Criteria***

Eaton Blanche Park was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, Eaton Blanche Park is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

CRITERION A/1: EVENTS

Under NRHP Criterion A and CRHR Criterion 1, archival research did not find that Eaton Blanche Park possesses a direct and important association with any events or pattern of events significant in local, state, or national history. The subject property was constructed during the post-World War II expansion of the public parks system in Pasadena. This growth in parks was reflective of the local and state-wide population increase in the decades following World War II's conclusion in 1945. Numerous parks were developed and renovated during this period, with the first park, Jefferson Park, developed in 1945. Post-World War II growth was an important trend both regionally and in California; however, this property did not contribute in any significant way to this pattern of development. It is also not known to be directly associated with events that have made a significant contribution to the history of Pasadena, California, or the nation. It was neither the first nor the last park developed in the city, and was merely following a continuous pattern of increased park development in the post-war period, and did not directly influence development in the region. Research also did not identify a significant historical event that occurred on the property. Therefore, Eaton Blanche Park does not meet NRHP/CRHR Criterion A/1.

CRITERION B/2: SIGNIFICANT PERSONS

Under NRHP Criterion B and CRHR Criterion 2, Eaton Blanche Park lacks a significant association with the productive life of any person important in local, state, or national history. Research revealed that the park was developed and operated by the City of Pasadena Department of Public Parks and Buildings ca. 1960, during a period of park expansion throughout the city. Today, the subject property is one of several parks owned and operated by the City of Pasadena. Research did not identify any information indicating that individuals associated with the city government made a significant contribution to the management of Eaton Blanche Park would rise to the threshold of significance required for eligibility. Due to a lack of identified significant associations with any persons important in our past, Eaton Blanche Park is recommended not eligible under NRHP/CRHR Criterion B/2.

CRITERION C/3: DESIGN/CONSTRUCTION

Under NRHP Criterion C and CRHR Criterion 3, Eaton Blanche Park is not distinctive in terms of a particular park type, a period, or a method of construction. The subject property was developed as a public park ca. 1960 to provide green space to the growing local community. It has been renovated over the years, including the addition of

play structures ca. 1992, and the replacement of the bathroom in 2018. The park reflects a common park design that lacks innovation with regard to its overall design, form, and function. Additionally, research did not indicate that Eaton Blanche Park is associated with the work of a master architect or builder. As it is a common, purpose-built, property type and style, it is unlikely that it was the work of a master architect or builder. Eaton Blanche Park does not contribute to the significance of a potential or existing historic district. Overall, the property lacks sufficient design and construction value to meet NRHP/CRHR Criterion C/3.

### CRITERION D/4: DATA POTENTIAL

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, Eaton Blanche Park lacks significance under NRHP/CRHR Criterion D/4.

#### *City of Pasadena Landmark Criteria*

Eaton Blanche Park also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

### CRITERION A: EVENTS

Under the City of Pasadena Landmark Criterion A, Eaton Blanche Park is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

### CRITERION B: SIGNIFICANT PERSONS

Under the City of Pasadena Landmark Criterion B, Eaton Blanche Park is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

### CRITERION C: DESIGN/CONSTRUCTION

Under the City of Pasadena Landmark Criterion C, Eaton Blanche Park is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of a

park designed and renovated in the mid to late twentieth century, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

CRITERION D: DATA POTENTIAL

Under the City of Pasadena Landmark Criterion D, Eaton Blanche Park has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

#### 8.2.3 Statement of Integrity and Conclusion

Because Eaton Blanche Park lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

### 8.3 Map ID 3: Earthside Nature Center Site

#### 8.3.1 Description

The former Earthside Nature Center site on the rear of the property at 3160 East Del Mar Boulevard (APN 5754-030-901) contains two features related to the previous history of the site: a wood post entrance and a plaque. The wood post entrance on the north end of the site consists of a post and lintel structure with signage displaying "Earthside Nature Center" (Photograph 9). The plaque is affixed to a stone just beyond the entrance, and contains an inscription reading, "With Deep Appreciation Frances G. 'Terry' Lee Memorial Redwood Grove 1992" (Photograph 10). Chain-link fencing encases the property, and although many of the original plantings have been replaced by weeds and shrubs, some trees remain (Photograph 11). However, the plants appear in poor condition, and there is no formal landscaping present. The site is bordered by the Eaton Wash Channel to the west and south, Exer Urgent Care to the north, and a plant nursery to the east. Alterations include the demolition and removal of features formerly associated with the site, such as benches, tables, a kiosk, plaques, and sheds, and the removal of original plantings at unknown dates.

**Photograph 9.** The wood post entrance to the Earthside Nature Center site, looking southeast.




**Source:** Dudek, IMG_4126.

**Photograph 10.** View of the plaque at the Earthside Nature Center site, looking south.




**Source:** Dudek, IMG_4085.

**Photograph 11.** View of the Earthside Nature Center site, looking southeast.



**Source:** Dudek, IMG_4176.

### 8.3.2 Statement of Significance

***NRHP/CRHR Criteria***

The Earthside Nature Center site was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, the Earthside Nature Center site is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

CRITERION A/1: EVENTS

Under NRHP Criterion A and CRHR Criterion 1, the Earthside Nature Center site lacks a direct and important association with any event significant in local, state, or national history. The nature center was established on the property in 1971 as a community garden planted by volunteers. It was known for its variety of native plantings and offered tours as well as public events. In 1989, it was awarded the AHS's Award for Urban Beautification, however, it was abandoned in 1995 and left without maintenance since. Presently, only two features formerly associated with the site remain, and many of the original plantings have been overgrown with weeds. Although the Earthside Nature Center appears to have been an exceptional community garden within Pasadena from the 1970s to 1990s gaining national recognition in 1989, the site has not been maintained over the years and no longer retains sufficient integrity to reflect its history. The loss of the majority of original features on the property has altered its integrity of design, materials, workmanship, and feeling. Integrity of association is lost because the alterations and changes in use have rendered it unable to convey its historic character.

The two extant features, the wood post entrance and plaque, do not sufficiently reflect the history of the site to meet NRHP or CRHR Criterion A/1. As such, the Earthside Nature Center site does not possess associative significance under NRHP/CRHR Criterion A/1.

### *CRITERION B/2: SIGNIFICANT PERSONS*

Under NRHP Criterion B and CRHR Criterion 2, the Earthside Nature Center lacks a significant association with the productive life of any person important in local, state, or national history. Research indicates that SCE has owned the property since 1951, and it has been occupied by three organizations from ca. 1955 to 2025. The property was used by the Girls Club of Pasadena for club activities from ca. 1955 to 1971, when the Earthside Nature Center was established on the property by Elna Bakker and Kevin Connelly. Although Bakker was well known in her field as a naturalist, her career does not appear to be significantly associated with the subject property. She is best known as an author with several books about ecology, geology, and anthropology of California. Likewise, the majority of her achievements protecting public lands and habitats are associated with her activities as a member of the Sierra Club (LAT 1995: 20; Sierra Club 1995). Therefore, the subject property cannot be associated with Bakker's productive life. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criterion B/2.

### CRITERION C/3: DESIGN/CONSTRUCTION

Under NRHP Criterion C and CRHR Criterion 3, the Earthside Nature Center site does not fully embody the distinctive characteristics of a community garden from 1971. Due to substantial alterations, the site contains few remains of the original facility. Only the wood post entrance from 1971 and a plaque from 1992 are known to be original to the site. The remaining original trees appear to be in poor condition, and many of the original plantings have been replaced by weeds and shrubs. There is also no indication that any of these resources are the work of a master or possess high artistic value. Likewise, the resource is not part of a potential or existing historic district. As such, the Earthside Nature Center site lacks sufficient design and construction value to meet NRHP/CRHR Criterion C/3.

### CRITERION D/4: DATA POTENTIAL

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. The original site of the Earthside Nature Center has been significantly disturbed since 1971, when it was established. After its closure in 1995, the property was abandoned and became overgrown with weeds and shrubs. Likewise, many of the original features were removed at unknown dates. The site is unlikely to contain any data that would answer specific research questions due to disturbance and substantial alterations. As such, the subject property lacks significance under NRHP/CRHR D/4.

***City of Pasadena Landmark Criteria***

The Earthside Nature Center also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

CRITERION A: EVENTS

Under the City of Pasadena Landmark Criterion A, the Earthside Nature Center is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

CRITERION B: SIGNIFICANT PERSONS

Under the City of Pasadena Landmark Criterion B, the Earthside Nature Center is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

CRITERION C: DESIGN/CONSTRUCTION

Under the City of Pasadena Landmark Criterion C, the Earthside Nature Center is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property has been substantially altered and contains few remains of the original facility. Therefore, it is recommended not eligible under City of Pasadena Landmark Criterion C.

CRITERION D: DATA POTENTIAL

Under the City of Pasadena Landmark Criterion D, the Earthside Nature Center has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

### 8.3.3 Statement of Integrity and Conclusion

Because the Earthside Nature Center lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not

considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

### 8.4 Map ID 4: Exer Urgent Care

#### 8.4.1 Description

The property at 3160 East Del Mar Boulevard (APN 5754-030-901) contains an urgent care building surrounded by an asphalt-paved parking lot (Photograph 12). Access to the property is provided by two concrete driveways on the south side of Del Mar Boulevard. The urgent care building is irregular in plan and one-story in height. The building is clad with wood-clapboard siding and topped by a metal-batten cross-gable roof with overhanging closed eaves with exposed rafters. A covered main entrance beneath the extending roof overhang on the primary (north) elevation contains two sets of metal-frame fully glazed doors (Photograph 13). Secondary access is provided by metal doors on the northeast corner of the primary elevation and the west and east elevations (Photographs 14 and 15). Fenestration consists of grouped metal-sash awning windows with brise soleil. Only the primary elevation and partial views of the east and west elevations were visible during the property survey. A concrete masonry unit wall encases the northern boundary of the property, and metal-rail fencing surrounds the east, south, and west boundaries. Landscaping includes small plantings, trees, and shrubs. Alterations include the expansion of the building in 1961 and additions to the primary and rear (south) elevation of the building ca. 2018. Due to substantial alterations, the building no longer represents distinctive characteristics of an architectural style or period. It contains elements of Modern utilitarian design, including minimal exterior ornamentation, grouped metal-sash awning windows with brise soleil, a metal-batten cross-gable roof, wood-clapboard siding, and a concrete slab foundation.

**Photograph 12.** The east and primary (north) elevations of 3160 East Del Mar Boulevard, looking southwest.




**Source:** Dudek, IMG_1138.

**Photograph 13.** Primary (north) elevation of 3160 East Del Mar Boulevard, looking south.



**Source:** Dudek, IMG_1142.

**Photograph 14.** East elevation of 3160 East Del Mar Boulevard, looking southwest.



**Source:** Dudek, IMG_1140.

**Photograph 15.** The primary and west elevations of 3160 East Del Mar Boulevard, looking southeast.



**Source:** Dudek, IMG_1128.

### 8.4.2 Statement of Significance

***NRHP/CRHR Criteria***

3160 East Del Mar Boulevard was evaluated in consideration of the NRHP or CRHR criteria and integrity requirements. As a result of the evaluation, 3160 East Del Mar Boulevard is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

CRITERION A/1: EVENTS

Under NRHP Criterion A and CRHR Criterion 1, the building at 3160 East Del Mar Boulevard lacks a direct and important association with any event significant in local, state, or national history. The building at 3160 East Del Mar Boulevard was constructed by the City of Pasadena for the Girls Club of Pasadena ca. 1955 during the post-war population and development boom. It was occupied by the Girls Club of Pasadena from ca. 1955 to 2009, when it was converted to an urgent care center. While civic properties such as the subject property were developed in residential neighborhoods throughout Pasadena in the post-war period to accommodate the recreational needs of fast fast-growing city, there is no indication that the subject property is particularly significant within this pattern of development, either regionally or nationwide. Likewise, the building was heavily altered and converted to an urgent care center in 2009, and no longer bears an association with the Girls Club of Pasadena. As an urgent care center, the subject property is not the first or the last facility developed in Pasadena. The subject property represents the continuation of a decades-long period of civic development after the conclusion of World War II. However, mere association with a broad trend is insufficient to meet NRHP Criterion A or CRHR Criterion 1. The property must also have an important association with a historic trend or event. In the specific case of the building at 3160 East Del Mar Boulevard, it is not known to be directly associated with any events that have made a significant contribution to the history of Pasadena, California, or the nation. Therefore, the subject property is not eligible under NRHP/CRHR Criterion A/1.

CRITERION B/2: SIGNIFICANT PERSONS

Under NRHP Criterion B and CRHR Criterion 2, the residence at 3160 East Del Mar Boulevard lacks a significant association with the productive life of any person important in local, state, or national history. Research indicates that the City of Pasadena has owned the property from ca. 1955 to the present and that it has been occupied by three organizations in that time. The Girls Club of Pasadena occupied the property from ca. 1955 to 2009, the Pasadena Urgent Care Center from 2009 to ca. 2019, and Exer Urgent Care from ca. 2019 to the present. Research did not uncover information that indicated that these occupants made a significant contribution to history. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criterion B/2.

## CRITERION C/3: DESIGN/CONSTRUCTION

Under NRHP Criterion C and CRHR Criterion 3, the urgent care building at 3160 East Del Mar Boulevard is not significant because it does not represent an important example of a type, period, or method of construction. Research did not identify an architect or builder for the property, and it appears unlikely to be the work of a master architect or builder. Although the subject property lacks a formal discernible architectural style, it does reflect elements of Modern utilitarian design, including minimal exterior ornamentation, grouped metal-sash awning windows with brise soleil, a metal-batten cross-gable roof, wood-clapboard siding, and a concrete slab foundation. The subject property is a heavily altered example of a modest and undistinguished building converted to an urgent care center in 2009, which is a ubiquitous property type found throughout the region. The subject property appears to have been constructed using well-documented and common construction techniques and methods. Additionally, as a purpose-built building, it does not possess high artistic values and is not the product of an architect or builder attempting to articulate the design principles or aesthetics of a formal architectural style or substyle. The property is also not a rare example of its type; there are similar urgent care facilities from throughout the city, state, and nation. The last portion of NRHP Criterion C refers to a district, which is defined as a significant and distinguishable entity whose components may lack individual distinction. The subject property does not contribute to the significance of a potential or existing historic district. Overall, the subject property lacks sufficient design and construction value to meet NRHP/CRHR Criterion C/3.

## CRITERION D/4: DATA POTENTIAL

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP/CRHR Criterion D/4.

### *City of Pasadena Landmark Criteria*

The building at 3160 East Del Mar Boulevard also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

## CRITERION A: EVENTS

Under the City of Pasadena Landmark Criterion A, the building at 3160 East Del Mar Boulevard is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

CRITERION B: SIGNIFICANT PERSONS

Under the City of Pasadena Landmark Criterion B, the building at 3160 East Del Mar Boulevard is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

CRITERION C: DESIGN/CONSTRUCTION

Under the City of Pasadena Landmark Criterion C, the building at 3160 East Del Mar Boulevard is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a heavily altered example of a modest and undistinguished building, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

CRITERION D: DATA POTENTIAL

Under the City of Pasadena Landmark Criterion D, the building at 3160 East Del Mar Boulevard has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

#### 8.4.3 Statement of Integrity and Conclusion

Because the building at 3160 East Del Mar Boulevard lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

### 8.5 Map ID 5: SCE Mesa-Anita-Eaton Transmission Line

#### 8.5.1 Description

The SCE 220kV and 66kV Mesa-Anita-Eaton Transmission Lines and two transmission line towers in the APE were surveyed from the public right-of-way (Photograph 16). The two 40-foot-tall metal lattice-frame towers are topped with conductors and long cross arms with porcelain insulators that hold the transmission wires. The lines span approximately 370 feet on the east side of the Eaton Wash Channel (Photograph 17).

The lines, poles, and conductors have likely been replaced. Overall, these components currently appear to be in good condition.

**Photograph 16.** The SCE Mesa-Anita-Eaton Transmission Line, looking south.



**Source:** Dudek, IMG_1135.

**Photograph 17.** The SCE Mesa-Anita-Eaton Transmission Line along the Eaton Wash Channel, looking northeast.



**Source:** Dudek, IMG_1116.

### 8.5.2 Statement of Significance

***NRHP/CRHR Criteria***

The SCE Mesa-Anita-Eaton Transmission Line was previously recorded by Wendy L. Tinsley Becker at Urbana Preservation & Planning LLC in the report, *Southern California Edison Company's Tehachapi Renewable Transmission Project Historic Infrastructure Eligibility Evaluation – Mesa-Anita Eaton Transmission Line*, from 2010. As a result of the evaluation, Dudek agrees with the previous findings that the SCE Mesa-Anita-Eaton Transmission Line is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

CRITERION A/1: EVENTS

Under NRHP Criterion A and CRHR Criterion 1, the SCE Mesa-Anita-Eaton Transmission Line lacks a direct and important association with any event significant in local, state, or national history. The 66kV transmission line was installed in 1951 to distribute power from the SCE Mesa Substation, Anita Substation, and Eaton Substation during the post-war population and development boom. By 2005, the 220 kV transmission line was added. Both lines are outside of the 1912-1941 period that the SCE *Historic-Era Electrical Infrastructure Management Program* identified as a significant period in the development of transmission line systems designed to transmit electrical power within the 67 kV to 230 kV range. Although the transmission lines are representative of the development of electrical power infrastructure in post-war Pasadena, they are not associated with any event(s) or period(s) important in SCE or electrical engineering history. Therefore, the subject property is not eligible under NRHP/CRHR Criterion A/1.

CRITERION B/2: SIGNIFICANT PERSONS

Under NRHP Criterion B and CRHR Criterion 2, the SCE Mesa-Anita-Eaton Transmission Line lacks a significant association with the productive life of any person important in local, state, or national history. Archival research indicates that the transmission line system is associated with the SCE Company. Although the power company played an important role in the development of electrical infrastructure in Pasadena and Southern California, the transmission line segment represents the collective work of many individuals rather than the work of any single individual. Research did not uncover information that indicated that any individuals who made a singular and significant contribution to the development of electrical transmission line systems are associated with the line. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criterion B/2.

CRITERION C/3: DESIGN/CONSTRUCTION

Under NRHP Criterion C and CRHR Criterion 3, the SCE Mesa-Anita-Eaton Transmission Line is not significant because it does not represent an important example of a type, period, or method of construction. The transmission line is part of a linear transmission line system consisting of steel lattice towers, which are common support

structures for transmission lines in Pasadena, Los Angeles County, and California. According to the SCE *Historic-Era Electrical Infrastructure Management Program*, “By 1930 SCE developed the backbone of their 66 kV system, by 1940 the backbone of their 220 kV system and by 1970 their 500 kV system” (Tinsley 2017: 86). Therefore, the 1951 66 kV subject system is representative of ubiquitous infrastructure that exemplifies a standardized transmission system consisting of steel lattice towers, transmission lines, and hardware, and it lacks innovation regarding its overall design, form, and function. Additionally, research did not indicate that the transmission line is associated with the work of a master engineer or builder, nor did it reveal that the subject line segment represents an important variation, evolution, or transition of transmission line development because they fall outside the 1912 to 1941 period of significance that SCE identified for this voltage class of transmission lines. Overall, the subject property lacks sufficient design and construction value to meet NRHP/CRHR Criterion C/3.

## CRITERION D/4: DATA POTENTIAL

Under NRHP Criterion D and CRHR Criterion 4, the SCE Mesa-Anita-Eaton Transmission Line is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP/CRHR Criterion D/4.

### *City of Pasadena Landmark Criteria*

The building at SCE Mesa-Anita-Eaton Transmission Line also does not appear to meet any of the City of Pasadena’s historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

## CRITERION A: EVENTS

Under the City of Pasadena Landmark Criterion A, the SCE Mesa-Anita-Eaton Transmission Line is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

## CRITERION B: SIGNIFICANT PERSONS

Under the City of Pasadena Landmark Criterion B, the SCE Mesa-Anita-Eaton Transmission Line is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

CRITERION C: DESIGN/CONSTRUCTION

Under the City of Pasadena Landmark Criterion C, the SCE Mesa-Anita-Eaton Transmission Line is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of ubiquitous and undistinguished infrastructure, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

CRITERION D: DATA POTENTIAL

Under the City of Pasadena Landmark Criterion D, the SCE Mesa-Anita-Eaton Transmission Line has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

### 8.5.3 Statement of Integrity and Conclusion

Because the SCE Mesa-Anita-Eaton Transmission Line lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

## 9.0 CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Archaeological Resources

Dudek's cultural resources inventory of the APE for archaeological resources indicates that there is a moderate potential for the inadvertent discovery of archaeological resources during Project implementation. Dudek conducted a records search of the APE and surrounding 1-mile radius at the SCCIC. The records search identified 62 cultural resources within a 1-mile radius of the APE, the majority of which are characterized as historic-age built environment resources associated with the development of the City of Pasadena over the twentieth century.

A NAHC SLF search was also requested, and results were positive for Native American cultural resources within 1 mile of the APE, though the NAHC did not provide details on what the resource(s) are or where they are located. No archaeological resources were identified during the pedestrian survey, though the majority of the ground surface was obscured by plant debris and other materials. Additionally, Dudek's archival review indicates that the majority of the APE has been previously disturbed by the channelization of Eaton Wash, building development, demolition, and grading.

Given the former presence of the Earthside Nature Center within the APE and its location adjacent to the historic course of the Eaton Wash Channel, there is a moderate potential for the inadvertent discovery of subsurface archaeological resources during Project implementation. Compliance with measures outlined below would reduce potential impacts to unanticipated archaeological resources and human remains during project implementation.

**Cultural Resources Monitoring and Inadvertent Discovery Protocols.** It is recommended that an archaeological monitor be present during all initial ground-disturbing activities for the Project. Archaeological monitoring may be adjusted (increased, decreased, or discontinued) at the recommendation of the archaeological principal investigator, who meets the Secretary of the Interior's Professional Qualification Standards in archaeology, and based on the inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. The archaeological monitor shall be provided a copy of this technical report and its pertinent appendices to inform their monitoring efforts. The archaeological monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. The requirement for Tribal monitoring, while recommended, shall be determined by the lead agency in consultation with the traditionally culturally affiliated tribes with geographic ties to the Project area.

In the event that unanticipated archaeological deposits or features are exposed during construction activities, all construction work occurring within 50 feet of the find shall immediately stop until the archaeological principal investigator is provided access to the Project site and can assess the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR Section 15064.5[f]; PRC Section 21082) and Section 106 of the NHPA. If the archaeological principal investigator observes the discovery to be potentially significant under CEQA and/or the NHPA, additional efforts, such as the preparation of an archaeological treatment plan, testing, and/or data recovery, may be warranted prior to allowing construction to proceed in this area.

Daily monitoring logs shall be completed by the on-site archaeological monitor. Within 60 days following completion of construction, the archaeological principal investigator shall provide an archaeological monitoring report to the City. This report shall include the results of the cultural monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices shall include archaeological monitoring logs and documentation relating to any newly identified or updated cultural resources. This report shall be submitted to the SCCIC once considered final.

While recommended, the requirement to include a Native American Monitor should be determined by the City, having reviewed cultural resources technical findings, through government-to-government consultation with the traditionally culturally affiliated tribes with geographic ties to the Project site and in review of the present report findings.

**Human Remains.** In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the Los Angeles County Coroner (County Coroner) shall be immediately notified of the discovery. The County Coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made regarding if the find is human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, the Coroner shall notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the Most Likely Descendant from the deceased Native American. The Most Likely Descendant shall then recommend to the lead agency their preferred treatment of the remains and associated grave goods.

Based on the results of this investigation and the recommendations provided to ensure the proper identification and treatment of inadvertent discoveries during ground-disturbing activities, this study concludes that the Project, as currently designed, would result in a finding of **No Historic Properties Affected** under Section 106 of the NHPA and a less-than-significant impact with mitigation incorporated on cultural resources and human remains under CEQA.

### 9.2 Historic Architectural Resources

Dudek evaluated five historic-age properties in the APE and found that none are eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database due to a lack of significant associations and architectural merit due to a lack of historical significance and architectural merit. Therefore, no historic properties have been identified within the APE. As such, we recommend a finding of **No Historic Properties Affected**.

## 10.0 REFERENCES

AA (Abramson Architects). 2025a. “Cedars-Sinai Urgent Care | Award Winner.” Los Angeles: Abramson Architects. Accessed August 5, 2025. https://www.abramsonarchitects.com/work/cedars-sinai-urgent-care.

AA. 2025b. “Cedars-Sinai Los Feliz Urgent Care & OB/GYN | Award Winner.” Los Angeles: Abramson Architects. Accessed August 5, 2025. https://www.abramsonarchitects.com/work/cedars-sinai-los-feliz-urgent-care-ob-gyn#:~:text=Abramson%20Architects%20%7C%20Cedars%2DSinai%20Los,//%202022%20SCDF%20Design%20Award.

AHS (American Horticultural Society). 2025. “Great American Gardeners Awards History.” Alexandria, Virginia: American Horticultural Society. Accessed September 2025. https://ahsgardening.org/great-american-gardeners-awards-history/.

Applied EarthWorks Inc. 2009. *Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project*. On file at the South Central Coastal Information Center.

Ashby, G.E., and J.W. Winterbourne. 1966. “A Study of Primitive Man in Orange County and Some of its Coastal Areas.” *Pacific Coast Archaeological Society Quarterly* 2(1): 3-52.

Bancroft, H.H. 1884. *History of California.* San Francisco: A.L. Bancroft & Company.

Barber, M. 1985. “Dump Goes Back to Nature: A Treasure Trove of Flora in Pasadena.” *Los Angeles Times* (Los Angeles, CA). April 7, 1985. https://www.latimes.com/archives/la-xpm-1985-04-07-ga-27809-story.html.

Basgall, M.E., and M.C. Hall. 1990. “Adaptive Variation in the North-Central Mojave Desert.” Paper presented at the *55th Annual Meeting of the Society for American Archaeology, Las Vegas, Nevada*.

Basgall, M.E., L. Johnson, and M.J. Hale. 2002. *An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, L.J., and F.C. Shipek. 1978. “Luiseño.” In *Handbook of North American Indians: Volume 8, California*, edited by R.F. Hiezer, 550–563. Washington, DC: Smithsonian Institution Press.

Bean, L.J., and C.R. Smith. 1978. “Gabrielino.” In *Handbook of North American Indians*, *Volume 8, California,* edited by R.F. Heizer, 538–549. Washington, DC: Smithsonian Institution.

Becker, W. 2010. DPR Site Form P-19-190502. On file at the South Central Coastal Information Center.

Blackburn, T. 1963. *Ethnohistoric Descriptions of Gabrielino Material Culture*. Annual Report, Archaeological Survey. University of California, Los Angeles.

