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CITY OF RICHMOND, CALIFORNIA

Parkway Commerce Center

INITIAL STUDY &
MITIGATED NEGATIVE DECLARATION

APRIL 2019

Douglas Herring & Associates
Environmental, Policy, and Planning Services

Parkway Commerce Center

Initial Study/Mitigated Negative Declaration

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California Environmental Quality Act (CEQA)
Environmental Checklist Form

1. Project Title: Parkway Commerce Center

2. Lead Agency Name and Address:

City of Richmond
Planning and Building Services Department
450 Civic Center Plaza, Second Floor
Richmond, CA 94804-1630

3. Contact Person and Phone Number:

Hector Lopez, Senior Planner
(510) 620-6702
Hector_Lopez@ci.richmond.ca.us

4. Project Location:

Collins Avenue at Richmond Parkway
City of Richmond, Contra Costa County, California

Assessor's Parcel Number: 408-060-0028

The project site is located on the south side of Collins Avenue, with the Richmond Parkway defining the western boundary of the site and a Santa Fe Railroad line defining the eastern boundary. Giant Road runs just east of and parallel to this rail line. The Richmond Parkway provides regional access to the site, which is located approximately 3.5 miles north of Interstate 580 and 1.9 miles west of Interstate 80.

5. Project Sponsor's Name and Address:

Wang Brothers Investments
1 Bates Boulevard, Suite 400
Orinda, CA 94563

Contact: Kathy Truong
(925) 386-0285
kathy.truong@potterylandusa.com

6. General Plan Designation:

Business/Light Industrial

7. Zoning:

IL, Light Industrial

8. Description of Project:

Wang Brothers Investments, the project applicant, is proposing to develop a two-story, 96,000-square-foot warehouse-style building that would be subdivided into suites and leased to a variety of light industrial and/or warehouse uses. The project would be developed on a 7.3-acre roughly triangular-shaped parcel located one-half mile east of San Pablo Bay in the northwest portion of the City of Richmond. The majority of the site is immediately to the east of the Richmond Parkway, and is bordered on the east by Giant Road and a Santa Fe Railroad line. The project site is just outside the western city limits of the City of San Pablo. The location of the project site is shown on Figure 1 and an aerial view of the site and the surrounding neighborhood is shown on Figure 2.

The project site is currently vacant; the surface is covered with grasses and weeds and there is a rectangular detention basin in the southwest portion of the site. Cyclone fencing encloses the site. The western boundary of the site lies beneath and parallel to the outer edge of the southbound (western) lanes of the elevated Richmond Parkway, which is supported on pairs of large concrete pillars spaced approximately 90 feet apart. A public access easement across this portion of the site grants the City of Richmond legal right of passage on the Richmond Parkway.

The proposed building would be subdivided into ten suites ranging in size from 2,000 to 24,000 square feet that would be leased to businesses requiring office, light industrial, and/or warehouse space. The site plan is shown on Figure 3 and the tentative floor plan is shown on Figure 4. Elevations and cross-sections of the building are shown on Figures 5 and 6, respectively. Although specific uses or businesses have not yet been identified, it is anticipated that one of the two 24,000-square-foot suites would be leased to a commercial cannabis cultivator, while the other spaces would likely be leased to construction contractors, warehouse companies, and/or light industrial businesses. (No dispensary or retail sales of cannabis is proposed or allowed by the City.) Two large vertically recessed loading docks would be located at the rear of the building, where storage parking for truck trailers would also be provided.

The proposed steel frame building would be constructed on a reinforced concrete slab with tilt-up concrete panel walls and a nearly flat roof with a ¼" : 1' slope for drainage, peaked at the longitudinal center of the building. Roof support would be provided by structural columns placed at regular intervals throughout the interior of the building. The building would have a maximum height of 42 feet 6 inches to the top of the parapets. The rectangular building would be approximately 245 feet long and 105 feet wide.