Boscana, G. 1846. “Chinigchinich; A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California.” In *Life in California*, by A. Robinson, 227–341. New York: Wiley & Putnam.

Brown, J. Jr., and J. Boyd. 1922. *History of San Bernardino and Riverside Counties.* Chicago: The Lewis Publishing Company.

Byrd, B.F., and S.N. Reddy. 2002. “Late Holocene Adaptations Along the Northern San Diego Coastline: New Perspectives on Old Paradigms.” In *Catalysts to Complexity: Late Holocene Societies of the California Coast,* edited by J.M.

Erlandson and T.L. Jones, 41–62. University of California, Los Angeles: Cotsen Institute of Archaeology.

CGS (California Geological Survey). 2002. California Geomorphic Provinces: Note 36. p. 4.

City of Pasadena. 2025a. “Heritage: A Short History of Pasadena.” City of Pasadena. Accessed July 17, 2025. https://www.cityofpasadena.net/about-pasadena/history-of-pasadena/.

City of Pasadena. 2025b. “Eaton Blanche Park.” City of Pasadena. Accessed July 24, 2025. https://www.cityofpasadena.net/parks-and-rec/parks/eaton-blanche-park/.

City of Pasadena. 2025c. *Pasadena Municipal Code: A Codification of the General Ordinances of Pasadena, California*. Pasadena, California. September 8, 2025. https://library.municode.com/ca/pasadena/codes/code_of_ordinances?nodeId=TIT17ZOCO_ART6LAUSDEPEPR_CH17.62HIPR_17.62.040CRDEHIRE.

Cleland, J.H., A.L. York, and L.M. Willey. 2007. *Piecing Together the Prehistory of Landing Hill: A Place Remembered*. EDAW Cultural Publications No. 3. EDAW Inc., San Diego.

Coppess, M. 2008. “Secret Garden.” *East of Allen*. December 13, 2008. https://eastofallen.com/2008/12/13/secret-garden/.

Coppess, M. 2025. “A New Chapter in the Earthside Story.” *East of Allen*. July 18, 2025. https://eastofallen.com/2025/07/18/a-new-chapter-in-the-earthside-story/.

Data USA. 2025. “Pasadena, CA.” Data USA. Accessed July 17, 2025. https://datausa.io/profile/geo/pasadena-ca/#economy.

Davis, E.L. 1978. *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Natural History Museum of Los Angeles County Science Series No. 29.

Dumke, G.S. 1944. *The Boom of the Eighties in Southern California.* San Marino, California: Huntington Library Publications.

DWR (California Department of Water Resources). 2023. *Dams Within Jurisdiction of the State of California*. Accessed March 2025. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/DAMS-WITHIN-JURISDICTION-OF-THE-STATE-OF-CALIFORNIA-LISTED-ALPHABETICALLY-BY-COUNTY-SEPTEMBER-2023.pdf.

ECNCA (Eaton Canyon Nature Center Association). 2025. “Easton Canyon History.” Pasadena, California: Eaton Canyon Nature Center Association. Accessed July 21, 2025. https://www.ecnca.org/history-of-eaton-canyon/.

EI (Edison International). 2023. “Our History”. Edison International. Accessed December 14, 2023.

Gallegos, D.R., ed. 1987. *San Dieguito-La Jolla: Chronology and Controversy*. San Diego County Archaeological Society, Research Paper No. 1.

Golla, V. 2007. “Linguistic Prehistory.” In *California Prehistory: Colonization, Culture, and Complexity*, edited by T.L. Jones and K.A. Klar, 71–82. New York: Altamira Press.

Gilmore, R., L. Golden, H.C. Tsang, and J. Vandenburgh. 2009. *Earthside Nature Center Green Vision*. Prepared for the California State Polytechnic University, Pomona. 2009. Accessed July 24, 2025.

Google Earth. 2025. Google Earth, desktop application; centered on the review area. Accessed March 2025. https://www.google.com/earth/.

Grenda, D.R. 1997. “Site Structure, Settlement Systems, and Social Organization at Lake Elsinore, California.” PhD dissertation; University of Arizona, Tucson.

Griset, S. 1996. “Southern California Brown Ware.” PhD dissertation; University of California, Riverside.

Hale, M.J. 2001. “Technological Organization of the Millingstone Pattern in Southern California.” Master’s thesis; California State University, Sacramento.

Hale, M.J. 2009. “Santa Barbara and San Diego: Contrasting Adaptive Strategies on the Southern California Coast.” PhD dissertation; University of California, Davis.

Harrington, J.P. 1934. “A New Original Version of Boscana’s Historical Account of the San Juan Capistrano Indians of Southern California.” *Smithsonian Miscellaneous Collections* 92(4). Washington, DC.

Harrington, J.P. 1942. “Culture Element Distributions: XIX, Central California Coast.” *Anthropological Records* 7:1. Berkeley: University of California Press.

Hector, S.M. 2006. *Cultural Resources Study for the Maintenance of Old Mission Dam, Mission Trails Regional Park, San Diego, California*. Prepared for the City of San Diego.

Heizer, R.F. 1978. “Introduction.” In *Handbook of North American Indians, Volume 8, California,* edited by R.F. Heizer, 1–6. Washington, DC: Smithsonian Institution.

Heizer, R.F., and K.M. Nissen. 1973. *The Human Sources of California Ethnography*. Berkeley: University of California, Berkeley Archaeological Research Facility.

HH (Huntington Hospital). 2006. “Urgent Care Center Assessment.” Pasadena, California: HH. May 5, 2006. https://ww2.cityofpasadena.net/2008%

20agendas/Sep_08_08/11A%20URGENT%20CARE%20CENTER%20ASSESSMENT.pdf.

HRG (Historic Resources Group) and Teresa Grimes Historic Preservation. 2025. *City of Pasadena Public Review Draft Historic Statement*. Prepared for the City of Pasadena Planning and Community Development Department of the Planning Division. Pasadena, California: HRG. April 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Pasadena-Historic-Context-Statement-All-Chapters-April-2025.pdf?v=1752790006363.

Johnson, J.R., and J.G. Lorenz. 2006. "Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages." *Journal of California and Great Basin Anthropology* 26:33–64.

Johnston, B.E. 1962. *California's Gabrielino Indians*. Los Angeles: Frederick Webb Hodge Anniversary Publication Fund 8, Southwest Museum.

King, C.D. 2000. *Native American Indian Cultural Sites in the Santa Monica Mountains*. Report prepared for the Santa Monica Mountains and Seashore Foundation (Cooperative Agreement No. 8540-94-003), National Park Service West Region, Santa Monica Mountains National Recreation Area. Topanga, California: Topanga Anthropological Consultants.

Kroeber, A.J. 1925. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. New York: Dover Publications Inc.

LAT (Los Angeles Times). 1959. "Pasadena Girls Club to Fete Anniversary." Newspapers.com: *Los Angeles Times,* Los Angeles, California, May 10, 1959. Page 238. Newspapers.com.

LAT. 1961a. "Cities May Run Out of Room for Outdoor Play in Future." Newspapers.com: *Los Angeles Times,* Los Angeles, California, March 12, 1961. Page 1. Newspapers.com.

LAT. 1961b. "Two Honored for Aid Given to Girls' Club." Newspapers.com: *Los Angeles Times,* Los Angeles, California, April 9, 1961. Page 349. Newspapers.com.

LAT. 1964. "Girls' Club Will Offer 5 Classes." Newspapers.com: *Los Angeles Times,* Los Angeles, California, September 11, 1964. Page 13. Newspapers.com.

LAT. 1968. "Recreation Urged Along Eaton Wash." Newspapers.com: *Los Angeles Times,* Los Angeles, California, March 1, 1968. Page 108. Newspapers.com.

LAT. 1970. "Girls' Club Sets Signup." Newspapers.com: *Los Angeles Times,* Los Angeles, California, June 21, 1970. Page 473. Newspapers.com.

LAT. 1980. "Legislation Workshop." Newspapers.com: *Los Angeles Times,* Los Angeles, California, May 25, 1980. Page 514. Newspapers.com.

LAT. 1987. “Earthside Nature Center Offers Annual Wildflower Walkabouts.” Newspapers.com: *Los Angeles Times,* Los Angeles, California, April 11, 1987. Page 76. Newspapers.com.

LAT. 1990. “Girls’ Club of Pasadena Provides Day Care.” Newspapers.com: *Los Angeles Times,* Los Angeles, California, May 23, 1990. Page 212. Newspapers.com.

LAT. 1995. “Elna Bakker; Author and Environmentalist.” Newspapers.com: *Los Angeles Times,* Los Angeles, California, July 8, 1995. Page 20. Newspapers.com.

Laylander, D. 2000. *Early Ethnography of the Californias, 1533–1825*. Salinas: Coyote Press Archives of California Prehistory.

Lightfoot, K.G. 2005. Indians, Missionaries, and Merchants: The Legacy of Colonial Encounters on the California Frontiers. Berkeley: University of California Press.

Manley, M. 2013. “How to Successfully Build Out an Urgent Care Center.” *Journal of Urgent Care Medicine,* Carefree, Arizona, June 1, 2013. https://www.jucm.com/how-to-successfully-build-out-an-urgent-care-center/.

McCawley, W. 1996. *The First Angelinos, the Gabrielino Indians of Los Angeles*. Banning, California: Malki Museum Press.

NEA (Northwest Economic Associates) and C. King. 2004. *Ethnographic Overview of the Angeles National Forest: Tataviam and San Gabriel Mountain Serrano Ethnohistory*. Prepared for the U.S. Department of Agriculture.

NETR (Nationwide Environmental Title Research). 2025a. Historical Aerial Photographs of the City of Pasadena, CA dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

NETR. 2025b. Historical Topographic Maps dating from 1894, 1896, 1898, 1900, 1904, 1907, 1908, 1910, 1913, 1915, 1920, 1927, 1928, 1931, 1940, 1941, 1955, 1960, 1968, 1975, 1988, 1994, 1999, 2012, 2015, 2018, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

NVE (Nevada Energy). 2017. “Fort Churchill Generating Station.” Revised May 2017. Accessed January 2025. https://www.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/about-nvenergy/ our-company/power-supply/Fort_Churchill_Fact_Sheet.pdf.

Norris, R.M., and R.W. Webb. 1990. *Geology of California.* 2nd Edition. New York: John Wiley & Sons.

O'Connor, P. 1993. *Architectural/Historical Development of the City of Pasadena – Historic Context/Property Type Report*. Submitted to the California State Office of Historic Preservation. Urban Conservation Section of the City of Pasadena Planning Division. January 13, 1993.

O'Neil, S. 2002. "The Acjachemen in the Franciscan Mission System: Demographic Collapse and Social Change." Master's thesis; California State University, Fullerton.

Pacific Legacy Inc. 2007. *Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California, ARR #05-01-01046*. On file at the South Central Coastal Information Center.

ParcelQuest. 2025. Assessor data for the subject property ay APN 5754-030-901 in Los Angeles County. Accessed August 6, 2025. https://pqweb.parcelquest.com/#home.

PDES (Pasadena Daily Evening Star). 1894. "City News." Newspapers.com: *Pasadena Daily Evening Star,* Pasadena, California, January 20, 1894. Page 3. Newspapers.com.

PI (Pasadena Independent). 1952. "L.A. County Unleashed $139,000 Flood Control Project for Valley." Newspapers.com: *Pasadena Independent,* Pasadena, California, July 27, 1952. Page 4. Newspapers.com.

PI. 1954. "$30 Million Sought for Flood Work." Newspapers.com: *Pasadena Independent,* Pasadena, California, June 23, 1954. Page 31. Newspapers.com.

PP (Pasadena Post). 1943. "$3,462,000 Postwar Flood Control Work Planned." Newspapers.com: *Pasadena Post,* Pasadena, California, November 13, 1943. Page 5. Newspapers.com.

PS (Pasadena Star). 1911. "Mar Vista Street Extension is Asked." Newspapers.com: *Pasadena Star,* Pasadena, California, November 4, 1911. Page 14. Newspapers.com.

PS. 1914. "Make Repairs on Eaton Wash." Newspapers.com: *Pasadena Star,* Pasadena, California, February 6, 1914. Page 9. Newspapers.com.

PS. 1915. "National Bank is Plan for Park." Newspapers.com: *Pasadena Star,* Pasadena, California, July 26, 1915. Page 6. Newspapers.com.

PSN (Pasadena Star News). 1925a. "Co-Operate on Walnut Tunnel." Newspapers.com: *Pasadena Star News,* Pasadena, California, May 8, 1925. Page 1. Newspapers.com.

PSN. 1925b. "George A. Damon One of Speakers." Newspapers.com: *Pasadena Star News,* Pasadena, California, May 13, 1925. Page 10. Newspapers.com.

PSN. 1938. “Signers Now May Solicit Engineers.” Newspapers.com: *Pasadena Star News,* Pasadena, California, July 29, 1938. Page 13. Newspapers.com.

PSN. 1939. “Rubio Canyon Flood Diversion Included in Engineers’ Report.” Newspapers.com: *Pasadena Star News,* Pasadena, California, November 28, 1939. Page 10. Newspapers.com.

PSN. 1940. “Eaton Wash Job’s Approval Likely.” Newspapers.com: *Pasadena Star News,* Pasadena, California, March 26, 1940. Page 13. Newspapers.com.

Reid, H. 1926. *The Indians of Los Angeles County*. Los Angeles: Privately printed.

Rogers, M.J. 1945. “An Outline of Yuman Prehistory.” *Southwestern Journal of Anthropology* 1(2): 167–198.

Sierra Club. 1995. *California Author’s Legacy to Club*. Oakland, California: Sierra Club. 1995. https://vault.sierraclub.org/planet/199509/bakker.asp.

SCE (Southern California Edison). 2023. “Who We Are.” Southern California Edison Company. Accessed December 14, 2025.

Sparkman, P. 1908. “The Culture of the Luiseño Indians.” *University of California Publications in American Archaeology and Ethnology* 8:187–234.

Tinsley-Becker, W., and C. Chiang. 2015. “HAER CA-2318: Historic American Engineering Record of Southern California Edison Company Substations, Monumental Type.” Prepared by Urbana Preservation and Planning for Southern California Edison Company (Los Angeles County, CA). chrome-extension ://efaidnbmnnnibpcajpcglclefindmkaj/https://memory.loc.gov/master/pnp/habshaer/ca/ca4200/ ca4201/data/ca4201data.pdf.

Tinsley-Becker, W. 2017. “Historic-Era Electrical Infrastructure Management Program: A Program for the Identification, Review, Exemption, and Treatment of Generating Facilities, Transmission Lines, Sub transmission Lines, Distribution Lines, and Substations within the Southern California Edison Company’s Service Territory.” Prepared by Urbana Preservation for the Southern California Edison Company. Revised 2017.

Trilliant Health. 2024. “The Marked Shift in Urgent Care Utilization: Two Years Later.” Brentwood, Tennessee: Trilliant Health. May 12, 2024. https://www.trillianthealth.com/market-research/studies/the-marked-shift-in-urgent-care-utilization-two-years-later.

USDA (U.S. Department of Agriculture). 2025. Web Soil Survey. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed August 8, 2025. http://websoilsurvey.nrcs.usda.gov.

USGS (U.S. Geological Survey). 2025. National Hydrography Dataset and Watershed Boundary Dataset. Accessed March 2025. https://www.usgs.gov/national-hydrography.

Wallace, W.J. 1955. “A Suggested Chronology for Southern California Coastal Archaeology.” *Southwestern Journal of Anthropology* 11(3): 214–230.

Warren, C.N. 1968. “Cultural Tradition and Ecological Adaptation on the Southern California Coast.” *Eastern New Mexico University Contributions in Anthropology* 1(3): 1–15.

Warren, C.N., G. Siegler, and F. Dittmer. 2004. “Paleoindian and Early Archaic Periods.” Submitted to *Prehistoric and Historic Archaeology of Metropolitan San Diego: An Historic Properties Background Study*. Prepared for Metropolitan Wastewater Department, San Diego, California. Prepared by ASM Affiliates Inc. Carlsbad, California: ASM Affiliates Inc.

White, R. 1963. “Luiseño Social Organization.” *University of California Publications in American Archaeology and Ethnology* 48:91–194.

# Appendix A: Personnel Qualifications

# Monte Kim, PhD

**SENIOR ARCHITECTURAL HISTORIAN**

Monte Kim (*he/him*) is a senior architectural historian and historic built environment resource specialist with over 20 years of professional experience in all phases of regulatory compliance under Section 106 and Section 110 of the National Historic Preservation Act (NHPA), Section 4(f) of the Department of Transportation Act, National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA). He has experience in the inventory and evaluation of resources within the historic built environment, as well as the assessment of effects on historic properties and historical resources and has authored or co-authored nominations for the National Register of Historic Places (NRHP) and has overseen the documentation of historic properties in accordance with the standards required for the Historic American Building Survey (HABS), the Historic American Engineering Record (HAER), and the Historic American Landscape Survey (HALS). He has also developed and implemented resource-specific mitigation measures, treatment plans, protection plans, and interpretive plans for large, transportation-related projects, including the California High-Speed Rail Project. Additionally, he has experience consulting with State Historic Preservation Officers and developing programmatic agreements and memorandum of agreement documents for government agencies. Mr. Kim meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.



### *Education*

*University of California, Santa Barbara PhD, History, 2005*

*California State University, Sacramento MA, Public History, 1999*

*University of California, Santa Cruz BA, History, 1996*

### *Professional Affiliations*

*California Preservation Foundation*

*Vernacular Architecture Forum*

*Transportation Research Board*

### *Employment History*

*Dudek (2023-Present)*

*WSP/CA High-Speed Rail Authority (2015-2023)*

*ICF International 2015-2022)*

## Relevant Project Experience

**California Department of Fish and Wildlife Mission Creek Habitat Restoration Project, Santa Barbara County, California.** The California Department of Fish and Wildlife (CDFW) retained Dudek to provide a peer review of a mitigated negative declaration (MND) and the supporting cultural resources technical studies for the Mission Creek Habitat Restoration Project. The reports were prepared for Southern California Edison for a project that involved restoration treatments on a 2.88-acre site and the evaluation of historic built resources within the area of potential impacts in conformance with the regulatory requirements of the California Environmental Quality Act. Mr. Kim reviewed the MND and supporting technical studies and found them to be adequate for compliance under CEQA (2023).

**Area of Potential Effects Justification & Preliminary Effects Assessment Memorandum for the San Luis Rey Habitat Management Area Wetland Restoration Project, San Diego County, California.** Dudek assisted the San Diego County Water Authority (SDCWA) as part of an on-call contract to address comments from the U.S. Army Corps of Engineers (Corps) regarding potential impacts from the San Luis Rey Habitat Management Area Wetlands Restoration Project on a segment of the Second San Diego Aqueduct within the project's area of potential effects (APE). The memorandum recommended that SCDWA consider the aqueduct segment within the APE eligible for the National

Register of Historic Places (NRHP) for the purposes of the undertaking only and that a finding of no historic properties affected under 36 CFR § 800.4(d)(1) would be appropriate because the resource would be avoided and protected through measures implemented by the project. Mr. Kim authored the justification for the APE and the Section 106 preliminary effects analysis using the criteria of adverse effect (36 CFR § 800.5) (2023).

**Section 106 Area of Potential Effects Justification for the Brightline West Vehicle Maintenance Facility at Sloan, NV.** Dudek was retained by the project proponent to prepare an area of potential effects (APE) boundary justification memorandum for the Brightline West High-Speed Rail Project's vehicle maintenance facility at Sloan, NV. Because of the area's relatively undeveloped desert landscape and the concern for potential visual impacts on historic properties, the APE was expanded to a one-mile radius around the project site. The APE delineation also considered potential project-related effects from vibratory, auditory, and atmospheric effects on historic properties. The lead federal agency for the undertaking is the Federal Railroad Administration, which approved the APE memorandum and transmitted it to the NV SHPO for concurrence. Mr. Kim was the author of the memorandum (2024).

**Cultural Resources Inventory and Evaluation Report for the Huntington Library Scholar's Grove Housing Project, San Marino, California.** Dudek was retained by Greystar to prepare a cultural resources inventory and evaluation report for a project that involved the construction of 33 residential units, a central clubhouse with supportive recreational areas, and surface parking near the north entrance of the Huntington Library property in San Marino. The report also analyzed the project's potential impacts under CEQA on five landscape features that contribute to the significance of the Huntington Library Historic District, which was listed in the NRHP in 1977. Mr. Kim was the lead built environment author and drafted the CEQA impacts analysis section of the report (2024).

**On-Call Services for Department of Water Resources, Operations and Maintenance Division, State of California.** Dudek was retained by the State of California's Department of Water Resources (DWR), Operations and Maintenance Division (O&M), to assist in a wide range of on-going environmental compliance efforts. Under this on-call contract, Mr. Kim provides senior level guidance and reviews of the built environment evaluations and technical reports prepared under the current task orders (2023–Ongoing).

**The Riverview Development Project, Santa Clarita, Los Angeles County, California.** Dudek architectural historians conducted the fieldwork and authored a Built Environment Inventory and Evaluation Report (BEIER) for the Riverview Development Project. The project proposed to construct a mixed-use development consisting of 318 single-family units and 69,692 square feet of commercial space on a 35.4-acre site that was used for a rodeo and auto race track. The BEIER found that none of the extant buildings and structures within the study area were eligible for the NRHP, the California Register of Historical Resources (CRHR), or local designation in the city of Santa Clarita. The property was also evaluated in accordance with 14 Cal. Code of Regulations (CCR) § 15064.5(a)(2-3) using the criteria outlined in Public Resource Code (PRC) § 5024.1 and determined that none of the resources in the study area were historical resources for the purposes of CEQA. Mr. Kim provided quality assurance/quality control for this project. (2023).

## Previous Project Experience

**California High-Speed Rail Project Environmental Impact Report/Environmental Impact Statements.** Mr. Kim served as a lead planner for the California High-Speed Rail Authority (CHSRA) and was responsible for reviewing the cultural resources, parks and recreation, and Section 4(f) EIR/EIS chapters for six of the eight regional sections of the California High-Speed Rail Project. Additionally, he reviewed the supporting cultural resources technical reports (inventory, evaluation, and finding of effect reports), built environment treatment plans, as well as contributed to the drafting of four memorandum of agreement documents between the CHSRA, California SHPO, and the Surface Transportation Board, provided technical guidance to the Authority's regional consultants, and consulted with the SHPO to obtain Section 106 and Section 4(f) concurrences (2015-2022)

# Katie Ahmanson, MHC

**HISTORIC PRESERVATION/SECTION 106 | BUILT ENVIRONMENT**



Katie Ahmanson (*KAY-tee AH-mun-son; she/her*) is an architectural historian with 5 years' experience in the field of architectural history and heritage conservation. She has experience with Historic-Cultural Monument nominations; citywide historic contexts; historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local designation criteria; California Department of Parks and Recreation (DPR) 523 forms; and Nevada Architectural Resource Assessment forms. Katie has worked with environmental compliance documentation in support of projects that fall under the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA).

***Education***

*University of Southern California School of Architecture*
*MA, Heritage Conservation, 2022*

*Claremont McKenna College*
*BA, Art History, 2019*

## Relevant Project Experience

### Development and Planning

**Evolve Student Housing Project, San Diego State University, San Diego, California.** The project involves the construction of new student housing, dining, and auxiliary uses to the university's main campus. The project requires the demolition of 13 apartment buildings that are more than 45 years of age and is subject to CEQA and California PRC 5024 and 5024.5. The buildings required inventory and evaluation to determine if they were historical resources and if they should be placed on the State's Master List. Served as the architectural historian Ms. Ahmanson coauthored the report, surveyed the property, wrote significance evaluations and building descriptions, and completed archival research. (2024–2025)

**Carson Townhomes Built Project, City of Carson, California.** Dudek was retained by the City of Carson to complete a Built Environment Inventory and Evaluation Report (BEIER) for the proposed Carson Townhomes Project, which proposed the demolition of three historic-era residences prior to the construction of 34, three-story townhome units. The purpose of the report is to determine if the project would impact any historical resources pursuant to CEQA. As an architectural historian, Katie wrote building descriptions and completed archival research for the report. (2024)

**14125 Goldenwest Apartments BEIER, Orange County Housing and Community Development Department, Westminster, California.** Dudek was retained by the Orange County Housing and Community Development Department to complete a BEIER for the 14125 Goldenwest Apartments Project, which proposed demolishing a commercial building for the construction of a 29-unit residential community for families experiencing homelessness. The purpose of the report is to determine if the project would impact any historical resources pursuant to CEQA and Section 106 of the NHPA. As an architectural historian, Katie coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

**15081 Jackson Street Built Environment Inventory and Evaluation Report, Orange County Department of Housing and Community Development, Midway City, Unincorporated Orange County, California.** Dudek was retained by the Orange County Department of Housing and Community Development to complete BEIER for the 15081 Jackson Street Project, which proposed the development of new housing with funding from the Department of Housing and Urban Development. The purpose of the report is to determine if the project would impact any historical resources pursuant to CEQA and Section 106 of the NHPA. As an architectural historian, Katie coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

**La Paz Village Senior Housing Project, City of Laguna Hills, Laguna Hills, California.** Dudek was retained by the City of Laguna to complete a BEIER for the La Paz Village Senior Housing Project, which proposed to demolish the buildings on the project site for the construction of a five-story, 180-unit, senior housing building. The purpose of the report is to determine if the project would impact any historical resources pursuant to CEQA. As an architectural historian, Katie coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

**Altrudy II Senior Apartments Project, Orange County Housing and Community Development, Yorba Linda, California.** The project involves the demolition of the existing residences on the project site and construction and operation of a 71-unit senior affordable housing community. The project is subject to Section 106 of the NHPA and NEPA. Dudek was retained by the Orange County Housing and Community Development Department to evaluate the resources and prepare a technical report to be used for consultation with the State Historic Preservation Officer (SHPO). As the senior architectural historian,, Katie coauthored the report, surveyed the property, wrote significance evaluations and building descriptions, and completed archival research. (2024)

**Tampico Motel Affordable Housing Project, City of Anaheim Department of Housing and Community Development, Anaheim, California.** Dudek was retained by the City of Anaheim Department of Housing and Community Development to complete a BEIER for the proposed Tampico Motel Affordable Housing Project, which proposed the rehabilitation and conversion of the Tampico Motel to 30 units of affordable housing. The purpose of the report is to determine if the project would impact any historical resources pursuant to CEQA. As an architectural historian, Katie coauthored the report, surveyed the property, wrote building descriptions, and completed archival research. (2024)

**South Bay Area Plan Project Historic Context Statement, County of Los Angeles Department of Regional Planning, Unincorporated Los Angeles County, California.** Dudek was retained by the County of Los Angeles Department of Regional Planning to prepare a Historic Context Statement (HCS) for the South Bay Area Plan (SBAP) Project. The HCS is one component of the larger SBAP project that addresses the following seven unincorporated communities of the County: Alondra Park/El Camino Village, Del Aire/Wiseburn, Hawthorne Island, La Rambla, Lennox, West Carson, and Westfield/Academy Hills (SBAP communities). Collectively, these SBAP communities reside within the South Bay Planning Area, which is one of the 11 Planning Areas identified in the County General Plan. The purpose of the HCS is to inform and enhance the larger SBAP Project as it relates to historical resources within the SBAP communities, including the preparation of goals, policies, and implementation programs. As an architectural historian, Katie surveyed the area and completed archival research for the report. (2023)

# Roshanne S. Bakhtiary, MA

**ARCHAEOLOGIST**

*Education*

*University of California, Davis, PhD, Evolutionary Anthropology, In Progress*

*MA, Evolutionary Anthropology, 2016*

*California Polytechnic State University, San Luis Obispo, BS, Anthropology and Geography, 2013*

Roshanne Bakhtiary (*she/her*) is an archaeologist with 13 years' professional experience in cultural resources management, archaeological research, and regulatory compliance in California and the Great Basin. She also has extensive knowledge in hunter-gatherer archaeology, Mission period archaeology, and California prehistory and ethnography. Previously, Roshanne has held positions as an archaeologist, osteologist, cultural training lead, project manager, and principal investigator for various projects throughout California. In these roles, she has co-authored technical reports, led fieldwork operations, produced geographic information system (GIS) based analyses, facilitated Native American coordination and outreach, conducted records searches, managed National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliance projects, and evaluated archaeological resources for the National Register of Historic Places under Section 106 of the National Historic Preservation Act (NHPA) and the California Register of Historical Resources (CRHR) under CEQA. She also excels in communicating and consulting with various private sector clients and public agencies, negotiating budgets for projects, implementing technology-based fieldwork solutions, managing laboratory operations, conducting artifact analysis, and preparing archaeological collections for curation.

## Previous Project Experience

### Professional

**Los Angeles Area River Improvements Project, City of Cudahy, Los Angeles County, California.** Ms. Bakhtiary served as a principal cultural resources investigator for a City of Cudahy parks and recreation project that required compliance under the United States Army Corps of Engineers (USACE) guidelines and Section 106 of the NHPA. She coordinated the records search, NAHC outreach efforts, cultural resources pedestrian survey, the preparation of the technical report, and provided management and compliance recommendations relating to cultural resources. Considerations included compliance under CEQA and Section 106 of the NHPA. (2025-present)

**Prairie Song Reliability Project, Private Developer, Acton, California.** As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological surveys, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for a battery energy storage project located in unincorporated Los Angeles County, California. As part of this effort, she evaluated 11 historic-era archaeological resources for inclusion in the NRHP and CRHR. Considerations included compliance under CEQA and the Assembly Bill (AB) 205. (2024-present)

**Twenty-Three Los Angeles County Parks Project, County of Los Angeles, Los Angeles County, California.** As principal archaeological investigator, Ms. Bakhtiary coordinated the records searches, the preparation of the archaeological resources constraints analyses, and provided management and compliance recommendations relating to archaeological resources for 23 Los Angeles County public parks located in Los Angeles County, California. Considerations included compliance under CEQA. (2024-present)

**Port of Los Angeles Electrification Project, Los Angeles Department of Water and Power, Los Angeles, California.** As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, archaeological resources

pedestrian survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for a utilities infrastructure project located in the City of Los Angeles, California. (2024-present)

**State Water Project, California Department of Water Resources, Los Angeles and Riverside Counties, California.** Ms. Bakhtiary served as the cultural lead on the South Central Coastal Information Center and Eastern Information Center records search collation and digitization efforts in support of the California Department of Water Resources (DWR) State Water Project (SWP). She led a team of archaeologists and GIS analysts through a series of data entry and digitization tasks that aided in the development of a state-wide buried site sensitivity model to assist DWR in their cultural resources management strategies in support of the SWP. (2024-present)

**Cal Poly Pomona Master Plan Update Project, Cal Poly Pomona, Pomona, California.** As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for a master plan update located in Pomona, California. She also assisted in and the Native American consultation efforts pursuant to AB 52 and the preparation of the Cultural and TCR CEQA document sections. Considerations included compliance under CEQA. (2024-2025)

**Adelanto-Rinaldi Line 1 Upgrade Project, Los Angeles Department of Water and Power, Los Angeles County, California.** As principal cultural resources investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for a utilities infrastructure upgrade project located in Los Angeles County, California. She also assisted in the preparation of the Cultural and TCR CEQA document sections for the project. Considerations included compliance under CEQA. (2024)

**The Huntington Library Scholar's Grove Housing Project, The Huntington Library, San Marino, California.** As principal investigator, Ms. Bakhtiary coordinated the records search, cultural resources pedestrian survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological and built environment resources for the Scholar's Grove Housing Project. As part of this effort, she evaluated five historic-era built environment resources for inclusion in the NRHP and CRHR. Considerations included compliance under CEQA and the City of San Marino's rules and regulations outlined for the Huntington Library. (2024)

**U.S. Department of Housing and Urban Development Projects, Couty of Orange, Orange County, California.** Ms. Bakhtiary served as a principal archaeological investigator for 7 County of Orange U.S. Department of Housing and Urban Development projects throughout Orange County. She coordinated the records searches, the preparation of technical reports, managed California State Historic Preservation Officer concurrence and communication efforts and provided management and compliance recommendations relating to archaeological resources. Considerations included compliance under CEQA and Section 106 of the NHPA. (2023-present)

**On-Call Program, Southern California Edison, Los Angeles, California.** Served as a cultural lead for Southern California Edison's (SCE's) Non-Master Special Use Permit (MSUP) Public Lands infrastructure replacement projects throughout Southern California including on lands administered by the Bureau of Land Management (BLM), California Department of Parks and Recreation, Bureau of Indian Affairs, Bureau of Reclamation (BOR), California Department of Water Resources, U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife, and National Parks Service. Was responsible for completing archaeological desktop reviews, coordinating with public agencies, applying for permits, conducting site surveys, documenting newly recorded cultural materials, and authoring Section 106-compliant technical reports. (2022–2023)

# Ryan J. Glenn, MA, RPA

**HISTORIC PRESERVATION/SECTION 106: ARCHAEOLOGY**

Ryan J. Glenn (*RY-an GLEN; He, him*) is a senior archaeologist with 17 years' experience in cultural resource management, specializing in human osteology, zooarchaeology, faunal analysis, and coastal ecology. Over the course of his career, Ryan has served as a project manager in the public and private sectors for clients such as the Southern California Gas Company, Southern California Edison (SCE), Pacific Gas & Electric, San Diego Gas and Electric, the U.S. Navy, the U.S. Marine Corps, the U.S. Airforce, the California Department of Transportation (Caltrans), and AT&T. He currently functions as a senior archaeologist in project oversight, including proposals, research designs, fieldwork, artifact analysis, and report authorship.

Ryan's experience is both academic and professional, spanning California, Nevada, Washington, Texas, Kansas, and Oklahoma and including work for the Naval Facilities Engineering Command Southwest, Caltrans, Western Area Power Administration, Bureau of Land Management, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California State Parks, various city and county agencies, and directly for Native American groups.

Ryan has supervised numerous large-scale surveys, test excavations, data recovery programs, and geoarchaeological investigations. He has authored research designs, management and treatment plans, proposals, preliminary and final reports, and technical analyses. Ryan has integrated his personal research interests into projects and participated in professional symposia at local venues, including the Society for California Archaeology and California Islands Symposium. Additionally, he has conducted academic research in Northern England, United Kingdom. Ryan's current focus is on coastal archaeology and the relationship of humans and early canines,

Ryan currently assists in the preparation of technical reports and analyses for environmental impact statements at the state and federal levels for Dudek projects. He also has experience in archaeological theory, method, recordation, collection, handling, analysis, evaluation, and reporting, including planning, equipping, staffing, organizing, and supervising extensive archaeological projects.



### *Education*

*University of Southern California*
*BA, Anthropology, 2006*

*California State University, Los Angeles*
*MA, Archaeology, 2011*

### *Certifications*

*Registered Professional Archaeologist (RPA), CA No. 28576432*

### *Permits*

*Bureau of Land Management, Cultural Resource Use Permit*

- *Principal*

### *Professional Affiliations*

*Society for California Archaeology*

*Society for American Archaeology*

*Association of Environmental Professionals*

*International Council for Archaeozoology*

## Relevant Project Experience

**In-House Consultant, Confidential Client, Multiple Locations, California.** Conducted cultural resources record searches, High-level Reviews, Distributed Energy Resources sections and checklists, reports, consultant management, project and agency coordination, and field surveys for the Operations and Maintenance (O&M), Pipeline Safety Enhancement Plan, and Major Projects. Conducted cultural reviews for over 100 projects across Southern and central California. Also managed projects as the Environmental Lead and managed environmental clearance for construction endeavors for multiple environmental disciplines. (2021–2024)

**City of San Fernando Housing Element Update and General Plan, City of San Fernando, California.** Rincon was retained by the City of San Fernando to update the Housing Element of the City's General Plan. Conducted the Assembly Bill (AB) 52 consultation between the City (Lead Agency) and Native American Tribes. Authored the AB 52 letter package, coordinated meetings between Tribal spokespeople and City officials, and finalized appropriate mitigation measures agreed on by all parties. Served as cultural resources project manager. (2021)

**Deteriorated Pole Replacement Projects Under Special Use Permit, Confidential Client, Multiple Counties, California.** Under an on-call contract, SWCA provided environmental compliance and management support for thousands of O&M projects across the Client's transmission and distribution systems and generation facilities in Los Angeles, Kern, San Bernardino, Riverside, Ventura, Orange, Mono, Inyo, and Tulare Counties. The projects were conducted under the Special Use Permits obtained by SCE to conduct Deteriorated Pole Replacements and other O&M activities located within the Region 5 National Forests, including Angeles National Forest, Inyo National Forest, Cleveland National Forest, Los Padres National Forest, Sierra National Forest, Sequoia National Forest, and San Bernardino National Forest. Conducted environmental reviews and coordinated with agencies and subconsultants to complete replacement transmission poles within sensitive areas of the national forests. Served as project coordinator. (2019–2020)

**Archaeological Assessment for Santa Monica High School, City of Santa Monica, California.** Chambers in conjunction with Leighton Consulting Inc. were retained to provide a complete Phase I and Phase II archaeological assessment of the North Campus construction area to determine the potential for buried sites in the vicinity of the History Building on the Santa Monica High School campus. Chambers provided literature and records search, survey and excavation, and California Environmental Quality Act (CEQA) compliant reporting. The excavations included four test units and multiple shovel test pits. Served as project manager. (2018)

**Historic Assessment of the Star Theater, 145 North 1st Street, City of La Puente, California.** Chambers was contracted by the City of La Puente to complete a historic assessment report for the Star Theater to assess the potential impacts to the building associated with development of a proposed 22-unit condominium project at the property. Chambers conducted the survey and evaluation of the property to determine if it meets the criteria as a significant historical resource as defined by CEQA and the California Register of Historic Resources (CRHR). The analysis complied with state environmental regulations concerning the protection of historical architectural resources. Served as archaeologist and co-author. (2017)

**Camden Hollywood Project, Bernard's Construction, Los Angeles, California.** Chambers was retained by commercial builder Bernard's Construction to perform cultural and paleontological resource monitoring during sub excavation for a mixed-use, 287-unit urban infill project that included retail space for Houston based Camden Property Trust. Chambers tasks included literature and records search, personnel education, monitoring and final CEQA report submission. Served as field director of archaeology and paleontology. (2016)

**Long Beach Polytechnic High School Auditorium Seismic Retrofit and Historic Restoration Project, Long Beach Unified School District, Long Beach, California.** Chambers was retained by Long Beach Unified School District to perform architectural evaluation of the historic auditorium and document and monitor the restoration process to ensure no diagnostic components were impacted or effected. Chamber's tasks included weekly monitoring visits to document the progress and compose weekly reports, which were compiled into a final evaluation report that was submitted to the district. Served as field director. (2016)

## Appendix B: CONFIDENTIAL SCCIC Records Search Results

## Appendix C: Sacred Lands File Search

# Sacred Lands File & Native American Contacts List Request

**Native American Heritage Commission**
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

*Information Below is Required for a Sacred Lands File Search*

**Project:** Eaton Wash Stormwater Capture Project

**County:** Los Angeles

**USGS Quadrangle Name:** Mount Wilson

**Township:** 1N **Range:** 12W **Section(s):** 25

**Company/Firm/Agency:** Dudek

**Street Address:** 225 South Lake Avenue, Suite M210

**City:** Pasadena **Zip:** 91101

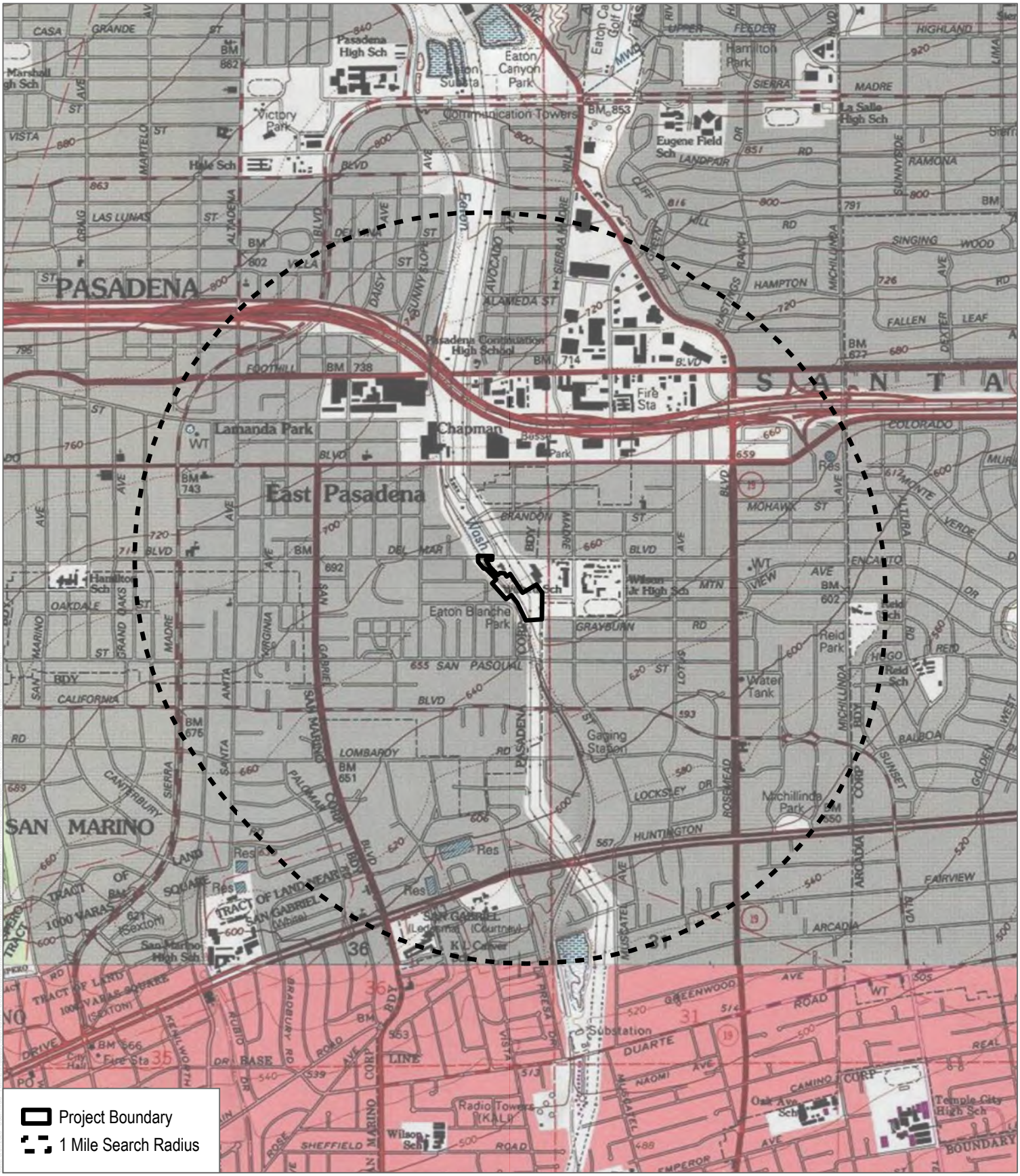
**Phone:** (626) 204-9840

**Fax:**

**Email:** rglenn@dudek.com

**Project Description:**

The project would be implemented by the City to improve water quality and effectively manage stormwater runoff. The project entails constructing public infrastructure to divert dry weather and stormwater flows from the Eaton Wash channel and send the water for treatment through a series of vegetated treatment ponds and a subsurface storage reservoir.




SOURCE: USGS 7.5-Minute Series 1:24,000

Mount Wilson Quadrangle - Township 1N Range 12W Section 25

DUDEK

0 1,000 2,000 Feet

0 300 600 Meters

# Records Search

Eaton Wash Stormwater Capture

# NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
**Reginald Pagaling**
*Chumash*

VICE-CHAIRPERSON
**Buffy McQuillen**
*Yokayo Pomo, Yuki, Nomlaki*

SECRETARY
**Sara Dutschke**
*Miwok*

PARLIAMENTARIAN
**Wayne Nelson**
*Luiseño*

COMMISSIONER
**Isaac Bojorquez**
*Ohlone-Costanoan*

COMMISSIONER
**Stanley Rodriguez**
*Kumeyaay*

COMMISSIONER
**Reid Milanovich**
*Cahuilla*

COMMISSIONER
**Bennae Calac**
*Pauma-Yuima Band of Luiseño Indians*

COMMISSIONER
**Vacant**

ACTING EXECUTIVE SECRETARY
**STEVEN QUINN**

**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710

May 7, 2025

Ryan Glenn
Dudek

Via Email to: rglenn@dudek.com

**Re: Eaton Wash Stormwater Capture Project, Los Angeles County**

To Whom It May Concern:

As requested, a record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians / Kizh Nation on the attached list for more information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, a SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. If within two weeks of notification, a response has not been received, the Commission requests that you follow-up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please notify the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
*Cultural Resources Analyst*

Attachment

Native American Heritage Commission
Native American Contact List
Los Angeles County
5/7/2025

| Tribe Name | F/N | Contact Person | Contact Address | Phone | Email Address | Cultural Affiliation | Counties |
|---|---|---|---|---|---|---|---|
| Cahuilla Band of Indians | F | BobbyRay Esparza, Cultural Director | 52701 CA Highway 371 Anza, CA, 92539 | (951) 763-5549 | besparza@cahuilla-nsn.gov | Cahuilla | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |
| Cahuilla Band of Indians | F | Erica Schenk, Chairperson | 52701 CA Highway 371 Anza, CA, 92539 | (951) 590-0942 | chair@cahuilla-nsn.gov | Cahuilla | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |
| Cahuilla Band of Indians | F | Anthony Madrigal, Tribal Historic Preservation Officer | 52701 CA Highway 371 Anza, CA, 92539 | (951) 763-5549 | anthonymad2002@gmail.com | Cahuilla | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |
| Gabrieleno Band of Mission Indians - Kizh Nation | N | Christina Swindall Martinez, Secretary | P.O. Box 393 Covina, CA, 91723 | (844) 390-0787 | admin@gabrielenoindians.org | Gabrieleno | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrieleno Band of Mission Indians - Kizh Nation | N | Andrew Salas, Chairperson | P.O. Box 393 Covina, CA, 91723 | (844) 390-0787 | admin@gabrielenoindians.org | Gabrieleno | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrieleno/Tongva San Gabriel Band of Mission Indians | N | Anthony Morales, Chairperson | P.O. Box 693 San Gabriel, CA, 91778 | (626) 483-3564 | GTTribalcouncil@aol.com | Gabrieleno | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |

| Tribe Name | F/N | Contact Person | Contact Address | Phone | Email Address | Cultural Affiliation | Counties |
|---|---|---|---|---|---|---|---|
| Gabrielino Tongva Indians of California Tribal Council | N | Christina Conley, Cultural Resource Administrator | P.O. Box 941078 Simi Valley, CA, 93094 | (626) 407-8761 | christina.marsden@alumni.usc.edu | Gabrielino | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrielino Tongva Indians of California Tribal Council | N | Robert Dorame, Chairperson | P.O. Box 490 Bellflower, CA, 90707 | (562) 761-6417 | gtongva@gmail.com | Gabrielino | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrielino/Tongva Nation | N | Sandonne Goad, Chairperson | 106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012 | (951) 807-0479 | sgoad@gabrielino-tongva.com | Gabrielino | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrielino-Tongva Tribe | N | Charles Alvarez, Chairperson | 23454 Vanowen Street West Hills, CA, 91307 | (310) 403-6048 | Chavez1956metro@gmail.com | Gabrielino | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Gabrielino-Tongva Tribe | N | Sam Dunlap, Cultural Resource Director | P.O. Box 3919 Seal Beach, CA, 90740 | (909) 262-9351 | tongvatcr@gmail.com | Gabrielino | Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura |
| Santa Rosa Band of Cahuilla Indians | F | Steven Estrada, Tribal Chairman | P.O. Box 391820 Anza, CA, 92539 | (951) 659-2700 | sestrada@santarosa-nsn.gov | Cahuilla | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |
| Santa Rosa Band of Cahuilla Indians | F | Vanessa Minott, Tribal Administrator | P.O. Box 391820 Anza, CA, 92539 | (951) 659-2700 | vminott@santarosa-nsn.gov | Cahuilla | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |
| Soboba Band of Luiseno Indians | F | Joseph Ontiveros, Tribal | P.O. Box 487 San | (951) 663-5279 | jontiveros@soboba-nsn.gov | Cahuilla Luiseno | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |

| Tribe Name | F/N | Contact Person | Contact Address | Phone | Email Address | Cultural Affiliation | Counties |
|---|---|---|---|---|---|---|---|
| | | Historic Preservation Officer | Jacinto, CA, 92581 | | | | |
| Soboba Band of Luiseno Indians | F | Jessica Valdez, Cultural Resource Specialist | P.O. Box 487 San Jacinto, CA, 92581 | (951) 663-6261 | jvaldez@soboba-nsn.gov | Cahuilla Luiseno | Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego |

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Eaton Wash Stormwater Capture Project, Los Angeles County.

# Appendix D: DPR 523 Forms

**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# PRIMARY RECORD

**Primary #**
**HRI #**
**Trinomial**
**NRHP Status Code** 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Eaton Wash Channel

**P1. Other Identifier:** Map ID 1
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Los Angeles
**and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Pasadena, Calif. **Date** 1999 **T** 12W; **R**; ¼ **of** ¼ **of Sec** 38; San Bernardino **B.M.**
c. Address N/A City Pasadena Zip 91107
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 399895 mE/ 3778400 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
34.14169804048712, -118.08578204648151

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The Eaton Wash Channel is a stormwater channel in Pasadena, California spanning approximately 8-miles south from the San Gabriel Mountains to the Rio Hondo River In South El Monte. It is completely paved with concrete and has a width of about 30-feet with a depth of about 10-feet (Photograph 1). The channel body includes a low-flow channel along the western boundary that carries a regular streamflow and a bank for excess water. Chain-link fencing lines the top of the channel walls along its west and east boundaries of the wash. The intensive survey recorded a segment of the alignment that measured approximately 145-feet in length (Photograph 2).

***P3b. Resource Attributes:** HP11. Engineering Structure
***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other

P5a. Photograph 1



P5b. Description of Photo: Photo 1, IMG_1114, looking north, 6/26/2025.

***P6. Date Constructed/Age and Sources:** ☒ Historic
c. 1943 (PP 1943: 5)

***P7. Owner and Address:**
Los Angeles County Flood Control Department
900 S. Fremont Avenue
Alhambra, California 91803

***P8. Recorded by:**
Katie Ahmanson, MHC
Dudek
225 S. Lake Ave, Ste. M210
Pasadena, CA 91101

***P9. Date Recorded:**
June 26, 2025

***P10. Survey Type:** Intensive

***P11. Report Citation**: Dudek. 2025. *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project*. Prepared for the City of Pasadena.
***Attachments:** ☐ NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐Sketch Map ☐Other (List):

# BUILDING, STRUCTURE, AND OBJECT RECORD



***NRHP Status Code** 6Z
***Resource Name or #** Eaton Wash Channel

B1. Historic Name: Eaton Wash
B2. Common Name: Eaton Wash Channel
B3. Original Use: Stormwater channel
B4. Present Use: Stormwater channel
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alterations, and date of alterations) Known alterations to the wash include repairs in 1952 and 1954, and concrete paving between 1953 and 1964 (PI 1952: 4; PI 1954: 31; NETR 2025a).

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:** None

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area:** N/A
**Period of Significance** N/A **Property Type** N/A **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Eaton Wash Channel does not meet the criteria for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or the City of Pasadena Historic Resources Database. The property was evaluated in accordance with Section 106 of the National Historic Preservation Act (Section 106) and Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is not considered a historic property for the purposes of Section 106 or a historical resource under CEQA. As such, this evaluation assigns a 6Z California Historical Resources Status Code to the Eaton Wash Channel. See Continuation Sheet.

B11. Additional Resource Attributes: None

***B12. References:** See Continuation Sheet

B13. Remarks: None

***B14. Evaluator:** Katie Ahmanson, MHC, Dudek

***Date of Evaluation:** September 5, 2025

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

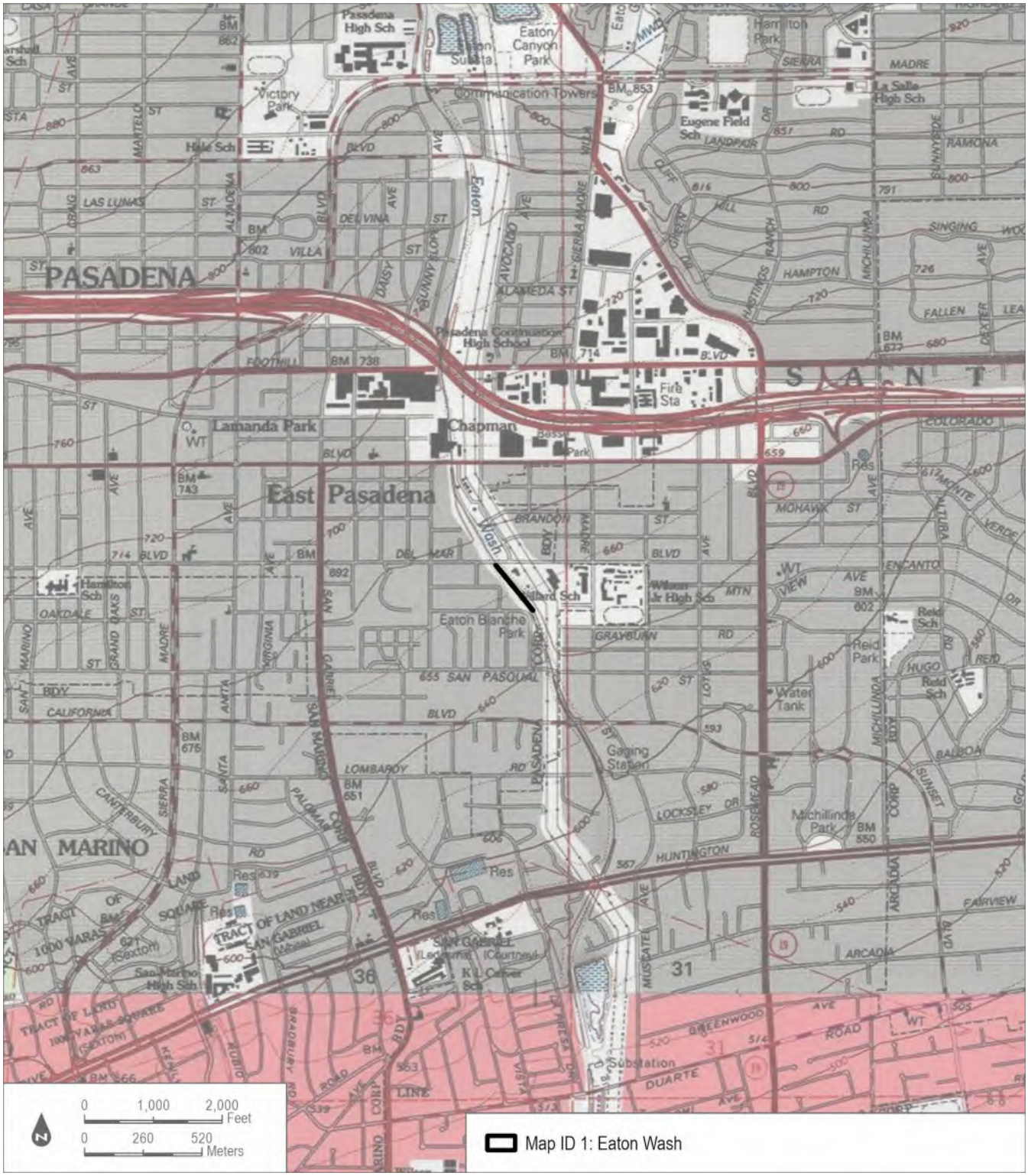


**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# LOCATION MAP

**Primary #**
**HRI#**
**Trinomial**

**Page** 3 **of** 9 ***Resource Name or #** Eaton Wash Channel
***Map Name:** Pasadena, Calif. ***Scale:** 1:24,000 ***Date of map:** 1999



***B10. Significance (continued from page 2):**

The following historic context is adapted from *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project,* prepared in October 2025 by Dudek.

Historical Overview of the City of Pasadena

The City of Pasadena was established in 1886 when it was incorporated into Los Angeles County. Initially, the area was inhabited by the Hahamogna people, who dominated the area until the arrival of the Spanish. During the Spanish period in the 1770s, the area was part of the lands under the jurisdiction of the San Gabriel MissionMembers of the local tribes were forced to build the mission structure and work on the ranch to cultivate crops. After Mexico won its independence from Spain in 1822, Alta California became part of the Mexican Republic, and the Mexican government opened California to foreign trade. The area comprising present-day Pasadena became part of Rancho el Rincon de San Pascual in 1926, before it was acquired by Jose Perez and Enrique Sepulveda in the 1840s. Perez and Sepulveda subdivided a portion of the land for the development of the several single-family residences, and in 1843 Manual Garfias purchased part of the rancho in 1843 to construct a hacienda. By 1848, the United States had assumed formal control of California with the Treaty of Guadalupe-Hidalgo and introduced Anglo culture and society. Garfias continued to own the ranch until the 1860s, when he sold the property to Dr. John S. Griffin and Benjamin Davis Wilson who subdivided the land and sold off portions. Development in Pasadena continued during the 1860s, and by 1873, Griffin and Wilson divided and developed the last four separate tracts of their land (HRG 2025: 31; O'Connor 1993: 7-10).

The City of Pasadena was incorporated in 1886 during a period of agricultural growth. The fertile soil in the area lent itself to a successful local citrus industry that encouraged settlers to move to the area. Additionally, the completion of the transcontinental railroad in 1869 aided in the growth of the area as well as the transportation of local produce. The citrus industry continued to dominate the City's economy throughout the early twentieth century, followed by the cultivation of wheat and barley. Development of early homes reflected the City's humble beginnings with simple one and two-story wood-frame vernacular farmhouses that were later replaced with more substantial masonry buildings. Infrastructure such as sewers, paved streets, and electrical street lighting were installed during 1880s and 1890s (O'Connor 1993: 12-19; City of Pasadena 2025).

By the turn of the century, Pasadena's economy began to shift to a tourist-based economy due to its picturesque location in the foothills of the San Gabriel Mountains. Early hotels were modest in scale and primarily promoted to tuberculosis patients who traveled to the area to benefit from its temperate climate, known to have a positive effect on health. Pasadena's prominence as a tourist destination began when the Pasadena Board of Trade formed in 1888 and began to "promote and encourage everything that will make our beloved city more beautiful, more healthful morally and physically" (O'Connor 1993: 17). The board published *Pasadena: Crown of the Valley* in 1892 to promote the many recreational opportunities to tourists and residents in hopes of stimulating tourism. The San Gabirel Mountains offered visitors various recreational activities including picnicking, horseback riding, hiking, hunting, and fishing. Developed of grand hotels such as the Hotel Green, in 1894, the Raymond Hotel in 1901, and the Hotel Maryland in 1903, led to a wave of tourists enamored by the local climate and amenities (O'Connor 1993: 17-20).

During the 1910s and 1920s, tourists began to purchase land and construct vacation homes for their winter stays. Mansions replaced many of the early modest residences associated with the agricultural industry, and the street Orange Grove, named after its vicinity to local citrus orchards, became known as "Millionaires' Row". As Pasadena developed into a modern city, it enticed middle and working-class residents who supported the construction industry with laborers, brick makers, and hospitality workers at the hotels. Residential development patterns at this time reflected socio-economic and racial boundaries. The southwest portion of the city consisted of wealthy, primarily white residents, while middle-class residents occupied the areas north and east of the city center (O'Connor 1993: 20-21).

The Great Depression (1929–1939) impacted industries and communities throughout the city, especially working-class jobs such as domestic workers and retail clerks. Although the population of Pasadena reached 76,000 residents by 1930, the city's industrial base decreased from 191 companies in 1920 to 150 companies in 1930. Many of the large hotels that struggled at this time resulted in the demolition of some, like the Hotel Maryland in 1935, and the conversion of others for different uses (O'Connor 1993: 21-22). Additionally, many of the mansions along Millionaires' Row were

abandoned or converted into boarding houses, leading to the area being rezoned for multi-family development in 1948. Wartime employment during the onset of World War II in 1941 saw a small increase in the population as servicemen passed through Los Angeles on their way to and from the war. However, development largely slowed during the beginning of the war (O'Connor 1993: 33).

After World War II, a massive wave of migration and building boom occurred throughout California. Pasadena experienced a population increase of over 22,000 residents between 1940 and 1950 with new residential tracts developed in the Allendale, Upper Hastings, Kinneloa, San Rafael, and Linda Vista neighborhoods of the city. With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the city's economy and spurred growth in the surrounding areas. This growth is reflected in the city's present-day built environment that includes residential development along public transportation lines and commercial development along major commercial routes. Residential partitioning enforced zoning ordinances with specific building standards and lot controls characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (O'Connor 1993: 33-43). Historical aerial photographs show that Pasadena was primarily developed by the 1980s (NETR 2025a). In recent years, the economy has shifted to support a variety of industries including health care and social assistance, professional, scientific, and technical services, and educational services. As of 2023, the population in Pasadena included over 136,000 residents (Data USA 2025).

Development of the Eaton Wash Channel

The Eaton Wash Channel is a stormwater channel in Pasadena, California, that drains into the Rio Hondo River and then into the Los Angeles River. The wash lies along the foothills of the San Gabriel Mountains and collects water from the steep ridges of the surrounding Eaton Canyon. Historically, the wash was a natural creek that provided water to the area since before Spanish settlement and flowed into the San Gabriel River. Native American villages were located along the creek, and subsequent European and American settlers used it for drinking water. Initially, the surrounding canyon was called "El Precipicio" by the Spanish because of its steep cliffs, but it was later named Eaton Canyon after the first American rancher to use the creek for irrigation, Judge Benjamin Eaton. In 1865, Eaton built the Fair Oaks Ranch House along Eaton Creek and used the water to grow grapes on the cliffs of the canyon. As more people continued to settle in the canyon, the need for water began to grow. By 1887, the Precipice Canyon Water Company was established to mine Eaton Canyon for water. The company mined a total of fifty tunnels that allowed access to underground water that was used for drinking water and to irrigate the area (ECNCA 2025; HRG 2025: 10, 34).

From its earliest years as a predominantly agrarian community, Eaton Canyon experienced intense flooding that destroyed crops and property. By 1894, the Los Angeles County Board of Supervisors proposed the development of the wash to drain stormwater through the canyon (PDES 1894: 3). The Eaton Wash is visible in historic topographic maps from 1894 (NETR 2025b). Heavy rains in 1914 led to a need for repairs to the wash (PS 1914: 9). As a result, the County Board of Supervisors proposed the formation of the Eaton Canyon Wash Protection District to develop drainage ditches in the canyon to carry stormwater into the Eaton Wash in 1914 (PS 1915: 6). This allowed the surrounding canyon area to be subdivided and developed with residential properties during the late 1910s followed by the development of infrastructure such as bridges and roadways across the wash during the 1920s (PS 1911: 14; PSN 1925a: 10; PSN 1925b: 1).

However, heavy rains and increased development led to greater loss of property as flooding continued. The Eaton Wash Association was organized in 1938 to find a solution to the flood control problem. The association sought to obtain Federal aid to channelize the wash and divert flood water (PSN 1938: 13). In 1939, the Los Angeles County Flood Control Department included the development of the Eaton Wash diversion channel in the United States District Engineer's comprehensive flood control plan for Los Angeles County (PSN 1939: 10). The bill was approved in 1940, and plans were approved by the United State Army Engineers in 1943 with $3,462,000 allocated to flood control improvements throughout Pasadena and Altadena (PSN 1940: 13; PP 1943: 5). Improvements and repairs were made to the wash in 1952 and 1954 after torrential storms (PI 1952: 4; PI 1954: 31). Historic aerial photographs indicate that the Eaton Wash Channel has remained in the same alignment and has been relatively unchanged since 1952. The wash was channelized with concrete between 1953 and 1964 (NETR 2025a).

Statement of Significance

NRHP/CRHR Criteria

The Eaton Wash Channel was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, the Eaton Wash Channel is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

*Criterion A/1: Events*

Under NRHP Criterion A and CRHR Criterion 1, the segment of the Eaton Wash Channel lacks a direct and important association with any event significant in local, state, or national history. The Eaton Wash Channel was initially developed as an unpaved wash c. 1894 to drain stormwater in the surrounding canyon. During the late 1910s, the area was subdivided and developed with single-family residences. However, as development increased, so did flooding, leading to increased reports of property damage. To quell the flooding, the wash was channelized with concrete between 1953 and 1964 and has likely been repaved to allow for its continuous use. Although the Eaton Wash Channel contributed to the overall development of the Eaton Canyon, its contribution to this growth was a consequence of the residential expansion in the area, rather than the initial impetus for development. Lacking sufficient associative significance, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criteria A/1.

*Criterion B/2: Significant Persons*

Under NRHP Criterion B and CRHR Criterion 2, the Eaton Wash Channel lacks a significant association with the productive life of any person important in local, state, or national history. The Eaton Wash Channel was developed as a flood control channel c. 1894 and channelized between 1953 and 1964. Because the wash is essentially an undertaking of the Los Angeles County Flood Control Department, it represents the collective efforts of many individuals. Therefore, the channel lacks a significant association with any single individual whose work rose to the level of singular importance necessary for listing, and it is recommended not eligible under NRHP/CRHR Criteria B/2.

*Criterion C/3: Design/Construction*

Under NRHP Criterion C and CRHR Criterion 3, the subject segment of the Eaton Wash Channel is not distinctive in terms of a particular stormwater channel type, a period, or a method of construction. Research did not identify the engineer, architect, or builder of the channel, but it appears unlikely that it was the work of a master in engineering. Eaton Wash was channelized sometime between 1953 and 1964 using standard concrete paving, and it lacks innovation concerning its overall design, form, and function. The Eaton Wash Channel exemplifies common, standardized flood channel designs and construction methods characteristic of channels built during the mid-twentieth century and subsequently modernized throughout the twenty-first century. Additionally, research did not indicate that the Eaton Wash Channel represents an important variation, evolution, or transition of flood channel development. Lacking sufficient design and construction value, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criteria C/3.

*Criterion D/4: Data Potential*

Under NRHP Criterion D and CRHR Criterion 4, the Eaton Wash Channel is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. Therefore, the Eaton Wash Channel is recommended not eligible under NRHP/CRHR Criteria D/4.

City of Pasadena Landmark Criteria

The Eaton Wash Channel also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

*Criterion A: Events*

Under the City of Pasadena Landmark Criterion A, the Eaton Wash Channel is not associated with any events that have made a significant contribution to the broad patterns of the history of the City As discussed in NRHP/CRHR Criteria A/1,

research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

*Criterion B: Significant Persons*

Under the City of Pasadena Landmark Criterion B, the Eaton Wash Channel is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criteria B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

*Criterion C: Design/Construction*

Under the City of Pasadena Landmark Criterion C, the Eaton Wash Channel is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of a standardized flood channel built during the mid-twentieth century, and therefore, is recommended not eligible under City of Pasadena Criterion C.

*Criterion D/4: Data Potential*

Under the City of Pasadena Landmark Criterion D, the Eaton Wash Channel has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Criterion D.

Statement of Integrity and Conclusion

Because the Eaton Wash Channel lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR § 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR § 15064.5(a).

***B12. References (continued from page 2):**

City of Pasadena. 2025. "Heritage: A Short History of Pasadena." City of Pasadena (Pasadena, CA). Accessed July 17, 2025. https://www.cityofpasadena.net/about-pasadena/history-of-pasadena/.

Data USA. 2025. "Pasadena, CA." Data USA. Accessed July 17, 2025. https://datausa.io/profile/geo/pasadena-ca/#economy.

ECNCA (Eaton Canyon Nature Center Association). 2025. "Easton Canyon History." Eaton Canyon Nature Center Association (Pasadena, CA). Accessed July 21, 2025. https://www.ecnca.org/history-of-eaton-canyon/.

HRG (Historic Resources Group) and Teresa Grimes Historic Preservation. 2025. *City of Pasadena Public Review Draft Historic Statement*. Prepared for the City of Pasadena Planning and Community Development Department of the Planning Division. Historic Resources Group (Pasadena, CA). April 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Pasadena-Historic-Context-Statement-All-Chapters-April-2025.pdf?v=1752790006363.

NETR (Nationwide Environmental Title Research). 2025a. Historical Aerial Photographs of the City of Pasadena, CA dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

NETR. 2025b. Historical Topographic Maps dating from 1894, 1896, 1898, 1900, 1904, 1907, 1908, 1910, 1913, 1915, 1920, 1927, 1928, 1931, 1940, 1941, 1955, 1960, 1968, 1975, 1988, 1994, 1999, 2012, 2015,

2018, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

O'Connor, Pamela. 1993. *Architectural/Historical Development of the City of Pasadena – Historic Context/Property Type Report*. Submitted to the California State Office of Historic Preservation. Urban Conservation Section of the City of Pasadena Planning Division (Pasadena, CA). January 13, 1993.

PDES (Pasadena Daily Evening Star). 1894. "City News." Newspapers.com: *Pasadena Daily Evening Star* (Pasadena, CA). January 20, 1894. Page 3. Newspapers.com.

PI (Pasadena Independent). 1952. "L.A. County Unleashed $139,000 Flood Control Porject for Valley." Newspapers.com: *Pasadena Independent* (Pasadena, CA). July 27, 1952. Page 4. Newspapers.com.

PI. 1954. "$30 Million Sought for Flood Work." Newspapers.com: *Pasadena Independent* (Pasadena, CA). June 23, 1954. Page 31. Newspapers.com.

PP (Pasadena Post). 1943. "$3,462,000 Postwar Flood Control Work Planned." Newspapers.com: *Pasadena Post* (Pasadena, CA). November 13, 1943. Page 5. Newspapers.com.

PS (Pasadena Star). 1911. "Mar Vista Street Extension is Asked." Newspapers.com: *Pasadena Star* (Pasadena, CA). November 4, 1911. Page 14. Newspapers.com.

PS. 1914. "Make Repairs on Eaton Wash." Newspapers.com: *Pasadena Star* (Pasadena, CA). February 6, 1914. Page 9. Newspapers.com.

PS. 1915. "National Bank is Plan for Park." Newspapers.com: *Pasadena Star* (Pasadena, CA). July 26, 1915. Page 6. Newspapers.com.

PS. 1925. "George A. Damon One of Speakers." Newspapers.com: *Pasadena Star* (Pasadena, CA). May 13, 1925. Page 10. Newspapers.com.

PSN (Pasadena Star News). 1925. "Co-Operate on Walnut Tunnel." Newspapers.com: *Pasadena Star News* (Pasadena, CA). May 8, 1925. Page 1. Newspapers.com.

PSN. 1938. "Signers Now May Solicit Engineers." Newspapers.com: *Pasadena Star News* (Pasadena, CA). July 29, 1938. Page 13. Newspapers.com.

PSN. 1939. "Rubio Canyon Flood Diversion Included in Engineers' Report." Newspapers.com: *Pasadena Star News* (Pasadena, CA). November 28, 1939. Page 10. Newspapers.com.

PSN. 1940. "Eaton Wash Job's Approval Likely." Newspapers.com: *Pasadena Star News* (Pasadena, CA). March 26, 1940. Page 13. Newspapers.com.

***Pfa. Photographs (continued from page 1):**

**Photograph 2.** View of the Eaton Wash, looking south. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1124.

**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# PRIMARY RECORD

**Primary #**
**HRI #**
**Trinomial**
**NRHP Status Code** 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Eaton Blanche Park

**P1. Other Identifier:** N.A

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Los Angeles

**and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Pasadena, Calif. **Date** 1999 **T** 12W; **R**; ¼ **of** ¼ **of Sec** 38; San Bernardino **B.M.**

c. Address 3100 E Del Mar Boulevard City Pasadena Zip 91107

d. UTM: (Give more than one for large and/or linear resources) Zone 11, 399895 mE/ 3778400 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN 5754-031-901

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Eaton Blanche Park is located at 3100 E Del Mar Boulevard (APN 5754-031-901) and encompasses 5.5 acres on the west side of the Eaton Wash Channel and south side of Del Mar Boulevard. The park consists of a softball field developed c. 1952, followed by the construction of two tennis courts, a softball field, a basketball court, picnic tables, open green space, a restroom, and two parking lots c. 1960, when the park was established. Play structures were developed c. 1992, and the bathroom was replaced in 2018. The park is accessed by an asphalt-paved parking lot on the south side of Del Mar Boulevard and an asphalt-paved parking lot on the north side of Millicent Way. Concrete walking paths lead from the parking lots to the sports courts, play structures, picnic area, and the restroom on the northern portion of the park (Photographs 1, 2, and 3). See Continuation Sheet.

***P3b. Resource Attributes:** HP31. Urban Open Space; HP39. Other (Public Park)

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph 1



P5b. Description of Photo: Photo 1, IMG_1095, looking northwest, 6/26/2025.

***P6. Date Constructed/Age and Sources:** ☒ Historic c. 1960 (NETR 2025)

***P7. Owner and Address:**
City of Pasadena Department of Public Parks and Buildings
100 N. Garfield Avenue
Pasadena, California 91101

***P8. Recorded by:**
Katie Ahmanson, MHC
Dudek
225 S. Lake Ave, Ste. M210
Pasadena, CA 91101

***P9. Date Recorded:**
June 26, 2025

***P10. Survey Type:** Intensive

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Dudek. 2025. *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project*. Prepared for the City of Pasadena.

***Attachments:** ☐ NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐Sketch Map ☐Other (List):

# BUILDING, STRUCTURE, AND OBJECT RECORD



***NRHP Status Code** 6Z
***Resource Name or #** Eaton Blanche Park

B1. Historic Name: Eaton Blanche Park
B2. Common Name: Eaton Blanche Park
B3. Original Use: Public Park
B4. Present Use: Public Park
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alterations, and date of alterations) Known alterations to the park include the addition of play structures c. 1992, and the replacement of the bathroom in 2018. (NETR 2025).

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:** N/A

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area:** N/A
**Period of Significance** N/A **Property Type** N/A **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Eaton Blanche Park does not meet the criteria for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or the City of Pasadena Historic Resources Database. The property was evaluated in accordance with Section 106 of the National Historic Preservation Act (Section 106) and Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is not considered a historic property for the purposes of Section 106 or a historical resource under CEQA. As such, this evaluation assigns a 6Z California Historical Resources Status Code to Eaton Blanche Park. See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes) None

***B12. References:** See Continuation Sheet.

B13. Remarks: None

***B14. Evaluator:** Katie Ahmanson, MHC, Dudek

***Date of Evaluation:** September 5, 2025

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

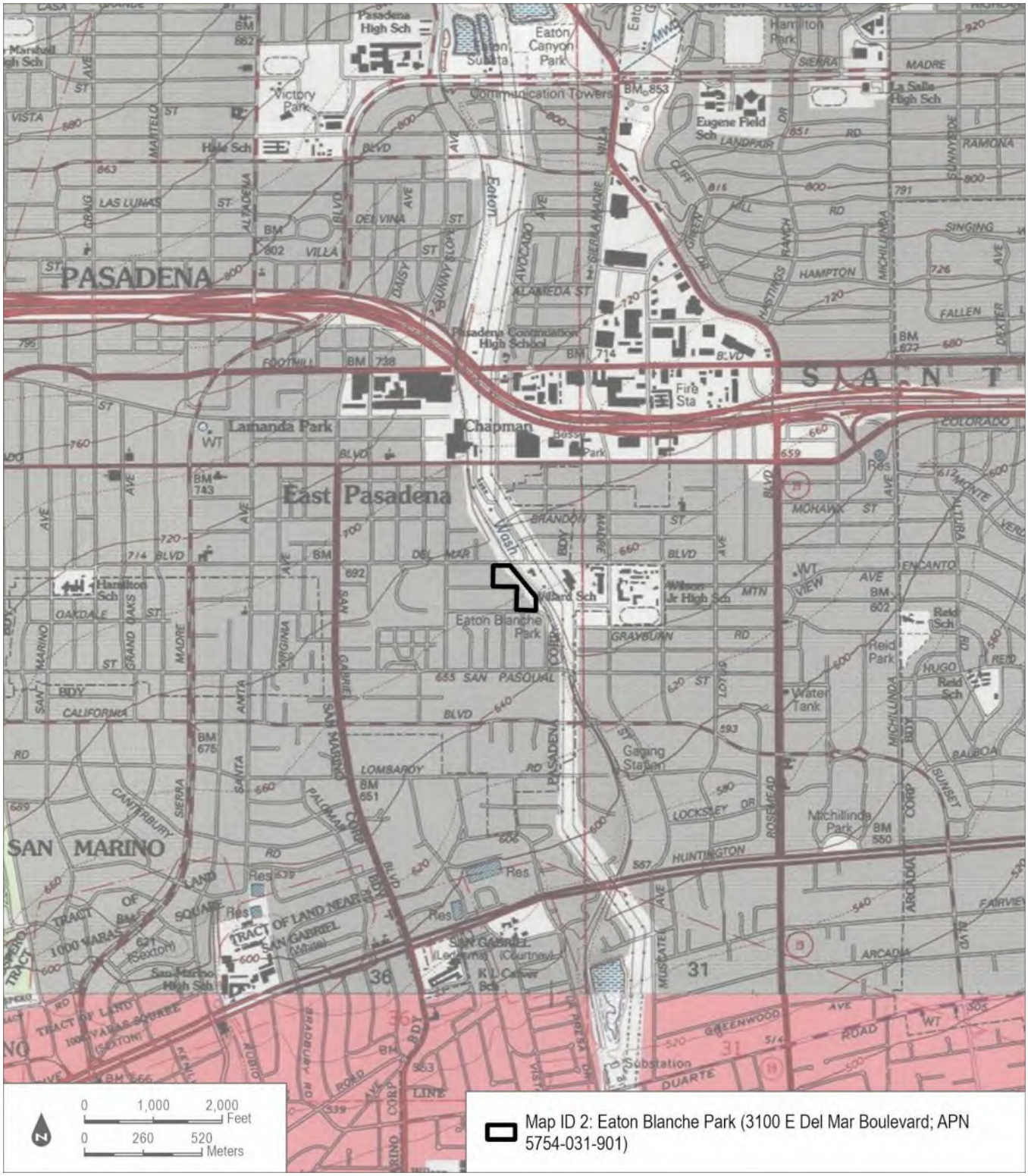


**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# LOCATION MAP

**Primary #**
**HRI#**
**Trinomial**

**Page** 3 **of** 11 ***Resource Name or #** Eaton Blanche Park
***Map Name:** Pasadena, Calif. ***Scale:** 1:24,000 ***Date of map:** 1999



***P3a. Description (continued from page 1)**

The softball field on the southern portion of the park includes a grass lawn with a baseball diamond and outfield. A metal batting cage surrounds home plate of the baseball field on the southwest corner of the lawn (Photograph 4). Landscaping includes a variety of plants, shrubs, mature trees, and lawns.

***B10. Significance (continued from page 2):**

The following historic context is adapted from *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project,* prepared in October 2025 by Dudek.

Historical Overview of the City of Pasadena

The City of Pasadena was established in 1886 when it was incorporated into Los Angeles County. Initially, the area was inhabited by the Hahamogna people, who dominated the area until the arrival of the Spanish. During the Spanish period in the 1770s, the area was part of the lands under the jurisdiction of the San Gabriel MissionMembers of the local tribes were forced to build the mission structure and work on the ranch to cultivate crops. After Mexico won its independence from Spain in 1822, Alta California became part of the Mexican Republic, and the Mexican government opened California to foreign trade. The area comprising present-day Pasadena became part of Rancho el Rincon de San Pascual in 1926, before it was acquired by Jose Perez and Enrique Sepulveda in the 1840s. Perez and Sepulveda subdivided a portion of the land for the development of the several single-family residences, and in 1843 Manual Garfias purchased part of the rancho in 1843 to construct a hacienda. By 1848, the United States had assumed formal control of California with the Treaty of Guadalupe-Hidalgo and introduced Anglo culture and society. Garfias continued to own the ranch until the 1860s, when he sold the property to Dr. John S. Griffin and Benjamin Davis Wilson who subdivided the land and sold off portions. Development in Pasadena continued during the 1860s, and by 1873, Griffin and Wilson divided and developed the last four separate tracts of their land (HRG 2025: 31; O'Connor 1993: 7-10).

The City of Pasadena was incorporated in 1886 during a period of agricultural growth. The fertile soil in the area lent itself to a successful local citrus industry that encouraged settlers to move to the area. Additionally, the completion of the transcontinental railroad in 1869 aided in the growth of the area as well as the transportation of local produce. The citrus industry continued to dominate the City's economy throughout the early twentieth century, followed by the cultivation of wheat and barley. Development of early homes reflected the City's humble beginnings with simple one and two-story wood-frame vernacular farmhouses that were later replaced with more substantial masonry buildings. Infrastructure such as sewers, paved streets, and electrical street lighting were installed during 1880s and 1890s (O'Connor 1993: 12-19; City of Pasadena 2025a).

By the turn of the century, Pasadena's economy began to shift to a tourist-based economy due to its picturesque location in the foothills of the San Gabriel Mountains. Early hotels were modest in scale and primarily promoted to tuberculosis patients who traveled to the area to benefit from its temperate climate, known to have a positive effect on health. Pasadena's prominence as a tourist destination began when the Pasadena Board of Trade formed in 1888 and began to "promote and encourage everything that will make our beloved city more beautiful, more healthful morally and physically" (O'Connor 1993: 17). The board published *Pasadena: Crown of the Valley* in 1892 to promote the many recreational opportunities to tourists and residents in hopes of stimulating tourism. The San Gabirel Mountains offered visitors various recreational activities including picnicking, horseback riding, hiking, hunting, and fishing. Developed of grand hotels such as the Hotel Green, in 1894, the Raymond Hotel in 1901, and the Hotel Maryland in 1903, led to a wave of tourists enamored by the local climate and amenities (O'Connor 1993: 17-20).

During the 1910s and 1920s, tourists began to purchase land and construct vacation homes for their winter stays. Mansions replaced many of the early modest residences associated with the agricultural industry, and the street Orange Grove, named after its vicinity to local citrus orchards, became known as "Millionaires' Row". As Pasadena developed into a modern city, it enticed middle and working-class residents who supported the construction industry with laborers, brick makers, and hospitality workers at the hotels. Residential development patterns at this time reflected socio-economic and racial boundaries. The southwest portion of the city consisted of wealthy, primarily white residents, while middle-class residents occupied the areas north and east of the city center (O'Connor 1993: 20-21).

The Great Depression (1929–1939) impacted industries and communities throughout the city, especially working-class jobs such as domestic workers and retail clerks. Although the population of Pasadena reached 76,000 residents by 1930, the city's industrial base decreased from 191 companies in 1920 to 150 companies in 1930. Many of the large hotels that struggled at this time resulted in the demolition of some, like the Hotel Maryland in 1935, and the conversion of others for different uses (O'Connor 1993: 21-22). Additionally, many of the mansions along Millionaires' Row were abandoned or converted into boarding houses, leading to the area being rezoned for multi-family development in 1948. Wartime employment during the onset of World War II in 1941 saw a small increase in the population as servicemen passed through Los Angeles on their way to and from the war. However, development largely slowed during the beginning of the war (O'Connor 1993: 33).

After World War II, a massive wave of migration and building boom occurred throughout California. Pasadena experienced a population increase of over 22,000 residents between 1940 and 1950 with new residential tracts developed in the Allendale, Upper Hastings, Kinneloa, San Rafael, and Linda Vista neighborhoods of the city. With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the city's economy and spurred growth in the surrounding areas. This growth is reflected in the city's present-day built environment that includes residential development along public transportation lines and commercial development along major commercial routes. Residential partitioning enforced zoning ordinances with specific building standards and lot controls characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (O'Connor 1993: 33-43). Historical aerial photographs show that Pasadena was primarily developed by the 1980s (NETR 2025). In recent years, the economy has shifted to support a variety of industries including health care and social assistance, professional, scientific, and technical services, and educational services. As of 2023, the population in Pasadena included over 136,000 residents (Data USA 2025).

Development of Public Parks in Pasadena

In April 2025, Historic Resources Group completed a citywide historic context for the City of Pasadena as a part of the City's effort to create a historic preservation program to provide a baseline through which to evaluate historical resources (HRG 2025). The following information was summarized from the City of Pasadena's Historic Context Statement report. In addition, this overview is organized by the periods of development identified in the historic context statement. A citation with information on accessing the full historic context statement is included in the references section of this report.

The geography and topography of the City of Pasadena are defined by its location within the northern portion of the San Gabriel Valley, a large sloping alluvial plain within the Los Angeles Basin. Pasadena is bounded by the Raymond Fault line, the San Rafael Hills, and the San Gabriel Mountains. Water is naturally available via numerous rivers, springs, and artesian wells, including the Arroyo Seco (referred to as the Arroyo) and the Eaton Wash Channel (located within Eaton Canyon). The area's plant communities include Coastal Sage Scrub and Southern Oak Woodlands (HRG 2025: 10).

### Late Nineteenth Century to Early Twentieth Century Development

During the late 19th century, the Arroyo informally functioned as a public park, having become part of a trail system leading up to a famous retreat in the San Gabriel Mountains above Pasadena. Established by Harvey Walker and Perry Switzer in 1880, the retreat was commonly referred to as Switzer's Camp and was popular with nature enthusiasts who were drawn to the scenery and fresh air. During this period, the Arroyo was used for a variety of activities such as horseback riding, camping, hunting, fishing, hiking, and picnicking, although it was privately owned (HRG 2025: 357).

The first public parks in Pasadena were modest land acquisitions that had dual purposes. Library Park (1902, now Memorial Park) on N. Raymond Avenue is a five-acre park that embraced the City's first public library. Central Park (1902) is a ten-acre park that mostly benefited the guests of the Hotel Green, located just to the north. With the creation of these two parks, the City formed a new Department of Public Parks and Buildings (HRG 2025: 357). Historically, as streets were developed, property owners planted their favorite trees, resulting in a random mixture of trees on any given block. As early as 1904, the Park Department had established rules for watering, pruning, and planting trees. The City, however, did not yet have a street tree planting program due to the cost. In 1908, a municipal nursery was established

near Devil's Gate Gorge. Soon, another municipal nursery was established at the south end of town on Glenarm Street. By 1916, the City had planted 17,306 trees, but did not always adhere to the plan for uniformity (HRG 2025: 359).

### Lower Arroyo Seco Park & Brookside Park

Arguably, the Department's greatest achievement was the development of the Lower Arroyo Seco Park between 1909 and 1918 and Brookside Park in 1914. By this time, the department was simply called the Park Department. Although the Arroyo was used for recreational purposes, as the population grew it was also used for dumping and logging. In 1898, journalist Charles Lummis started a campaign for the preservation of the Arroyo and became the first president of the Arroyo Seco Foundation (HRG 2025: 359). This was the first time a group banded together to promote the preservation of the Arroyo. The Lower Arroyo became the focus of the early plans developed by the Arroyo Park Association, another group that formed in 1906. Dr. Rudolph Schiffmann (1845-1926), who also sat on the Board of City Commissioners, was elected as the president of the group in 1907. In 1909, he purchased a two and one-half acre wooded lot at the end of Bradford Street and donated it to the City for use as a public park. In 1911, a bond issue was passed by voters, authorizing the purchase of private land in the Arroyo. The City bought the first parcel of 30 acres for $4,500. By 1912, the City held or had options on 200 acres. A syndicate of wealthy citizens bought up most of the remaining options and held them in a trust until the City could purchase the parcels (HRG 2025: 360).

Throughout the beginning of 1914, the park was referred to as Arroyo Springs Park. However, the name was not used for very long. That same year Anna Jennings Brooks (1847-1917) donated $3,000 for the construction of a municipal plunge in the park. Apparently, the cost of the plunge exceeded the donation as the City contributed another $2,000 towards its construction. The park was named Brookside Park in Brooks' honor (HRG 2025: 360).

The facilities in Brookside Park reflected the growth of competitive sports and the changing recreational tastes and needs of the population. In recognition of those trends, a committee of the Pasadena Civic Federation hired landscape architect Emanuel Tillman Mische (1870-1934) to prepare a comprehensive plan for the Arroyo. Between 1917 and 1918, Mische developed a plan for the Arroyo that encompassed the entire area from the South Pasadena city limits to the mountains north of Devil's Gate Gorge. The 1918 Arroyo Seco Park Plan combined both passive and active recreational uses (HRG 2025: 362-363).

*Recreation in the Arroyo Seco & The Rose Bowl Stadium*

Two practical matters dictated using the Central Arroyo for sports and recreational facilities: Brookside Park already existed, and it was the widest, flattest land in the canyon. The 1918 Plan was implemented to the extent that the Lower and Central Arroyo were developed with passive and active recreational uses, respectively. The present-day circulation system, landscaping, and golf course are also remnants of the 1918 Plan. However, the Rose Bowl Stadium, which dominates the Central Arroyo, was not anticipated. The area occupied by the stadium is shown as an undefined open space in the 1918 Plan. Completed in 1922, the Rose Bowl Stadium is the long-term site of the oldest and most renowned post-season college football game, the Rose Bowl. In 1897, the City purchased ten acres of land located in the Arroyo. In 1921, construction commenced, and the structure was completed the following year with the south end open, giving the stadium its original "horseshoe" shape (HRG 2025: 363).

### 1920s-1930s Park Expansion

By 1930, Pasadena boasted over 1,000 acres of parkland for its 76,086 residents. As the population of the city grew dramatically during the 1920s and 1930s, parks and recreation facilities became less of a luxury and more of a necessity. There were more residents with more leisure time as houses were replaced by apartment buildings and the 40-hour work week was instituted (HRG 2025: 365). In 1924, the department conducted a survey and created a plan for each street based upon the zoning (residential, commercial, industrial), width of the street and sidewalk, and consideration of overhead utility wires. The survey concluded that the most effective way to prevent the spread of pests and diseases was through diversity. While the trees on any given street would be uniform, from one street to another, they could be different (HRG 2025: 368).

Between 1924 and 1930, on average the Park Department was planting 5,000 trees annually. Beginning in 1940 with the inception of the Official Street Tree List, the City adopted a policy to adhere to a uniform street tree planting program. At this time, 136 of the 392 streets had been planted with California live oaks. Over time, the Park Department (later

the Public Works Department) revised the Official Street Tree List based upon horticultural and environmental factors indicating that some species were no longer suitable as street trees (HRG 2025: 368).

The department's most ambitious plan was the development of a large scenic public park in Eaton Canyon, similar to the one in the Arroyo. During the Great Depression, however, the City could not afford to purchase the land. Slowly, the City obtained approximately 24 acres of land through small donations, while the Water Department separately acquired 200 acres in the upper portion of the canyon. In 1932, the City began working in cooperation with the Los Angeles County Flood Control District and the Los Angeles County Planning Commission for the development of the Eaton Canyon Regional Park. Eventually, the entire project was taken over by the County of Los Angeles and now includes a natural park and a golf course (HRG 2025: 369).

### Post-World War II Expansion

After World War II, numerous new parks were created in Pasadena to keep pace with the growing population. Most postwar parks were two to three acres in size and their design emphasized recreation for the body over restoration of the spirit. Most include picnic areas, play areas with equipment for children, and restroom buildings at a minimum. Depending on the neighborhood which increasingly included northern and eastern Pasadena, sports and recreation facilities might include basketball, tennis, and volleyball courts; baseball and softball diamonds; and multi-purpose athletic fields. The first two parks created during the postwar period involved land purchased from the Board of Education. Jefferson Park in 1945 and Grant Park in 1948 were created on land that was previously occupied by public schools with the same names. Created in 1951, Allendale Park is like La Pintoresca Park in that it includes a Public Library branch building. Three other parks are associated with City reservoirs as opposed to libraries. Hamilton Park was created in 1952 and was originally called Hastings Ranch Park. It was renamed in 1958 in honor of Arthur L. Hamilton (1859-1953). McDonald Park was dedicated in 1920 in honor of Judge Robert W. McDonald (1868-1918), who succumbed to the 1918 influenza pandemic. The abandonment of the reservoir in 1977 led to the idea of creating a park on the rest of the block. The Villa Parke Community Center has a somewhat similar origin story. The land includes what was originally the Villa Reservoir, which was constructed in 1925. With changes in the City's water distribution system, the structure was abandoned in 1947 and the property was sold to the Pasadena Boys Club, but the City retained an easement. In the early 1970s, the City created a public park on the property (HRG 2025: 370-371).

The largest park in Pasadena created during the postwar era is Victory Park. It was conceived in 1945 by the Pasadena War Memorial Committee as a tribute to those in the community who served in World War II; however, as soon as planning began, the program included an exhibition area for the display of Rose Parade floats in addition to a multi-purpose building for veteran's activities. By 1946, a 45-acre site near Eaton Canyon had been identified. The City had attempted to buy a 50-acre site in the area owned by Los Angeles County; however, the offer was rejected. By this time, the Pasadena Citizen's Council for Planning was also advocating for more parks and recreation facilities in eastern Pasadena. The park was dedicated in 1952, but in 1961 it was redesigned after the Pasadena High School campus moved from Pasadena City College to Sierra Madre Boulevard. To the chagrin of many members of the community, the north 15 acres of Victory Park were sold to the Pasadena Unified School District for sports facilities for Pasadena High School (HRG 2025: 371-372)

In December 1967, Ronald B. Townsend (1913-1997), the City's director of parks since 1954, attempted to revive the 1932 plan for Eaton Canyon. He approved a plan entitled the Eaton Canyon Area Development. This plan also proposed an interconnected system of parks and open space areas along the Eaton Canyon drainage. The proposed improvements were laid out in great detail and connections with the City's existing parks, such as Victory Park and Eaton-Blanche Park, were included. The City's current Green Space, Recreation and Parks Master Plan revisits this concept and offers recommendations for implementation measures that would fulfill a portion of the vision that was expressed in the 1932 and 1967 plans (HRG 2025: 372).

<u>Development of Eaton Blanche Park</u>

Eaton Blanche Park is a 5.5-acre public park located at 3100 E Del Mar Boulevard (APN 5754-031-901) in the southeast section of the City of Pasadena, California. Facilities include two tennis courts, a softball field, a basketball court, play structures, picnic tables, open green space, restrooms, and two parking lots (City of Pasadena 2025b). The park was developed c. 1960 in conjunction with the County Parks and Recreation Department as part of their planned

program to equalize park facilities nLAT 1961: 210). Historic aerial photographs show that the softball field was present on the property as early as 1952. Eaton Blanche Park was developed with two tennis courts, a basketball court, a restroom, and a covered picnic area c. 1960 (NETR 2025). In 1967, the Eaton Canyon Area Development plan proposed improvements to the park that would connect it to the other existing parks along the Eaton Canyon Wash (HRG 2025: 372). The Mount Wilson hiking trail was developed by 1968 to connect the parks from Eaton Canyon to Eaton Blanche Park to the south (LAT 1968: 108). Another covered picnic area was added by 1980; however, it was demolished by 1992 for the construction of a play area with play structures. The restroom was demolished in 2016, and a new restroom was constructed by 2018. The park appears to remain primarily unaltered since then and appears to have continued to function as a public park to the present (NETR 2025).

Statement of Significance

NRHP/CRHR Criteria

Eaton Blanche Park was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, Eaton Blanche Park is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

*Criterion A/1: Events*

Under NRHP Criterion A and CRHR Criterion 1, archival research did not find that Eaton Blanche Park possesses a direct and important association with any events or pattern of events significant in local, state, or national history. The subject property was constructed during the post-World War II expansion of the public parks system in Pasadena. This growth in parks was reflective of the local and state-wide population increase in the decades following World War II's conclusion in 1945. Numerous parks were developed and renovated during this period, with the first park, Jefferson Park, developed in 1945. Post-World War II growth was an important trend both regionally and in California; however, this property did not contribute in any significant way to this pattern of development. It is also not known to be directly associated with events that have made a significant contribution to the history of Pasadena, California, or the nation. It was neither the first nor the last park developed in the city and was merely following a continuous pattern of increased park development in the post-war period, and did not directly influence development in the region. Research also did not identify a significant historical event that occurred on the property. Therefore, Eaton Blanche Park does not meet NRHP/CRHR Criteria A/1.

*Criterion B/2: Significant Persons*

Under NRHP Criterion B and CRHR Criteria 2, Eaton Blanche Park lacks a significant association with the productive life of any person important in local, state, or national history. Research revealed that the park was developed and operated by the City of Pasadena Department of Public Parks and Buildings c. 1960, during a period of park expansion throughout the city. Today, the subject property is one of several parks owned and operated by the City of Pasadena. Research did not identify any information indicating that individuals associated with the city government made a significant contribution to the management of Eaton Blanche Park, which would rise to the threshold of significance required for eligibility. Due to a lack of identified significant associations with any persons important in our past, Eaton Blanche Park is recommended not eligible under NRHP/CRHR Criteria B/2.

*Criterion C/3: Design/Construction*

Under NRHP Criterion C and CRHR Criterion 3, Eaton Blanche Park is not distinctive in terms of a particular park type, a period, or a method of construction. The subject property was developed as a public park c. 1960 to provide green space to the growing local community. It has been renovated over the years, including the addition of play structures c. 1992, and the replacement of the bathroom in 2018. The park reflects a common park design that lacks innovation with regard to its overall design, form, and function. Additionally, research did not indicate that Eaton Blanche Park is associated with the work of a master architect or builder. As it is a common, purpose-built, property type and style, it is unlikely that it was the work of a master architect or builder. Eaton Blanche Park does not contribute to the significance of a potential or existing historic district. Overall, the property lacks sufficient design and construction value to meet NRHP/CRHR Criteria C/3.

*Criterion D/4: Data Potential*

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, Eaton Blanche Park lacks significance under NRHP/CRHR Criteria D/4.

City of Pasadena Landmark Criteria

Eaton Blanche Park also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

*Criterion A: Events*

Under the City of Pasadena Landmark Criterion A, Eaton Blanche Park is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criteria A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

*Criterion B: Significant Persons*

Under the City of Pasadena Landmark Criterion B, Eaton Blanche Park is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criteria B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

*Criterion C: Design/Construction*

Under the City of Pasadena Landmark Criterion C, Eaton Blanche Park is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of a park designed and renovated in the mid to late twentieth century, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

*Criterion D/4: Data Potential*

Under the City of Pasadena Landmark Criterion D, Eaton Blanche Park has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

Statement of Integrity and Conclusion

Because Eaton Blanche Park the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR § 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR § 15064.5(a).

***B12. References (continued from page 2):**

City of Pasadena. 2025a. "Heritage: A Short History of Pasadena." City of Pasadena (Pasadena, CA). Accessed July 17, 2025. https://www.cityofpasadena.net/about-pasadena/history-of-pasadena/.

City of Pasadena. 2025b. "Eaton Blanche Park." City of Pasadena (Pasadena, CA). Accessed July 24, 2025. https://www.cityofpasadena.net/parks-and-rec/parks/eaton-blanche-park/.

Data USA. 2025. "Pasadena, CA." Data USA. Accessed July 17, 2025. https://datausa.io/profile/geo/pasadena-

ca/#economy.

HRG (Historic Resources Group) and Teresa Grimes Historic Preservation. 2025. *City of Pasadena Public Review Draft Historic Statement*. Prepared for the City of Pasadena Planning and Community Development Department of the Planning Division. Historic Resources Group (Pasadena, CA). April 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Pasadena-Historic-Context-Statement-All-Chapters-April-2025.pdf?v=1752790006363.

NETR (Nationwide Environmental Title Research). 2025. Historical Aerial Photographs of the City of Pasadena, CA dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

O'Connor, Pamela. 1993. *Architectural/Historical Development of the City of Pasadena – Historic Context/Property Type Report*. Submitted to the California State Office of Historic Preservation. Urban Conservation Section of the City of Pasadena Planning Division (Pasadena, CA). January 13, 1993.

LAT (Los Angeles Times). 1961. "Cities May Run Out of Room for Outdoor Play in Future." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). March 12, 1961. Page 1. Newspapers.com.

LAT. 1968. "Recreation Urged Along Eaton Wash." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). March 1, 1968. Page 108. Newspapers.com.

***Pfa. Photographs (continued from page 1):**

**Photograph 2.** View of the play structure, looking northeast. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1094.

**Photograph 3.** View of the picnic area, looking north. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1099.

**Photograph 4.** View of the softball field, looking southwest. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1104.

**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# PRIMARY RECORD

**Primary #**
**HRI #**
**Trinomial**
**NRHP Status Code** 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Earthside Nature Center Site

**P1. Other Identifier:** Earthside Nature Center
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Los Angeles
**and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Pasadena, Calif. **Date** 1999 **T** 12W; **R**; ¼ **of** ¼ **of Sec** 38; San Bernardino **B.M.**
c. Address 3160 East Del Mar Boulevard City Pasadena Zip 91107
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 399895 mE/ 3778400 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN 5754-030-901

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The former Earthside Nature Center site on the rear of the property at 3160 East Del Mar Boulevard (APN 5754-030-901) contains two features related to the previous history of the site: a wood post entrance and a plaque. The wood post entrance on the north end of the site consists of a post and lintel structure with signage displaying "Earthside Nature Center" (Photograph 1). The plaque is affixed to a stone just beyond the entrance, and contains an inscription reading, "With Deep Appreciation Frances G. 'Terry' Lee Memorial Redwood Grove 1992" (Photograph 2). Chain-link fencing encases the property, and although many of the original plantings have been replaced by weeds and shrubs, some trees remain (Photograph 3). However, the plants appear in poor condition, and there is no formal landscaping present. The site is bordered by the Eaton Wash Channel to the west and south, Exer Urgent Care to the north, and a plant nursery to the east.

***P3b. Resource Attributes:** HP31. Urban Open Space
***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph 1




P5b. Description of Photo: Photo 1, IMG_4126, looking southeast, 6/26/2025.

***P6. Date Constructed/Age and Sources:** ☒ Historic
1971 (Gilmore et al 2009)

***P7. Owner and Address:**
Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, California 91770

***P8. Recorded by:**
Katie Ahmanson, MHC
Dudek
225 S. Lake Ave, Ste. M210
Pasadena, CA 91101

***P9. Date Recorded:**
June 26, 2025

***P10. Survey Type:** Intensive

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Dudek. 2025. *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project*. Prepared for the City of Pasadena.
***Attachments:** ☐ NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐Sketch Map ☐Other (List):

B1. Historic Name: Earthside Nature Center
B2. Common Name: Earthside Nature Center
B3. Original Use: Community Garden
B4. Present Use: Community Garden
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alterations, and date of alterations) Known alterations to the property include the demolition and removal of features formerly associated with the site, such as benches, tables, a kiosk, plaques, and sheds, and the removal of original plantings at unknown dates (NETR 2025).

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** N/A

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area:** N/A
**Period of Significance** N/A **Property Type** N/A **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Earthside Nature Center Site does not meet the criteria for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or the City of Pasadena Historic Resources Database. The property was evaluated in accordance with Section 106 of the National Historic Preservation Act (Section 106) and Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is not considered a historic property for the purposes of Section 106 or a historical resource under CEQA. As such, this evaluation assigns a 6Z California Historical Resources Status Code to the Earthside Nature Center Site. See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes) None

***B12. References:** See Continuation Sheet.

B13. Remarks: None

***B14. Evaluator:** Katie Ahmanson, MHC, Dudek

***Date of Evaluation:** September 5, 2025

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

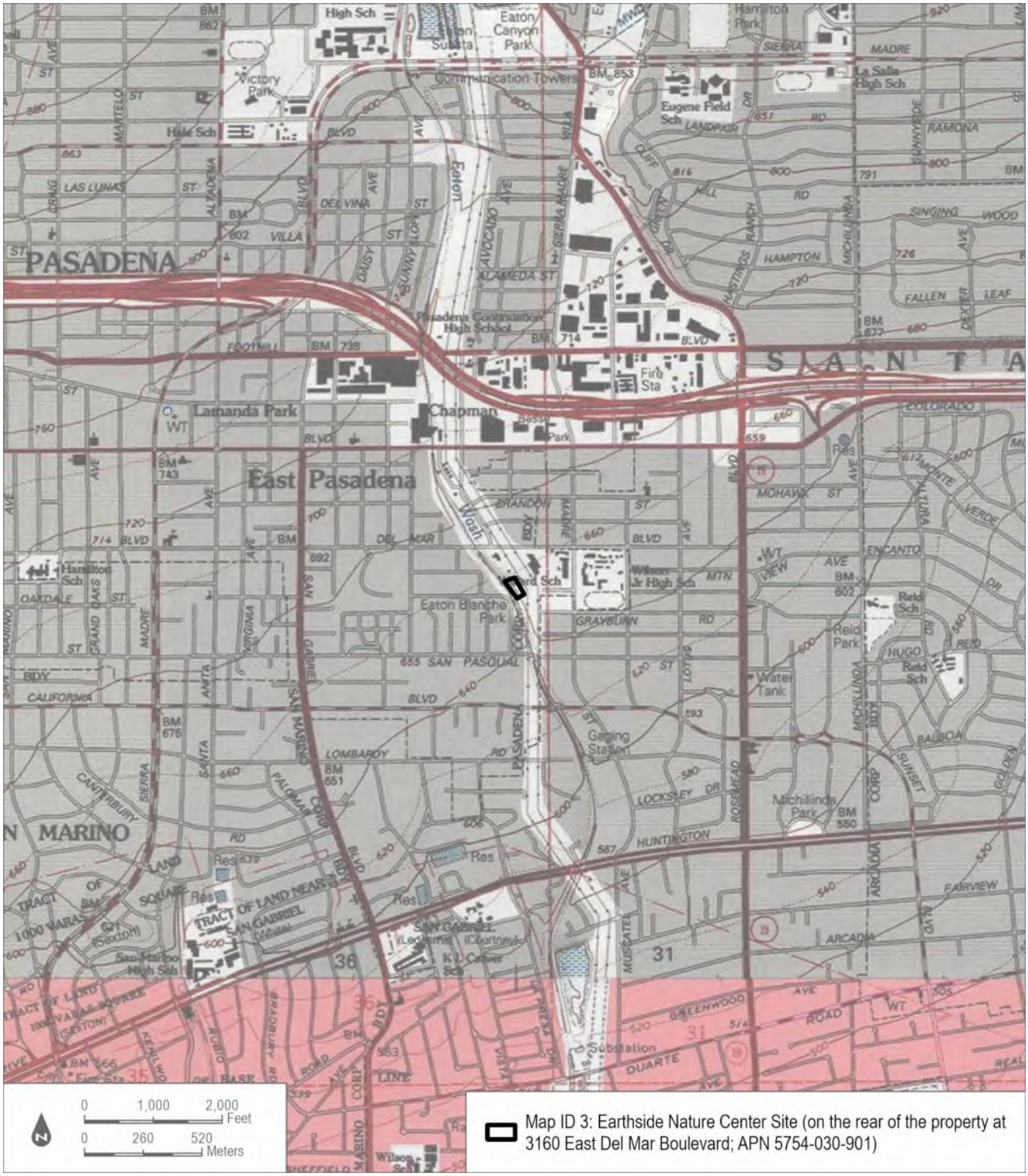


**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# LOCATION MAP

**Primary #**
**HRI#**
**Trinomial**

**Page** 3 **of** 9 ***Resource Name or #** Earthside Nature Center Site
***Map Name:** Pasadena, Calif. ***Scale:** 1:24,000 ***Date of map:** 1999



***B10. Significance (continued from page 2):**

The following historic context is adapted from *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project,* prepared in October 2025 by Dudek.

Historical Overview of the City of Pasadena

The City of Pasadena was established in 1886 when it was incorporated into Los Angeles County. Initially, the area was inhabited by the Hahamogna people, who dominated the area until the arrival of the Spanish. During the Spanish period in the 1770s, the area was part of the lands under the jurisdiction of the San Gabriel MissionMembers of the local tribes were forced to build the mission structure and work on the ranch to cultivate crops. After Mexico won its independence from Spain in 1822, Alta California became part of the Mexican Republic, and the Mexican government opened California to foreign trade. The area comprising present-day Pasadena became part of Rancho el Rincon de San Pascual in 1926, before it was acquired by Jose Perez and Enrique Sepulveda in the 1840s. Perez and Sepulveda subdivided a portion of the land for the development of the several single-family residences, and in 1843 Manual Garfias purchased part of the rancho in 1843 to construct a hacienda. By 1848, the United States had assumed formal control of California with the Treaty of Guadalupe-Hidalgo and introduced Anglo culture and society. Garfias continued to own the ranch until the 1860s, when he sold the property to Dr. John S. Griffin and Benjamin Davis Wilson who subdivided the land and sold off portions. Development in Pasadena continued during the 1860s, and by 1873, Griffin and Wilson divided and developed the last four separate tracts of their land (HRG 2025: 31; O'Connor 1993: 7-10).

The City of Pasadena was incorporated in 1886 during a period of agricultural growth. The fertile soil in the area lent itself to a successful local citrus industry that encouraged settlers to move to the area. Additionally, the completion of the transcontinental railroad in 1869 aided in the growth of the area as well as the transportation of local produce. The citrus industry continued to dominate the City's economy throughout the early twentieth century, followed by the cultivation of wheat and barley. Development of early homes reflected the City's humble beginnings with simple one and two-story wood-frame vernacular farmhouses that were later replaced with more substantial masonry buildings. Infrastructure such as sewers, paved streets, and electrical street lighting were installed during 1880s and 1890s (O'Connor 1993: 12-19; City of Pasadena 2025).

By the turn of the century, Pasadena's economy began to shift to a tourist-based economy due to its picturesque location in the foothills of the San Gabriel Mountains. Early hotels were modest in scale and primarily promoted to tuberculosis patients who traveled to the area to benefit from its temperate climate, known to have a positive effect on health. Pasadena's prominence as a tourist destination began when the Pasadena Board of Trade formed in 1888 and began to "promote and encourage everything that will make our beloved city more beautiful, more healthful morally and physically" (O'Connor 1993: 17). The board published *Pasadena: Crown of the Valley* in 1892 to promote the many recreational opportunities to tourists and residents in hopes of stimulating tourism. The San Gabirel Mountains offered visitors various recreational activities including picnicking, horseback riding, hiking, hunting, and fishing. Developed of grand hotels such as the Hotel Green, in 1894, the Raymond Hotel in 1901, and the Hotel Maryland in 1903, led to a wave of tourists enamored by the local climate and amenities (O'Connor 1993: 17-20).

During the 1910s and 1920s, tourists began to purchase land and construct vacation homes for their winter stays. Mansions replaced many of the early modest residences associated with the agricultural industry, and the street Orange Grove, named after its vicinity to local citrus orchards, became known as "Millionaires' Row". As Pasadena developed into a modern city, it enticed middle and working-class residents who supported the construction industry with laborers, brick makers, and hospitality workers at the hotels. Residential development patterns at this time reflected socio-economic and racial boundaries. The southwest portion of the city consisted of wealthy, primarily white residents, while middle-class residents occupied the areas north and east of the city center (O'Connor 1993: 20-21).

The Great Depression (1929–1939) impacted industries and communities throughout the city, especially working-class jobs such as domestic workers and retail clerks. Although the population of Pasadena reached 76,000 residents by 1930, the city's industrial base decreased from 191 companies in 1920 to 150 companies in 1930. Many of the large hotels that struggled at this time resulted in the demolition of some, like the Hotel Maryland in 1935, and the conversion of others for different uses (O'Connor 1993: 21-22). Additionally, many of the mansions along Millionaires' Row were

abandoned or converted into boarding houses, leading to the area being rezoned for multi-family development in 1948. Wartime employment during the onset of World War II in 1941 saw a small increase in the population as servicemen passed through Los Angeles on their way to and from the war. However, development largely slowed during the beginning of the war (O'Connor 1993: 33).

After World War II, a massive wave of migration and building boom occurred throughout California. Pasadena experienced a population increase of over 22,000 residents between 1940 and 1950 with new residential tracts developed in the Allendale, Upper Hastings, Kinneloa, San Rafael, and Linda Vista neighborhoods of the city. With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the city's economy and spurred growth in the surrounding areas. This growth is reflected in the city's present-day built environment that includes residential development along public transportation lines and commercial development along major commercial routes. Residential partitioning enforced zoning ordinances with specific building standards and lot controls characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (O'Connor 1993: 33-43). Historical aerial photographs show that Pasadena was primarily developed by the 1980s (NETR 2025). In recent years, the economy has shifted to support a variety of industries including health care and social assistance, professional, scientific, and technical services, and educational services. As of 2023, the population in Pasadena included over 136,000 residents (Data USA 2025).

Development of the Earthside Nature Center

The Earthside Nature Center, located on the rear of the property at 3160 East Del Mar Boulevard (APN 5754-030-901) in Pasadena, California, was established on about two acres in 1971. Before the development of the nature center, Southern California Edison Company (SoCal Edison) purchased the property and used it for a transmission line corridor in 1951. The property contained transmission lines and was primarily used as a dumping site. The Pasadena Girls Club acquired use of the property from SoCal Edison c.1955 and constructed a clubhouse on the northern portion along East Del Mar Boulevard. The girls helped to plant a garden on the property and used the site for activities before the Earthside Nature Center was founded by naturalist Elna Bakker, and Kevin Connelly in 1971. Volunteers helped to develop a garden on the property with donated plants of a variety of native species (Gilmore et al 2009; Barber 1985). By 1987, the nature center was reported to be a "microcosm of the California plant work" with a flourishing garden tended to by the volunteers. During the 1980s, the nature center provided tours to the public and held annual Wildflower Walkabouts that encouraged visitors to picnic and explore the property (LAT 1987: 76). In 1989, the Earthside Nature Center was awarded the American Horticultural Society's (AHS) Award for Urban Beautification for its grassroots efforts to create an equitable community space using plants and nature. The AHS Awards Program was established in 1953 with four awards: the Horticultural Writing, Professional, Teaching, and Scientific awards. It was expanded in 1985 to include the Urban Beautification Award, now known as the Community Greening Award, to honor community beautification efforts across the nation. During the mid-1990s, the AHS Awards Program evolved to the Great American Gardeners Awards program and was expanded to include diverse categories of awards that "celebrate those who exemplify dedication to the art, science, and environmental stewardship of horticulture across the United States" (AHS 2025). Volunteers continued to maintain the gardens and conduct tours of the nature center in the early 1990s. However, it was abandoned in 1995 after the deaths of Bakker and Connelly (Gilmore et al 2009). According to historic aerial photographs, the original 66 kilovolt (kV) transmission lines on the property were replaced with 220 kV transmission lines with steel lattice towers c. 2005 (NETR 2025).

In 2008, local open space activist Michael Coppess discovered the abandoned Earthside Nature Center site and began efforts to revitalize the property. Coppess documented the remains of the nature center in his blog, East of Allen, which highlighted the history of the site and garnered community attention. In 2009, a group of graduate students from California Polytechnic University, Pomona, conducted a study of the site and inventoried the remnants of the center, including the wood post entrance, a kiosk, benches, tables, a potting shed, a storage shed, signage, trails, and plaques. However, the study concluded that most of the plantings, such as wildflowers, shrubs, trees, and exotic plants, are in poor health or have been replaced with weeds. After over a decade of abandonment, the site lacked maintenance and had become overrun with Non-native grasses, shrubs, and trees, and an extensive removal and replanting process

would be necessary to revitalize the site. The students presented their findings at the Pasadena Open Space Fair on February 28, 2009, to promote community engagement with the site and recommend alternative designs for the property. Although public interest in the revitalization of the property prompted the city to adopt its Open Space Element to reestablish the center, it has remained abandoned to the present (Coppess 2008; Gilmore et al 2009; LAT 1995: 20). As of 2025, the site remains in poor condition, and only the wood post entrance and a plaque remain, with few original plantings left. Pasadena's proposed Eaton Wash Stormwater Capture Project has spurred interest in the site once again, and the city has developed a Site Concept Design that is out for public comment. The final design for the site is expected to be approved by spring 2026, and it will possibly result in the redevelopment of the site in the future (Coppess 2025).

NRHP/CRHR Criteria

The Earthside Nature Center site was evaluated in consideration of the NRHP and CRHR criteria and integrity requirements. As a result of the evaluation, the Earthside Nature Center site is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

*Criterion A/1: Events*

Under NRHP Criterion A and CRHR Criterion 1, the Earthside Nature Center site lacks a direct and important association with any event significant in local, state, or national history. The nature center was established on the property in 1971 as a community garden planted by volunteers. It was known for its variety of native plantings and offered tours as well as public events. In 1989, it was awarded the American Horticultural Society's Award for Urban Beautification, however,, it was abandoned in 1995 and left without maintenance since. Presently, only two features formerly associated with the site remain, and many of the original plantings have been overgrown with weeds. Although the Earthside Nature Center appears to have been an exceptional community garden within Pasadena from the 1970s to 1990s gaining national recognition in 1989, the site has not been maintained over the years and no longer retains sufficient integrity to reflect its history. The loss of the majority of original features on the property has altered its integrity of design, materials, workmanship, and feeling. Integrity of association is lost because the alterations and changes in use have rendered it unable to convey its historic character. The two extant features, the wood post entrance and plaque, do not sufficiently reflect the history of the site to meet NRHP orCRHR Criterion A/1. As such, the Earthside Nature Center site does not possess associative significance under NRHP/CRHR Criteria A/1.

*Criterion B/2: Significant Persons*

Under NRHP Criterion B and CRHR Criterion 2, the Earthside Nature Center lacks a significant association with the productive life of any person important in local, state, or national history. Research indicates that SoCal Edison has owned the property since 1951, and it has been occupied by three organizations from c. 1955 to 2025. The property was used by the Girls Club of Pasadena for club activities from c. 1955 to 1971, when the Earthside Nature Center was established on the property by Elna Bakker and Kevin Connelly. Although Bakker was well known in her field as a naturalist, her career does not appear to be significantly associated with the subject property. She is best known as an author with several books about the ecology, geology, and anthropology of California. Likewise, the majority of her achievements protecting public lands and habitats are associated with her activities as a member of the Sierra Club (LAT 1995: 20; Sierra Club 1995). Therefore, the subject property cannot be associated with Bakker's productive life. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criteria B/2.

*Criterion C/3: Design/Construction*

Under NRHP Criterion C and CRHR Criterion 3, the Earthside Nature Center site does not fully embody the distinctive characteristics of a community garden from 1971. Due to substantial alterations, the site contains few remains of the original facility. Only the wood post entrance from 1971 and a plaque from 1992 are known to be original to the site. The remaining original trees appear to be in poor condition, and many of the original plantings have been replaced by weeds and shrubs. There is also no indication that any of these resources are the work of a master or possess high artistic value. Likewise, the resource is not part of a potential or existing historic district. As such, the Earthside Nature Center site lacks sufficient design and construction value to meet NRHP/CRHRCriteria C/3.

*Criterion D/4: Data Potential*

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. The original site of the Earthside Nature Center has been significantly disturbed since 1971 when it was established. After its closure in 1995, the property was abandoned and became overgrown with weeds and shrubs. Likewise, many of the original features were removed at unknown dates. The site is unlikely to contain any data that would answer specific research questions due to disturbance and substantial alterations. As such, the subject property lacks significance under NRHP/CRHR D/4.

City of Pasadena Landmark Criteria

The Earthside Nature Center also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

*Criterion A: Events*

Under the City of Pasadena Landmark Criterion A, the Earthside Nature Center is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criteria A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

*Criterion B: Significant Persons*

Under the City of Pasadena Landmark Criterion B, the Earthside Nature Center is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criteria B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

*Criterion C: Design/Construction*

Under the City of Pasadena Landmark Criterion C, the Earthside Nature Center is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property has been substantially altered and contains few remains of the original facility. Therefore, it is recommended not eligible under City of Pasadena Landmark Criterion C.

*Criterion D/4: Data Potential*

Under the City of Pasadena Landmark Criterion D, the Earthside Nature Center has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

Statement of Integrity and Conclusion

Because the Earthside Nature Center site lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR § 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR § 15064.5(a).

***B12. References (continued from page 2):**

AHS (American Horticultural Society). 2025. "Great American Gardeners Awards History." American Horticultural Society (Alexandria, VA). Accessed September 2025. https://ahsgardening.org/great-american-gardeners-awards-history/.

Barber, Mary. 1985. "Dump Goes Back to Nature: A Treasure Trove of Flora in Pasadena." *Los Angeles Times* (Los Angeles, CA). April 7, 1985. https://www.latimes.com/archives/la-xpm-1985-04-07-ga-27809-story.html.

City of Pasadena. 2025. "Heritage: A Short History of Pasadena." City of Pasadena (Pasadena, CA). Accessed July 17, 2025. https://www.cityofpasadena.net/about-pasadena/history-of-pasadena/.

Coppess, Michael. 2008. "Secret Garden." East of Allen. December 13, 2008. https://eastofallen.com/2008/12/13/secret-garden/.

Data USA. 2025. "Pasadena, CA." Data USA. Accessed July 17, 2025. https://datausa.io/profile/geo/pasadena-ca/#economy.

Gilmore, Ryan, Leandra Golden, Hyon Chu Tsang, and Jackie Vandenburgh. 2009. Earthside Nature Center Green Vision. Prepared for the California State Polytechnic University, Pomona (Pomona, CA). 2009. Accessed July 24, 2025.

HRG (Historic Resources Group) and Teresa Grimes Historic Preservation. 2025. *City of Pasadena Public Review Draft Historic Statement*. Prepared for the City of Pasadena Planning and Community Development Department of the Planning Division. Historic Resources Group (Pasadena, CA). April 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Pasadena-Historic-Context-Statement-All-Chapters-April-2025.pdf?v=1752790006363.

NETR (Nationwide Environmental Title Research). 2025. Historical Aerial Photographs of the City of Pasadena, CA dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

O'Connor, Pamela. 1993. *Architectural/Historical Development of the City of Pasadena – Historic Context/Property Type Report*. Submitted to the California State Office of Historic Preservation. Urban Conservation Section of the City of Pasadena Planning Division (Pasadena, CA). January 13, 1993.

LAT (Los Angeles Times). 1987. "Earthside Nature Center Offers Annual Wildflower Walkabouts." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). April 11, 1987. Page 76. Newspapers.com.

LAT. 1995. "Elna Bakker; Author and Environmentalist." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). July 8, 1995. Page 20. Newspapers.com.

***Pfa. Photographs (continued from page 1):**

**Photograph 2.** View of the plaque at the Earthside Nature Center site, looking south. Photograph taken on June 26, 2025.




**Source:** Dudek, IMG_4126.

**Photograph 3.** View of the Earthside Nature Center site, looking southeast. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_4176.

**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# PRIMARY RECORD

**Primary #**
**HRI #**
**Trinomial**
**NRHP Status Code** 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Exer Urgent Care

**P1. Other Identifier:** Girls Club of Pasadena; Pasadena Urgent Care Center, Map ID 4
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Los Angeles
**and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Pasadena, Calif. **Date** 1999 **T** 12W; **R**; ¼ **of** ¼ **of Sec** 38; San Bernardino **B.M.**
c. Address 3160 East Del Mar Boulevard City Pasadena Zip 91107
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 399895 mE/ 3778400 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN 5754-030-901

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The property at 3160 East Del Mar Boulevard (APN 5754-030-901) contains an urgent care building surrounded by an asphalt-paved parking lot (Photograph 1). Access to the property is provided by two concrete driveways on the south side of Del Mar Boulevard. The urgent care building is irregular in plan and one-story in height. The building is clad with wood clapboard siding and topped by a metal-batten cross-gable roof with overhanging closed eaves with exposed rafters. A covered main entrance beneath the extending roof overhang on the primary (north) elevation contains two sets of metal-frame fully glazed doors (Photograph #). Secondary access is provided by metal doors on the northeast corner of the primary elevation and the west and east elevations (Photographs 2 & 3). See Continuation Sheet.

***P3b. Resource Attributes:** HP14. Government Building
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph




P5b. Description of Photo: Photo 1, IMG_1138, looking southwest, 6/26/2025.

***P6. Date Constructed/Age and Sources:** ☒ Historic
c. 1955 (LAT 1959: 238)

***P7. Owner and Address:**
City of Pasadena
100 N. Garfield Avenue
Pasadena, California 91101

***P8. Recorded by:**
Katie Ahmanson, MHC
Dudek
225 S. Lake Ave, Ste. M210
Pasadena, CA 91101

***P9. Date Recorded:**
June 26, 2025

***P10. Survey Type:** Intensive

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.") Dudek. 2025. *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project*. Prepared for the City of Pasadena.
***Attachments:** ☐ NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐Sketch Map ☐Other (List):

B1. Historic Name: Girls Club of Pasadena
B2. Common Name: Exer Urgent Care
B3. Original Use: Community Center
B4. Present Use: Urgent Care Center
***B5. Architectural Style:** Modern with International style elements
***B6. Construction History:** (Construction date, alterations, and date of alterations) Known alterations to the building include the expansion of the building in 1961 and additions to the primary and rear (south) elevation of the building c. 2018 (LAT 1961b: 349; NETR 2025).

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:** Surrounding parking lot

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area:** N/A
**Period of Significance** N/A **Property Type** N/A **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Exer Urgent Care not meet the criteria for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or the City of Pasadena Historic Resources Database. The property was evaluated in accordance with Section 106 of the National Historic Preservation Act (Section 106) and Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is not considered a historic property for the purposes of Section 106 or a historical resource under CEQA. As such, this evaluation assigns a 6Z California Historical Resources Status Code to Exter Urgent Care. See Continuation Sheet/

B11. Additional Resource Attributes: None

***B12. References:** See Continuation Sheet.

B13. Remarks: None

***B14. Evaluator:** Katie Ahmanson, MHC, Dudek

***Date of Evaluation:** September 5, 2025

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

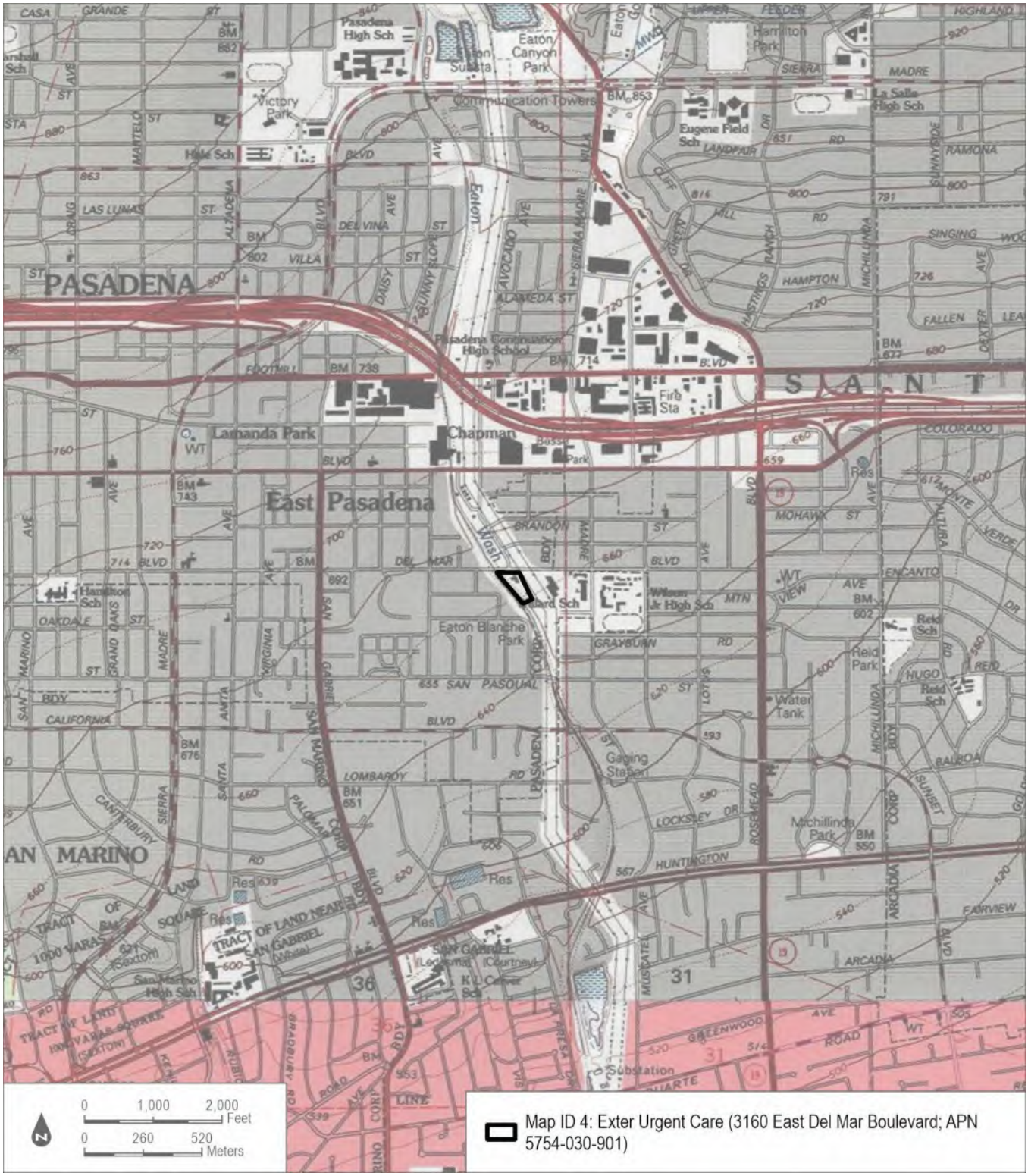


**State of California - The Resources Agency**
**DEPARTMENT OF PARKS AND RECREATION**

# LOCATION MAP

**Primary #**
**HRI#**
**Trinomial**

**Page** 3 **of** 10 ***Resource Name or #** Exer Urgent Care
***Map Name:** Pasadena, Calif. ***Scale:** 1:24,000 ***Date of map:** 1999



***P3a. Description (continued from page 1)**

Fenestration consists of grouped metal-sash awning windows with brise soleil. Only the primary elevation and partial views of the east and west elevations were visible during the property survey. A concrete masonry unit wall encases the northern boundary of the property, and metal-rail fencing surrounds the east, south, and west boundaries. Landscaping includes small plantings, trees, and shrubs. Alterations include the expansion of the building in 1961 and additions to the primary and rear (south) elevation of the building c. 2018. Due to substantial alterations, the building no longer represents distinctive characteristics of an architectural style or period. It contains elements of Modern utilitarian design, including minimal exterior ornamentation, grouped metal-sash awning windows with brise soleil, a metal-batten cross-gable roof, wood-clapboard siding, and a concrete slab foundation.

***B10. Significance (continued from page 2):**

The following historic context is adapted from *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project,* prepared in October 2025 by Dudek.

Historical Overview of the City of Pasadena

The City of Pasadena was established in 1886 when it was incorporated into Los Angeles County. Initially, the area was inhabited by the Hahamogna people, who dominated the area until the arrival of the Spanish. During the Spanish period in the 1770s, the area was part of the lands under the jurisdiction of the San Gabriel MissionMembers of the local tribes were forced to build the mission structure and work on the ranch to cultivate crops. After Mexico won its independence from Spain in 1822, Alta California became part of the Mexican Republic, and the Mexican government opened California to foreign trade. The area comprising present-day Pasadena became part of Rancho el Rincon de San Pascual in 1926, before it was acquired by Jose Perez and Enrique Sepulveda in the 1840s. Perez and Sepulveda subdivided a portion of the land for the development of the several single-family residences, and in 1843 Manual Garfias purchased part of the rancho in 1843 to construct a hacienda. By 1848, the United States had assumed formal control of California with the Treaty of Guadalupe-Hidalgo and introduced Anglo culture and society. Garfias continued to own the ranch until the 1860s, when he sold the property to Dr. John S. Griffin and Benjamin Davis Wilson who subdivided the land and sold off portions. Development in Pasadena continued during the 1860s, and by 1873, Griffin and Wilson divided and developed the last four separate tracts of their land (HRG 2025: 31; O'Connor 1993: 7-10).

The City of Pasadena was incorporated in 1886 during a period of agricultural growth. The fertile soil in the area lent itself to a successful local citrus industry that encouraged settlers to move to the area. Additionally, the completion of the transcontinental railroad in 1869 aided in the growth of the area as well as the transportation of local produce. The citrus industry continued to dominate the City's economy throughout the early twentieth century, followed by the cultivation of wheat and barley. Development of early homes reflected the City's humble beginnings with simple one and two-story wood-frame vernacular farmhouses that were later replaced with more substantial masonry buildings. Infrastructure such as sewers, paved streets, and electrical street lighting were installed during 1880s and 1890s (O'Connor 1993: 12-19; City of Pasadena 2025).

By the turn of the century, Pasadena's economy began to shift to a tourist-based economy due to its picturesque location in the foothills of the San Gabriel Mountains. Early hotels were modest in scale and primarily promoted to tuberculosis patients who traveled to the area to benefit from its temperate climate, known to have a positive effect on health. Pasadena's prominence as a tourist destination began when the Pasadena Board of Trade formed in 1888 and began to "promote and encourage everything that will make our beloved city more beautiful, more healthful morally and physically" (O'Connor 1993: 17). The board published *Pasadena: Crown of the Valley* in 1892 to promote the many recreational opportunities to tourists and residents in hopes of stimulating tourism. The San Gabirel Mountains offered visitors various recreational activities including picnicking, horseback riding, hiking, hunting, and fishing. Developed of grand hotels such as the Hotel Green, in 1894, the Raymond Hotel in 1901, and the Hotel Maryland in 1903, led to a wave of tourists enamored by the local climate and amenities (O'Connor 1993: 17-20).

During the 1910s and 1920s, tourists began to purchase land and construct vacation homes for their winter stays. Mansions replaced many of the early modest residences associated with the agricultural industry, and the street Orange Grove, named after its vicinity to local citrus orchards, became known as "Millionaires' Row". As Pasadena developed

into a modern city, it enticed middle and working-class residents who supported the construction industry with laborers, brick makers, and hospitality workers at the hotels. Residential development patterns at this time reflected socio-economic and racial boundaries. The southwest portion of the city consisted of wealthy, primarily white residents, while middle-class residents occupied the areas north and east of the city center (O'Connor 1993: 20-21).

The Great Depression (1929–1939) impacted industries and communities throughout the city, especially working-class jobs such as domestic workers and retail clerks. Although the population of Pasadena reached 76,000 residents by 1930, the city's industrial base decreased from 191 companies in 1920 to 150 companies in 1930. Many of the large hotels that struggled at this time resulted in the demolition of some, like the Hotel Maryland in 1935, and the conversion of others for different uses (O'Connor 1993: 21-22). Additionally, many of the mansions along Millionaires' Row were abandoned or converted into boarding houses, leading to the area being rezoned for multi-family development in 1948. Wartime employment during the onset of World War II in 1941 saw a small increase in the population as servicemen passed through Los Angeles on their way to and from the war. However, development largely slowed during the beginning of the war (O'Connor 1993: 33).

After World War II, a massive wave of migration and building boom occurred throughout California. Pasadena experienced a population increase of over 22,000 residents between 1940 and 1950 with new residential tracts developed in the Allendale, Upper Hastings, Kinneloa, San Rafael, and Linda Vista neighborhoods of the city. With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the city's economy and spurred growth in the surrounding areas. This growth is reflected in the city's present-day built environment that includes residential development along public transportation lines and commercial development along major commercial routes. Residential partitioning enforced zoning ordinances with specific building standards and lot controls characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (O'Connor 1993: 33-43). Historical aerial photographs show that Pasadena was primarily developed by the 1980s (NETR 2025). In recent years, the economy has shifted to support a variety of industries including health care and social assistance, professional, scientific, and technical services, and educational services. As of 2023, the population in Pasadena included over 136,000 residents (Data USA 2025).

Development of Exter Urgent Care

The Exer Urgent Care building at 3160 East Del Mar Boulevard (APN 5754-030-901) was initially developed as a clubhouse for the Girls Club of Pasadena c. 1955 by the City of Pasadena (LAT 1959: 238; ParcelQuest 2025). The clubhouse was expanded in 1961 to include a patio area, a library, three additional craft rooms, and a teen room (LAT 1961b: 349). Activities, events, and training sessions were hosted at the clubhouse from the 1950s to the 1990s (LAT 1959: 238; LAT 1964: 13; LAT 1970: 473; LAT 1980: 514; LAT 1990: 212). Research indicates that the building was owned by the City of Pasadena and operated by the Pasadena Girls Club until 2009, when it was converted to the Pasadena Urgent Care Center (Google Maps 2025). A study by Huntington Hospital in 2006 determined the community's need for more healthcare in the growing underserved areas of Pasadena and proposed the construction of a new urgent care center. Two city-owned properties were suggested at 3160 East Del Mar Boulevard (the subject property) and the former St. Luke Hospital facility at 2690 East Washington Boulevard. The study concluded that the northwest portion of the city had the greatest need for an urgent care center, so the East Del Mar Boulevard property was chosen for the development of the Pasadena Urgent Care Center in 2009 (HH 2006). Historic aerial photographs show that additions were added to the primary (north) and rear (south) elevations of the building to accommodate the urgent care in 2009 (NETR 2025). By 2019, the building was occupied by Exer Urgent Care, which has remained at the property to the present under the ownership of the City of Pasadena (Google Maps 2025; ParcelQuest 2025).

Urgent Care Center Typology

Although urgent care centers first emerged in the 1970s, it was decades before they were integrated with the broader national healthcare system. Growth in the development of urgent care centers during the last two decades has been a result of consumer demand for convenient healthcare and a lack of access to primary care. The number of urgent care centers in the United States almost doubled between 2014 and 2023, from 7,220 centers to 14,382. The development

of urgent care centers varies by state, depending on the per capita concentration of an area. During the COVID-19 pandemic from 2020 to 2023, consumers disregarded initial guidance from regulators advising patients not to pursue COVID-19 testing at urgent care centers, leading to an exponential increase in urgent care visits. Continued growth of urgent care centers resulting in further development of centers in the 2020s (Trilliant Health 2024). More recent urgent care centers adapt existing buildings such as strip malls, office buildings, or existing medical facilities for efficient development. Centers must meet local health department regulations and comply with the Stark Laws' provisions against special favors, special compensation, or givebacks to doctors, particularly if a building is leased space from a hospital (Manley 2013). The Cedars-Sinai Urgent Care building in Culver City was completed in 2015 by Abramson Architects and won the 2015 AIA-San Fernando Valley Design Award as well as recognition from Healthcare Design's 2015 Remodel/Renovation Competition. Additionally, the Cedars-Sinai Los Feliz Urgent Care & OB/GYN, designed by Abramson Architects, won both the 2022 AIA LA Design Award and the 2022 SCDF Design Award. Both designs were noted for their use of floor-to-ceiling windows to provide light and space within the interiors (AA 2025a; AA 2025b).

Characteristics of the department store typology (Manley 2013):

- High visibility
- Ease of access
- Parking lot
- Exterior signage
- Building lobby

NRHP/CRHR Criteria

3160 East Del Mar Boulevard was evaluated in consideration of the NRHP or CRHR criteria and integrity requirements. As a result of the evaluation, 3160 East Del Mar Boulevard is recommended not eligible for inclusion in the NRHP or CRHR due to a lack of significant associations.

*Criterion A/1: Events*

Under NRHP Criterion A and CRHR Criterion 1, the building at 3160 East Del Mar Boulevard lacks a direct and important association with any event significant in local, state, or national history. The building at 3160 East Del Mar Boulevard was constructed by the City of Pasadena for the Girls Club of Pasadena c. 1955 during the post-war population and development boom. It was occupied by the Girls Club of Pasadena from c. 1955 to 2009, when it was converted to an urgent care center. While civic properties such as the subject property were developed in residential neighborhoods throughout Pasadena in the post-war period to accommodate the recreational needs of fast fast-growing city, there is no indication that the subject property is particularly significant within this pattern of development, either regionally or nationwide. Likewise, the building was heavily altered and converted to an urgent care center in 2009, and no longer bears an association with the Girls Club of Pasadena. As an urgent care center, the subject property is not the first or the last facility developed in Pasadena. The subject property represents the continuation of a decades-long period of civic development after the conclusion of World War II. However, mere association with a broad trend is insufficient to meet NRHP Criterion A or CRHR Criterion 1. The property must also have an important association with a historic trend or event. In the specific case of the building at 3160 East Del Mar Boulevard, it is not known to be directly associated with any events that have made a significant contribution to the history of Pasadena, California, or the nation. Therefore, the subject property is not eligible under NRHP/CRHR Criteria A/1.

*Criterion B/2: Significant Persons*

Under NRHP Criterion B and CRHR Criterion 2, the residence at 3160 East Del Mar Boulevard lacks a significant association with the productive life of any person important in local, state, or national history. Research indicates that the City of Pasadena has owned the property from c. 1955 to the present and that it has been occupied by three organizations in that time. The Girls Club of Pasadena occupied the property from c. 1955 to 2009, the Pasadena Urgent Care Center from 2009 to c. 2019, and Exer Urgent Care from c. 2019 to the present. Research did not uncover information that indicated that these occupants made a significant contribution to history. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criteria B/2.

*Criterion C/3: Design/Construction*

Under NRHP Criterion C and CRHR Criterion 3, the urgent care building at 3160 East Del Mar Boulevard is not significant because it does not represent an important example of a type, period, or method of construction. Research did not identify an architect or builder for the property, and it appears unlikely to be the work of a master architect or builder. Although the subject property lacks a formal discernible architectural style, it does reflect elements of Modern utilitarian design, including minimal exterior ornamentation, grouped metal-sash awning windows with brise soleil, a metal-batten cross-gable roof, wood-clapboard siding, and a concrete slab foundation. The subject property is a heavily altered example of a modest and undistinguished building converted to an urgent care center in 2009, which is a ubiquitous property type found throughout the region. The subject property appears to have been constructed using well-documented and common construction techniques and methods. Additionally, as a purpose-built building, it does not possess high artistic values and is not the product of an architect or builder attempting to articulate the design principles or aesthetics of a formal architectural style or substyle. The property is also not a rare example of its type; there are similar urgent care facilities from throughout the city, state, and nation. The last portion of NRHP Criterion C refers to a district, which is defined as a significant and distinguishable entity whose components may lack individual distinction. The subject property does not contribute to the significance of a potential or existing historic district. Overall, the subject property lacks sufficient design and construction value to meet NRHP/CRHR Criteria C/3.

*Criterion D/4: Data Potential*

Under NRHP Criterion D and CRHR Criterion 4, the subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP/CRHR Criteria D/4.

City of Pasadena Landmark Criteria

The building at 3160 East Del Mar Boulevard also does not appear to meet any of the City of Pasadena's historic resources designation criteria to be considered a landmark as outlined under Section 17.62.040(D)(2) of the Pasadena Code of Ordinances.

*Criterion A: Events*

Under the City of Pasadena Landmark Criterion A, the building at 3160 East Del Mar Boulevard is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criteria A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

*Criterion B: Significant Persons*

Under the City of Pasadena Landmark Criterion B, the building at 3160 East Del Mar Boulevard is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criteria B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

*Criterion C: Design/Construction*

Under the City of Pasadena Landmark Criterion C, the building at 3160 East Del Mar Boulevard is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a heavily altered example of a modest and undistinguished building, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

*Criterion D/4: Data Potential*

Under the City of Pasadena Landmark Criterion D, the building at 3160 East Del Mar Boulevard has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

Statement of Integrity and Conclusion

Because Exer Urgent Care lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR § 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR § 15064.5(a).

***B12. References (continued from page 2):**

AA (Abramson Architects). 2025a. "Cedars-Sinai Urgent Care | Award Winner." Abramson Architects (Los Angeles, CA). Accessed August 5, 2025. https://www.abramsonarchitects.com/work/cedars-sinai-urgent-care.

AA. 2025b. "Cedars-Sinai Los Feliz Urgent Care & OB/GYN | Award Winner." Abramson Architects (Los Angeles, CA). Accessed August 5, 2025. https://www.abramsonarchitects.com/work/cedars-sinai-los-feliz-urgent-care-ob-gyn#:~:text=Abramson%20Architects%20%7C%20Cedars%2DSinai%20Los,//%202022%20SCDF%20Design%20Award.

City of Pasadena. 2025. "Heritage: A Short History of Pasadena." City of Pasadena (Pasadena, CA). Accessed July 17, 2025. https://www.cityofpasadena.net/about-pasadena/history-of-pasadena/.

Data USA. 2025. "Pasadena, CA." Data USA. Accessed July 17, 2025. https://datausa.io/profile/geo/pasadena-ca/#economy.

Google Earth. 2025. Google Earth, desktop application; centered on the review area. Accessed March 2025. https://www.google.com/earth/.

HRG (Historic Resources Group) and Teresa Grimes Historic Preservation. 2025. *City of Pasadena Public Review Draft Historic Statement*. Prepared for the City of Pasadena Planning and Community Development Department of the Planning Division. Historic Resources Group (Pasadena, CA). April 2025. https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Pasadena-Historic-Context-Statement-All-Chapters-April-2025.pdf?v=1752790006363.

HH (Huntington Hospital). 2006. Urgent Care Center Assessment. Huntington Hospital (Pasadena, CA). May 5, 2006. https://ww2.cityofpasadena.net/2008%20agendas/Sep_08_08/11A%20URGENT%20CARE%20CENTER%20ASSESSMENT.pdf.

Manley, Marisa. 2013. "How to Successfully Build Out an Urgent Care Center." The Journal of Urgent Care Medicine (Carefree, AZ). June 1, 2013. https://www.jucm.coTm/how-to-successfully-build-out-an-urgent-care-center/.

NETR (Nationwide Environmental Title Research). 2025. Historical Aerial Photographs of the City of Pasadena, CA dating from 1948,1952, 1953, 1964, 1972, 1977, 1978, 1980, 1987, 1988, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. Accessed July 2025. https://www.historicaerials.com/viewer.

O'Connor, Pamela. 1993. *Architectural/Historical Development of the City of Pasadena – Historic Context/Property Type Report*. Submitted to the California State Office of Historic Preservation. Urban Conservation Section of the City of Pasadena Planning Division (Pasadena, CA). January 13, 1993.

ParcelQuest. 2025. Assessor data for the subject property ay APN 5754-030-901 in Los Angeles County. Accessed August 6, 2025. https://pqweb.parcelquest.com/#home.

LAT (Los Angeles Times). 1959. "Pasadena Girls Club to Fete Anniversary." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). May 10, 1959. Page 238. Newspapers.com.

LAT. 1961b. "Two Honored for Aid Given to Girls' Club." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). April 9, 1961. Page 349. Newspapers.com.

LAT. 1964. "Girls' Club Will Offer 5 Classes." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). September 11, 1964. Page 13. Newspapers.com.

LAT. 1970. "Girls' Club Sets Signup." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). June 21, 1970. Page 473. Newspapers.com.

LAT. 1980. "Legislation Workshop." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). May 25, 1980. Page 514. Newspapers.com.

LAT. 1990. "Girls' Club of Pasadena Provides Day Care." Newspapers.com: *Los Angeles Times* (Los Angeles, CA). May 23, 1990. Page 212. Newspapers.com.

Trilliant Health. 2024. "The Marked Shift in Urgent Care Utilization: Two Years Later." Trilliant Health (Brentwood, TN). May 12, 2024. https://www.trillianthealth.com/market-research/studies/the-marked-shift-in-urgent-care-utilization-two-years-later.

***Pfa. Photographs (continued from page 1):**

**Photograph 2.** Primary (north) elevation of 3160 East Del Mar Boulevard, looking south. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1142.

**Photograph 3.** East elevation of 3160 East Del Mar Boulevard, looking southwest. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1140.

**Photograph 3.** The primary and west elevations of 3160 East Del Mar Boulevard, looking southeast. Photograph taken on June 26, 2025.



**Source:** Dudek, IMG_1128.

**P1. Other Identifier:** Map ID 5
e. Other Locational Data: Assessor Parcel Number: 5754-030-802

***P3a. Description:** The Southern California Edison (SCE) 220kV and 66kV Mesa-Anita-Eaton Transmission Lines and two transmission line towers in the APE were surveyed from the public right-of-way (Photograph 1). The two 40-foot-tall metal lattice-frame towers are topped with conductors and long cross arms with porcelain insulators that hold the transmission wires. The lines span approximately 370 feet on the east side of the Eaton Wash Channel (Photograph 2). The lines, poles, and conductors have likely been replaced. Overall, these components currently appear to be in good condition.

***P3b. Resource Attributes:** HP11. Engineering Structure

***P8. Recorded by:** Katie Ahmanson, MHC, Dudek

***P11. Report Citation:** Dudek. 2025. *Cultural Resource Assessment Report for the Eaton Wash Stormwater Capture Project*. Prepared for the City of Pasadena.

***B10. Significance:**

P-19-190502 was previously documented in 2010 by Wendy L. Tinsley Becker at Urbana Preservation & Planning LLC in the report, *Southern California Edison Company's Tehachapi Renewable Transmission Project Historic Infrastructure Eligibility Evaluation – Mesa-Anita Eaton Transmission Line*, from 2010. The SCE Mesa-Anita-Eaton 66kV Transmission Line was recommended ineligible for inclusion in the National Register of Historic Places (NRHP) and California Register of Historic Resources (CRHR) and assigned a status code of 6z (found ineligible for NRHP, CRHR, or local designation through survey evaluation). Dudek agrees with the previous findings that the SCE Mesa-Anita-Eaton Transmission Line is recommended not eligible for inclusion in the NRHP, CRHR, or the City of Pasadena Historic Resources Database due to a lack of significant associations. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

NRHP/CHRH Criteria

*Criterion A/1: Events*

Under NRHP Criterion A and CRHR Criterion 1, the SCE Mesa-Anita-Eaton Transmission Line lacks a direct and important association with any event significant in local, state, or national history. The 66kV transmission line was installed in 1951 to distribute power from the SCE Mesa Substation, Anita Substation, and Eaton Substation during the post-war population and development boom. By 2005, the 220 kV transmission line was added. Both lines were constructed outside of the 1912-1941 period that the SCE *Historic-Era Electrical Infrastructure Management Program* identified as a significant period in the development of transmission line systems designed to transmit electrical power within the 67 kV to 230 kV range. Although the transmission lines are representative of the development of electrical power infrastructure in post-war Pasadena, they are not associated with any event(s) or period(s) important in SCE or electrical engineering history. Therefore, the subject property is not eligible under NRHP/CRHR Criterion A/1.

*Criterion B/2: Significant Persons*

Under NRHP Criterion B and CRHR Criterion 2, the SCE Mesa-Anita-Eaton Transmission Line lacks a significant association with the productive life of any person important in local, state, or national history. Archival research indicates that the transmission line system is associated with the SCE Company. Although the power company played an important role in the development of electrical infrastructure in Pasadena and Southern California, the transmission line segment represents the collective work of many individuals rather than the work of any single individual. Research did not uncover information that indicated that any individuals who made a singular and significant contribution to the development of electrical transmission

line systems are associated with the line. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP/CRHR Criterion B/2.

*Criterion C/3: Design/Construction*

Under NRHP Criterion C and CRHR Criterion 3, the SCE Mesa-Anita-Eaton Transmission Line is not significant because it does not represent an important example of a type, period, or method of construction. The transmission line is part of a linear transmission line system consisting of steel lattice towers, which are common support structures for transmission lines in Pasadena, Los Angeles County, and California. According to the SCE *Historic-Era Electrical Infrastructure Management Program*, "By 1930 SCE developed the backbone of their 66 kV system, by 1940 the backbone of their 220 kV system and by 1970 their 500 kV system" (Tinsley 2017: 86). Therefore, the 1951 66 kV subject system is representative of ubiquitous infrastructure that exemplifies a standardized transmission system consisting of steel lattice towers, transmission lines, and hardware, and it lacks innovation regarding its overall design, form, and function. Additionally, research did not indicate that the transmission line is associated with the work of a master engineer or builder, nor did it reveal that the subject line segment represents an important variation, evolution, or transition of transmission line development because they fall outside the 1912 to 1941 period of significance that SCE identified for this voltage class of transmission lines. Overall, the subject property lacks sufficient design and construction value to meet NRHP/CRHR Criterion C/3.

*Criterion D/4: Data Potential*

Under NRHP Criterion D and CRHR Criterion 4, the SCE Mesa-Anita-Eaton Transmission Line is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP/CRHR Criterion D/4.

<u>City of Pasadena Landmark Criteria</u>

*Criterion A: Events*

Under the City of Pasadena Landmark Criterion A, the SCE Mesa-Anita-Eaton Transmission Line is not associated with any events that have made a significant contribution to the broad patterns of the history of the City. As discussed in NRHP/CRHR Criterion A/1, research does not indicate that the subject property was associated with significant events, therefore, it is not recommended eligible for City of Pasadena Landmark Criterion A.

*Criterion B: Significant Persons*

Under the City of Pasadena Landmark Criterion B, the SCE Mesa-Anita-Eaton Transmission Line is not associated with the lives of persons who are significant in the history of the City. As discussed in NRHP/CRHR Criterion B/2, due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under City of Pasadena Landmark Criterion B.

*Criterion C: Design/Construction*

Under the City of Pasadena Landmark Criterion C, the SCE Mesa-Anita-Eaton Transmission Line is not a particularly distinctive example of a type, style, period, or method of construction, nor does it represent the work of an architect, designer, engineer, or builder whose work is of significance to the City, or possess artistic values of significance to the City. As discussed in NRHP/CRHR Criterion C/3, the subject property is a common example of ubiquitous and undistinguished infrastructure, and therefore, is recommended not eligible under City of Pasadena Landmark Criterion C.

*Criterion D: Data Potential*

Under the City of Pasadena Landmark Criterion D, the SCE Mesa-Anita-Eaton Transmission Line has not yielded, and is not likely to yield, information important locally in prehistory or history. As discussed in NRHP/CRHR Criterion D/4, the subject property lacks significance under City of Pasadena Landmark Criterion D.

Statement of Integrity and Conclusion

Because the SCE Mesa-Anita-Eaton Transmission Line lacks the necessary significance to meet any of the NRHP or CRHR listing criteria, or the City of Pasadena landmark designation criteria, an analysis of the structure's physical integrity was considered unwarranted and immaterial to the overall finding that the subject property is not eligible for listing in the NRHP, CRHR, or the City of Pasadena Historic Resources Database. As such, this evaluation concludes that the subject property is not considered a historic property under Section 106 of the NHPA because it does not meet any of the NRHP evaluation criteria as described under 36 CFR Section 60.4. Additionally, the subject property is not considered a historical resource for the purposes of CEQA as defined under 14 CCR Section 15064.5(a).

***B14. Evaluator:** Katie Ahmanson, MHC, Dudek

***Date of Evaluation:** November 3, 2025

**Photograph(s):**

**Photograph 1.** The SCE Mesa-Anita-Eaton Transmission Line, looking south.



**Source:** Dudek, IMG_1135.

**Photograph 2.** The SCE Mesa-Anita-Eaton Transmission Line along the Eaton Wash Channel, looking northeast.



**Source:** Dudek, IMG_1116.

# Appendix F

Noise Modeling Inputs and Outputs

FORMS FIELD DATA REPORT

# Field Noise Measurement Data

| Record: 2073 | |
|---|---|
| **Project Name** | *Eaton craft water* |
| **Observer(s)** | |
| **Date** | *2025-06-26* |

| Meteorological Conditions | |
|---|---|
| **Temp (F)** | *73* |
| **Humidity % (R.H.)** | *61* |
| **Wind** | *Calm* |
| **Wind Speed (MPH)** | *4* |
| **Wind Direction** | *North* |
| **Sky** | *Clear* |

| Instrument and Calibrator Information | |
|---|---|
| **Instrument Name List** | *(ENC) Rion NL-52* |
| **Instrument Name** | *(ENC) Rion NL-52* |
| **Instrument Name Lookup Key** | *(ENC) Rion NL-52* |
| **Manufacturer** | *Rion* |
| **Model** | *NL-52* |
| **Serial Number** | *553896* |
| **Calibrator Name** | *(ENC) LD CAL150* |

| | |
|---|---|
| **Calibrator Name** | *(ENC) LD CAL150* |
| **Calibrator Name Lookup Key** | *(ENC) LD CAL150* |
| **Calibrator Manufacturer** | *Larson Davis* |
| **Calibrator Model** | *LD CAL150* |
| **Calibrator Serial #** | *5152* |
| **Pre-Test (dBA SPL)** | *93.8* |
| **Post-Test (dBA SPL)** | *94* |
| **Windscreen** | *Yes* |
| **Weighting?** | *A-WTD* |
| **Slow/Fast?** | *Slow* |

| **Monitoring** | |
|---|---|
| **Record #** | *1* |
| **Site ID** | *ST2* |
| **Site Location Lat/Long** | *35.445908, -119.439361* |
| **Begin (Time)** | *09:51:00* |
| **End (Time)** | *10:06:00* |
| **Leq** | *46.6* |
| **Lmax** | *62.7* |
| **Lmin** | *41.5* |
| **Other Lx?** | *L90, L50, L10* |
| **L90** | *43.2* |
| **L50** | *45.5* |

| | |
|---|---|
| **L10** | *48* |
| **Other Lx (Specify Metric)** | *L* |
| **Primary Noise Source** | *Traffic* |
| **Other Noise Sources (Background)** | *Birds, Distant Gardener / Landscape Noise, Distant Traffic, Rustling Leaves* |
| **Is the same instrument and calibrator being used as previously noted?** | *Yes* |
| **Are the meteorological conditions the same as previously noted?** | *Yes* |

## Description / Photos

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing southwest* |

## Site Photos

| | |
|---|---|
| **Photo** |  |

| | |
|---|---|
| **Comments / Description** | *Facing southeast* |

| **Site Photos** | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing northeast* |

| **Monitoring** | |
|---|---|
| **Record #** | *2* |
| **Site ID** | *ST1* |
| **Site Location Lat/Long** | *35.445908, -119.439361* |
| **Begin (Time)** | *10:16:00* |
| **End (Time)** | *10:31:00* |
| **Leq** | *49* |
| **Lmax** | *60.2* |
| **Lmin** | *43.2* |
| **Other Lx?** | *L90, L50, L10* |
| **L90** | *45.2* |
| **L50** | *47.7* |
| **L10** | *51.3* |

| | |
|---|---|
| **Other Lx (Specify Metric)** | *L* |
| **Primary Noise Source** | *Playground* |
| **Other Noise Sources (Background)** | *Birds, Distant Conversations / Yelling, Distant Dog Barking, Distant Gardener / Landscape Noise, Distant Kids Playing, Distant Traffic, Rustling Leaves* |
| **Is the same instrument and calibrator being used as previously noted?** | *Yes* |
| **Are the meteorological conditions the same as previously noted?** | *Yes* |

## Description / Photos

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing southeast* |

## Site Photos

| | |
|---|---|
| **Photo** |  |

| | |
|---|---|
| **Comments / Description** | *Facing east* |

| **Site Photos** | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing northwest* |

| **Monitoring** | |
|---|---|
| **Record #** | *3* |
| **Site ID** | *ST4* |
| **Site Location Lat/Long** | *35.445908, -119.439361* |
| **Begin (Time)** | *10:33:00* |
| **End (Time)** | *10:48:00* |
| **Leq** | *44.3* |
| **Lmax** | *50.8* |
| **Lmin** | *41.6* |
| **Other Lx?** | *L90, L50, L10* |
| **L90** | *42.4* |
| **L50** | *43.6* |
| **L10** | *46.2* |

| | |
|---|---|
| **Other Lx (Specify Metric)** | *L* |
| **Primary Noise Source** | *Traffic* |
| **Other Noise Sources (Background)** | *Birds, Distant Conversations / Yelling, Distant Kids Playing, Distant Traffic, Rustling Leaves* |
| **Is the same instrument and calibrator being used as previously noted?** | *Yes* |
| **Are the meteorological conditions the same as previously noted?** | *Yes* |

## Description / Photos

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing north* |

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing east* |

| Site Photos | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing south* |

| Monitoring | |
|---|---|
| **Record #** | *4* |
| **Site ID** | *ST3* |
| **Site Location Lat/Long** | *35.445908, -119.439361* |
| **Begin (Time)** | *10:58:00* |
| **End (Time)** | *11:13:00* |
| **Leq** | *47.8* |
| **Lmax** | *58.7* |
| **Lmin** | *42.5* |
| **Other Lx?** | *L90, L50, L10* |
| **L90** | *44.2* |
| **L50** | *46.2* |
| **L10** | *49.5* |
| **Other Lx (Specify Metric)** | *L* |
| **Primary Noise Source** | *Traffic* |

| | |
|---|---|
| **Other Noise Sources (Background)** | *Birds, Distant Kids Playing, Distant Traffic, Rustling Leaves* |
| **Is the same instrument and calibrator being used as previously noted?** | *Yes* |
| **Are the meteorological conditions the same as previously noted?** | *Yes* |

## Description / Photos

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing south* |

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing west* |

## Site Photos

| | |
|---|---|
| **Photo** |  |
| **Comments / Description** | *Facing north* |

# Construction Noise Modeling Data

| | |
|---|---|
| Source to barrier distance | 10 |
| Receiver to barrier distance | 90 |
| Receiver height | 5 |

magnitude of threshold (dBA) per Pasadena MC Section 9.36.0800 = 85
allowable hours over which Leq is to be averaged = 8

0 = temporary barrier (TB) of input height inserted between source and receptor

| Construction Activity | Equipment | Total Equipment Qty | Reference Level (Leq or Lmax) @ 50 ft. from FHWA RCNM 2 Table | Air Quality/Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Distance-Adjusted Level | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 8-hour Leq | Source Elevation (ft) | Receiver Elevation (ft) | Barrier Height (ft) | Source to Barr. ("A") Horiz. (ft) | Rcvr. to Barr. ("B") Horiz. (ft) | Source to Rcvr. ("C") Horiz. (ft) | "A" (ft) | "B" (ft) | "C" (ft) | Path Length Diff. "P" (ft) | Abarr (dB) | Heff (with barrier) | Heff (wout barrier) | G (with barrier) | G (without barrier) | ILbarr (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | Dozer | 2 | 80.0 | Rubber Tired Dozers | 100 | 71.7 | 8.00 | 480 | 75 | 5.3 | 5 | 0 | 10 | 90 | 100 | 11.3 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8.00 | 480 | 63 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Grader (passby) | 2 | 78.5 | Grader | 100 | 70.5 | 8.00 | 480 | 73 | 6.0 | 5 | 0 | 10 | 90 | 100 | 11.7 | 90.1 | 100.0 | 0.00 | 0.1 | 5.5 | 5.5 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Demolition Phase: | | | | | **77.3** | | | | | | | | | | | | | | | | | |
| Site Preparation, Clearing and Grubbing | Dozer | 3 | 80.0 | Rubber Tired Dozers | 100 | 71.7 | 8 | 480 | 77 | 5.3 | 5 | 0 | 10 | 90 | 100 | 11.3 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Power Tools - Jackhammer | 1 | 91.0 | Jack Hammer | 100 | 68.1 | 8 | 480 | 68 | 1.0 | 5 | 4 | 3 | 97 | 100 | 4.2 | 97.0 | 100.1 | 1.17 | 13.7 | 7.0 | 3.0 | 0.6 | 0.7 | 13.6 | Jackhammer used behind a plywood sheet (e.g., 4' x 8') |
| | Backhoe | 4 | 75.8 | Tractors/Loaders/Backhoes | 100 | 67.4 | 8 | 480 | 73 | 4.5 | 5 | 0 | 10 | 90 | 100 | 11.0 | 90.1 | 100.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Site Preparation, Clearing and Grubbing Phase: | | | | | **78.6** | | | | | | | | | | | | | | | | | |
| Reservoir Excavation | Dozer | 2 | 80.0 | Rubber Tired Dozers | 100 | 71.7 | 8 | 480 | 75 | 5.3 | 5 | 0 | 10 | 90 | 100 | 11.3 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8 | 480 | 66 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 100 | 67.4 | 8 | 480 | 72 | 4.5 | 5 | 0 | 10 | 90 | 100 | 11.0 | 90.1 | 100.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Reservoir Excavation Phase: | | | | | **77.0** | | | | | | | | | | | | | | | | | |
| Reservoir Construction | Crane | 1 | 74.2 | Crane | 100 | 66.6 | 8 | 480 | 67 | 7.7 | 5 | 0 | 10 | 90 | 100 | 12.6 | 90.1 | 100.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 | |
| | Dozer | 2 | 80.0 | Rubber Tired Dozers | 100 | 71.7 | 8 | 480 | 75 | 5.3 | 5 | 0 | 10 | 90 | 100 | 11.3 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8 | 480 | 66 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Reservoir Construction Phase: | | | | | **75.8** | | | | | | | | | | | | | | | | | |
| Installation of Stormwater Drainage Infrastructure | Crane | 1 | 74.2 | Crane | 100 | 66.6 | 8 | 480 | 67 | 7.7 | 5 | 0 | 10 | 90 | 100 | 12.6 | 90.1 | 100.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 | |
| | Excavator | 2 | 75.9 | Trencher | 100 | 67.9 | 8 | 480 | 71 | 6.2 | 5 | 0 | 10 | 90 | 100 | 11.8 | 90.1 | 100.0 | 0.00 | 0.1 | 5.6 | 5.6 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8 | 480 | 66 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Installation of Stormwater Drainage Infrastructure Phase: | | | | | **73.2** | | | | | | | | | | | | | | | | | |
| Installation of Other Drainage Infrastructure | Dozer | 2 | 80.0 | Rubber Tired Dozers | 100 | 71.7 | 8 | 480 | 75 | 5.3 | 5 | 0 | 10 | 90 | 100 | 11.3 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8 | 480 | 66 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 100 | 67.4 | 8 | 480 | 72 | 4.5 | 5 | 0 | 10 | 90 | 100 | 11.0 | 90.1 | 100.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Installation of Other Drainage Infrastructure Phase: | | | | | **77.0** | | | | | | | | | | | | | | | | | |
| Pedestrian Bridge Construction | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 100 | 67.4 | 8 | 480 | 72 | 4.5 | 5 | 0 | 10 | 90 | 100 | 11.0 | 90.1 | 100.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 | |
| | Crane | 1 | 74.2 | Crane | 100 | 66.6 | 8 | 480 | 67 | 7.7 | 5 | 0 | 10 | 90 | 100 | 12.6 | 90.1 | 100.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 | |
| | | | | Total for Pedestrian Bridge Construction Phase: | | | | | **73.2** | | | | | | | | | | | | | | | | | |
| Other Site Improvements | Grader (passby) | 1 | 78.5 | Grader | 100 | 70.5 | 8 | 480 | 70 | 6.0 | 5 | 0 | 10 | 90 | 100 | 11.7 | 90.1 | 100.0 | 0.00 | 0.1 | 5.5 | 5.5 | 0.7 | 0.7 | 0.1 | |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 100 | 63.0 | 8 | 480 | 63 | 5.4 | 5 | 0 | 10 | 90 | 100 | 11.4 | 90.1 | 100.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 | |
| | Paving - Asphalt (Paver + Dump Truck) | 1 | 81.8 | Pavers | 100 | 73.5 | 8 | 480 | 73 | 5.0 | 5 | 0 | 10 | 90 | 100 | 11.2 | 90.1 | 100.0 | 0.00 | 0.1 | 5.0 | 5.0 | 0.7 | 0.7 | 0.1 | |
| | Paving - Concrete (Texturing/Curing Machine) | 1 | 73.3 | Paving Equipment | 100 | 65.8 | 8 | 480 | 66 | 8.0 | 5 | 0 | 10 | 90 | 100 | 12.8 | 90.1 | 100.0 | 0.00 | 0.1 | 6.5 | 6.5 | 0.6 | 0.6 | 0.1 | |
| | Compactor (Roller) | 1 | 82.4 | Rollers | 100 | 73.9 | 8 | 480 | 74 | 4.4 | 5 | 0 | 10 | 90 | 100 | 10.9 | 90.1 | 100.0 | 0.00 | 0.1 | 4.7 | 4.7 | 0.7 | 0.7 | 0.1 | |
| | Concrete Mixer Truck | 1 | 81.1 | Cement Mixer | 100 | 72.8 | 8 | 480 | 73 | 5.0 | 5 | 0 | 10 | 90 | 100 | 11.2 | 90.1 | 100.0 | 0.00 | 0.1 | 5.0 | 5.0 | 0.7 | 0.7 | 0.1 | |
| | Man Lift | 1 | 72.1 | Boom Lift | 100 | 64.0 | 8 | 480 | 64 | 5.8 | 5 | 0 | 10 | 90 | 100 | 11.6 | 90.1 | 100.0 | 0.00 | 0.1 | 5.4 | 5.4 | 0.7 | 0.7 | 0.1 | |
| | | | | Total for Other Site Improvements Phase: | | | | | **79.3** | | | | | | | | | | | | | | | | | |

| | |
|---|---|
| Source to barrier distance | Varies |
| Receiver to barrier distance | Varies |
| Receiver height | 5 |

magnitude of threshold (dBA) per LA County Code Sec. 12.08.440 = 75
allowable hours over which Leq is to be averaged = 1

0 = Del Mar Site Improvements -- temporary barrier (TB) of input height inserted between source and receptor

| Construction Activity | Equipment | Total Equipment Qty | Reference Level (Leq or Lmax) @ 50 ft. from FHWA RCNM 2 Table | Air Quality/Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Distance-Adjusted Level | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq | Source Elevation (ft) | Receiver Elevation (ft) | Barrier Height (ft) | Source to Barr. ("A") Horiz. (ft) | Rcvr. to Barr. ("B") Horiz. (ft) | Source to Rcvr. ("C") Horiz. (ft) | "A" (ft) | "B" (ft) | "C" (ft) | Path Length Diff. "P" (ft) | Abarr (dB) | Heff (with barrier) | Heff (wout barrier) | G (with barrier) | G (without barrier) | ILbarr (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | Dozer | 2 | 80.0 | Rubber Tired Dozers | 230 | 62.6 | 1.00 | 60 | 66 | 5.3 | 5 | 0 | 10 | 220 | 230 | 11.3 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 230 | 53.8 | 1.00 | 60 | 54 | 5.4 | 5 | 0 | 10 | 220 | 230 | 11.4 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Grader (passby) | 2 | 78.5 | Grader | 230 | 61.2 | 1.00 | 60 | 64 | 6.0 | 5 | 0 | 10 | 220 | 230 | 11.7 | 220.1 | 230.0 | 0.00 | 0.1 | 5.5 | 5.5 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Demolition Phase: | | | | | **68.1** | | | | | | | | | | | | | | | | |
| Site Preparation, Clearing and Grubbing | Dozer | 3 | 80.0 | Rubber Tired Dozers | 230 | 62.6 | 1 | 60 | 67 | 5.3 | 5 | 0 | 10 | 220 | 230 | 11.3 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Power Tools - Jackhammer | 0 | 91.0 | Jack Hammer | 230 | 73.2 | 1 | 60 | 0 | 1.0 | 5 | 0 | 10 | 220 | 230 | 10.0 | 220.1 | 230.0 | 0.00 | 0.1 | 3.0 | 3.0 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 4 | 75.8 | Tractors/Loaders/Backhoes | 230 | 58.3 | 1 | 60 | 64 | 4.5 | 5 | 0 | 10 | 220 | 230 | 11.0 | 220.1 | 230.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Site Preparation, Clearing and Grubbing Phase: | | | | | **69.1** | | | | | | | | | | | | | | | | |
| Reservoir Excavation | Dozer | 2 | 80.0 | Rubber Tired Dozers | 280 | 60.6 | 1 | 60 | 64 | 5.3 | 5 | 0 | 10 | 270 | 280 | 11.3 | 270.0 | 280.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 280 | 51.9 | 1 | 60 | 55 | 5.4 | 5 | 0 | 10 | 270 | 280 | 11.4 | 270.0 | 280.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 280 | 56.4 | 1 | 60 | 61 | 4.5 | 5 | 0 | 10 | 270 | 280 | 11.0 | 270.0 | 280.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Reservoir Excavation Phase: | | | | | **65.9** | | | | | | | | | | | | | | | | |
| Reservoir Construction | Crane | 1 | 74.2 | Crane | 625 | 47.1 | 1 | 60 | 47 | 7.7 | 5 | 0 | 10 | 615 | 625 | 12.6 | 615.0 | 625.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | Dozer | 2 | 80.0 | Rubber Tired Dozers | 625 | 52.8 | 1 | 60 | 56 | 5.3 | 5 | 0 | 10 | 615 | 625 | 11.3 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Reservoir Construction Phase: | | | | | **56.9** | | | | | | | | | | | | | | | | |
| Installation of Stormwater Drainage Infrastructure | Crane | 1 | 74.2 | Crane | 625 | 47.1 | 1 | 60 | 47 | 7.7 | 5 | 0 | 10 | 615 | 625 | 12.6 | 615.0 | 625.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | Excavator | 2 | 75.9 | Trencher | 625 | 48.8 | 1 | 60 | 52 | 6.2 | 5 | 0 | 10 | 615 | 625 | 11.8 | 615.0 | 625.0 | 0.00 | 0.1 | 5.6 | 5.6 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Installation of Stormwater Drainage Infrastructure Phase: | | | | | **54.0** | | | | | | | | | | | | | | | | |
| Installation of Other Drainage Infrastructure | Dozer | 2 | 80.0 | Rubber Tired Dozers | 625 | 52.8 | 1 | 60 | 56 | 5.3 | 5 | 0 | 10 | 615 | 625 | 11.3 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 625 | 48.7 | 1 | 60 | 53 | 4.5 | 5 | 0 | 10 | 615 | 625 | 11.0 | 615.0 | 625.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Installation of Other Drainage Infrastructure Phase: | | | | | **58.2** | | | | | | | | | | | | | | | | |
| Pedestrian Bridge Construction | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 670 | 48.0 | 1 | 60 | 53 | 4.5 | 5 | 0 | 10 | 660 | 670 | 11.0 | 660.0 | 670.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | Crane | 1 | 74.2 | Crane | 670 | 46.5 | 1 | 60 | 46 | 7.7 | 5 | 0 | 10 | 660 | 670 | 12.6 | 660.0 | 670.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | | | | Total for Pedestrian Bridge Construction Phase: | | | | | **53.7** | | | | | | | | | | | | | | | | |
| Other Site Improvements | Grader (passby) | 1 | 78.5 | Grader | 50 | 78.4 | 1 | 60 | 78 | 6.0 | 5 | 0 | 10 | 40 | 50 | 11.7 | 40.3 | 50.0 | 0.00 | 0.1 | 5.5 | 5.5 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 50 | 71.1 | 1 | 60 | 71 | 5.4 | 5 | 0 | 10 | 40 | 50 | 11.4 | 40.3 | 50.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Paving - Asphalt (Paver + Dump Truck) | 1 | 81.8 | Pavers | 50 | 81.7 | 1 | 60 | 82 | 5.0 | 5 | 0 | 10 | 40 | 50 | 11.2 | 40.3 | 50.0 | 0.00 | 0.1 | 5.0 | 5.0 | 0.7 | 0.7 | 0.1 |
| | Paving - Concrete (Texturing/Curing Machine) | 1 | 73.3 | Paving Equipment | 50 | 73.2 | 1 | 60 | 73 | 8.0 | 5 | 0 | 10 | 40 | 50 | 12.8 | 40.3 | 50.1 | 0.00 | 0.1 | 6.5 | 6.5 | 0.6 | 0.6 | 0.1 |
| | Compactor (Roller) | 1 | 82.4 | Rollers | 50 | 82.3 | 1 | 60 | 82 | 4.4 | 5 | 0 | 10 | 40 | 50 | 10.9 | 40.3 | 50.0 | 0.00 | 0.1 | 4.7 | 4.7 | 0.7 | 0.7 | 0.1 |
| | Concrete Mixer Truck | 1 | 81.1 | Cement Mixer | 50 | 81.0 | 1 | 60 | 81 | 5.0 | 5 | 0 | 10 | 40 | 50 | 11.2 | 40.3 | 50.0 | 0.00 | 0.1 | 5.0 | 5.0 | 0.7 | 0.7 | 0.1 |
| | Man Lift | 1 | 72.1 | Boom Lift | 50 | 72.0 | 1 | 60 | 72 | 5.8 | 5 | 0 | 10 | 40 | 50 | 11.6 | 40.3 | 50.0 | 0.00 | 0.1 | 5.4 | 5.4 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Other Site Improvements Phase: | | | | | **87.5** | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Source to barrier distance | Varies | | | | | magnitude of threshold (dBA) per LA County Code Sec. 12.08.440 = | 60 | | | | | | | | | | | | | | | | | | | | | | | |
| Receiver to barrier distance | Varies | | | | | allowable hours over which Leq is to be averaged = | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Receiver height | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| |

| | |
|---|---|
| Source to barrier distance | Varies |
| Receiver to barrier distance | Varies |
| Receiver height | 5 |

magnitude of threshold (dBA) per LA County Code Sec. 12.08.440 = 75
allowable hours over which Leq is to be averaged = 1

10 = Del Mar Site Improvements -- temporary barrier (TB) of input height inserted between source and receptor

| Construction Activity | Equipment | Total Equipment Qty | Reference Level (Leq or Lmax) @ 50 ft. from FHWA RCNM 2 Table | Air Quality/Client Equipment Description, Data Source and/or Notes | Source to NSR Distance (ft.) | Distance-Adjusted Level | Allowable Operation Time (hours) | Allowable Operation Time (minutes) | Predicted 1-hour Leq | Source Elevation (ft) | Receiver Elevation (ft) | Barrier Height (ft) | Source to Barr. ("A") Horiz. (ft) | Rcvr. to Barr. ("B") Horiz. (ft) | Source to Rcvr. ("C") Horiz. (ft) | "A" (ft) | "B" (ft) | "C" (ft) | Path Length Diff. "P" (ft) | Abarr (dB) | Heff (with barrier) | Heff (wout barrier) | G (with barrier) | G (without barrier) | ILbarr (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | Dozer | 2 | 80.0 | Rubber Tired Dozers | 230 | 62.6 | 1.00 | 60 | 66 | 5.3 | 5 | 0 | 10 | 220 | 230 | 11.3 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 230 | 53.8 | 1.00 | 60 | 54 | 5.4 | 5 | 0 | 10 | 220 | 230 | 11.4 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Grader (passby) | 2 | 78.5 | Grader | 230 | 61.2 | 1.00 | 60 | 64 | 6.0 | 5 | 0 | 10 | 220 | 230 | 11.7 | 220.1 | 230.0 | 0.00 | 0.1 | 5.5 | 5.5 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Demolition Phase: | | | | | **68.1** | | | | | | | | | | | | | | | | |
| Site Preparation, Clearing and Grubbing | Dozer | 3 | 80.0 | Rubber Tired Dozers | 230 | 62.6 | 1 | 60 | 67 | 5.3 | 5 | 0 | 10 | 220 | 230 | 11.3 | 220.1 | 230.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Power Tools - Jackhammer | 0 | 91.0 | Jack Hammer | 230 | 73.2 | 1 | 60 | 0 | 1.0 | 5 | 0 | 10 | 220 | 230 | 10.0 | 220.1 | 230.0 | 0.00 | 0.1 | 3.0 | 3.0 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 4 | 75.8 | Tractors/Loaders/Backhoes | 230 | 58.3 | 1 | 60 | 64 | 4.5 | 5 | 0 | 10 | 220 | 230 | 11.0 | 220.1 | 230.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Site Preparation, Clearing and Grubbing Phase: | | | | | **69.1** | | | | | | | | | | | | | | | | |
| Reservoir Excavation | Dozer | 2 | 80.0 | Rubber Tired Dozers | 280 | 60.6 | 1 | 60 | 64 | 5.3 | 5 | 0 | 10 | 270 | 280 | 11.3 | 270.0 | 280.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 280 | 51.9 | 1 | 60 | 55 | 5.4 | 5 | 0 | 10 | 270 | 280 | 11.4 | 270.0 | 280.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 280 | 56.4 | 1 | 60 | 61 | 4.5 | 5 | 0 | 10 | 270 | 280 | 11.0 | 270.0 | 280.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Reservoir Excavation Phase: | | | | | **65.9** | | | | | | | | | | | | | | | | |
| Reservoir Construction | Crane | 1 | 74.2 | Crane | 625 | 47.1 | 1 | 60 | 47 | 7.7 | 5 | 0 | 10 | 615 | 625 | 12.6 | 615.0 | 625.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | Dozer | 2 | 80.0 | Rubber Tired Dozers | 625 | 52.8 | 1 | 60 | 56 | 5.3 | 5 | 0 | 10 | 615 | 625 | 11.3 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Reservoir Construction Phase: | | | | | **56.9** | | | | | | | | | | | | | | | | |
| Installation of Stormwater Drainage Infrastructure | Crane | 1 | 74.2 | Crane | 625 | 47.1 | 1 | 60 | 47 | 7.7 | 5 | 0 | 10 | 615 | 625 | 12.6 | 615.0 | 625.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | Excavator | 2 | 75.9 | Trencher | 625 | 48.8 | 1 | 60 | 52 | 6.2 | 5 | 0 | 10 | 615 | 625 | 11.8 | 615.0 | 625.0 | 0.00 | 0.1 | 5.6 | 5.6 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Installation of Stormwater Drainage Infrastructure Phase: | | | | | **54.0** | | | | | | | | | | | | | | | | |
| Installation of Other Drainage Infrastructure | Dozer | 2 | 80.0 | Rubber Tired Dozers | 625 | 52.8 | 1 | 60 | 56 | 5.3 | 5 | 0 | 10 | 615 | 625 | 11.3 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Front End Loader (Passby) | 2 | 71.2 | Skid Steer Loaders | 625 | 44.1 | 1 | 60 | 47 | 5.4 | 5 | 0 | 10 | 615 | 625 | 11.4 | 615.0 | 625.0 | 0.00 | 0.1 | 5.2 | 5.2 | 0.7 | 0.7 | 0.1 |
| | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 625 | 48.7 | 1 | 60 | 53 | 4.5 | 5 | 0 | 10 | 615 | 625 | 11.0 | 615.0 | 625.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | | | | Total for Installation of Other Drainage Infrastructure Phase: | | | | | **58.2** | | | | | | | | | | | | | | | | |
| Pedestrian Bridge Construction | Backhoe | 3 | 75.8 | Tractors/Loaders/Backhoes | 670 | 48.0 | 1 | 60 | 53 | 4.5 | 5 | 0 | 10 | 660 | 670 | 11.0 | 660.0 | 670.0 | 0.00 | 0.1 | 4.8 | 4.8 | 0.7 | 0.7 | 0.1 |
| | Crane | 1 | 74.2 | Crane | 670 | 46.5 | 1 | 60 | 46 | 7.7 | 5 | 0 | 10 | 660 | 670 | 12.6 | 660.0 | 670.0 | 0.00 | 0.1 | 6.4 | 6.4 | 0.6 | 0.6 | 0.1 |
| | | | | Total for Pedestrian Bridge Construction Phase: | | | | | **53.7** | | | | | | | | | | | | | | | | |
| Other Site Improvements | Grader (passby) | 1 | 78.5 | Grader | 50 | 65.2 | 1 | 60 | 65 | 6.0 | 5 | 10 | 10 | 40 | 50 | 10.8 | 40.3 | 50.0 | 1.07 | 13.3 | 15.5 | 5.5 | 0.5 | 0.7 | 13.3 |
| | Front End Loader (Passby) | 1 | 71.2 | Skid Steer Loaders | 50 | 57.0 | 1 | 60 | 57 | 5.4 | 5 | 10 | 10 | 40 | 50 | 11.0 | 40.3 | 50.0 | 1.32 | 14.2 | 15.2 | 5.2 | 0.5 | 0.7 | 14.2 |
| | Paving - Asphalt (Paver + Dump Truck) | 1 | 81.8 | Pavers | 50 | 67.0 | 1 | 60 | 67 | 5.0 | 5 | 10 | 10 | 40 | 50 | 11.2 | 40.3 | 50.0 | 1.49 | 14.7 | 15.0 | 5.0 | 0.5 | 0.7 | 14.7 |
| | Paving - Concrete (Texturing/Curing Machine) | 1 | 73.3 | Paving Equipment | 50 | 64.0 | 1 | 60 | 64 | 8.0 | 5 | 10 | 10 | 40 | 50 | 10.2 | 40.3 | 50.1 | 0.42 | 9.3 | 16.5 | 6.5 | 0.5 | 0.6 | 9.3 |
| | Compactor (Roller) | 1 | 82.4 | Rollers | 50 | 67.3 | 1 | 60 | 67 | 4.4 | 5 | 10 | 10 | 40 | 50 | 11.5 | 40.3 | 50.0 | 1.77 | 15.0 | 14.7 | 4.7 | 0.5 | 0.7 | 15.0 |
| | Concrete Mixer Truck | 1 | 81.1 | Cement Mixer | 50 | 66.3 | 1 | 60 | 66 | 5.0 | 5 | 10 | 10 | 40 | 50 | 11.2 | 40.3 | 50.0 | 1.49 | 14.7 | 15.0 | 5.0 | 0.5 | 0.7 | 14.7 |
| | Man Lift | 1 | 72.1 | Boom Lift | 50 | 58.4 | 1 | 60 | 58 | 5.8 | 5 | 10 | 10 | 40 | 50 | 10.8 | 40.3 | 50.0 | 1.15 | 13.6 | 15.4 | 5.4 | 0.5 | 0.7 | 13.6 |
| | | | | Total for Other Site Improvements Phase: | | | | | **73.4** | | | | | | | | | | | | | | | | |