The exterior of the building would be illuminated by wall-mounted light fixtures placed approximately 60 feet apart, at a height of 12 feet above the ground. On the front elevation, each light would be centered above a storefront window array that includes a pedestrian entrance door. On the other elevations, including the rear elevation dominated by loading docks, they would be spaced at regular intervals, though not necessarily above or adjacent to entrance doors. Illumination of the front, north, and south side parking areas (described below) would be

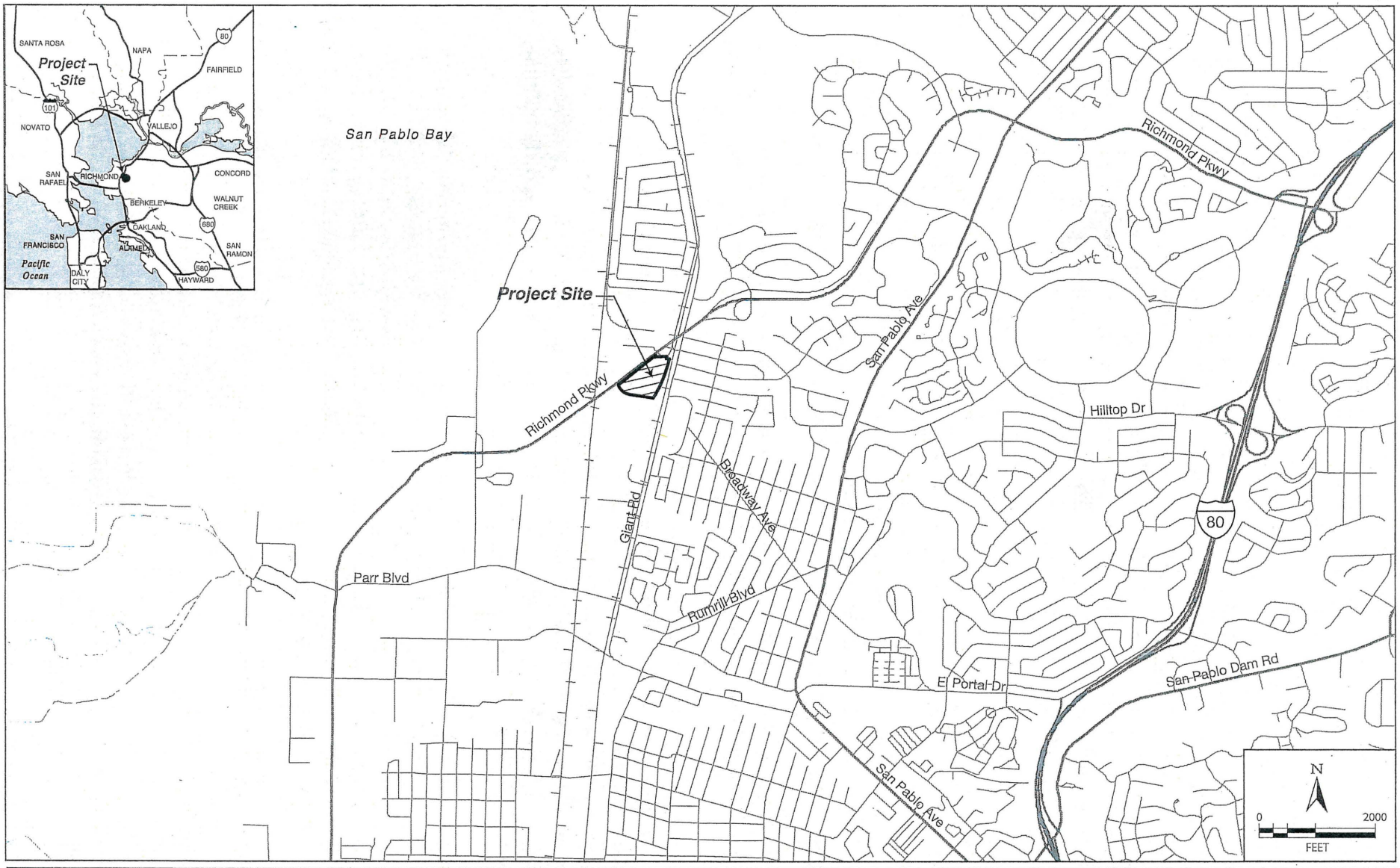

Figure 1

Project Location

Source: Douglas Herring & Associates

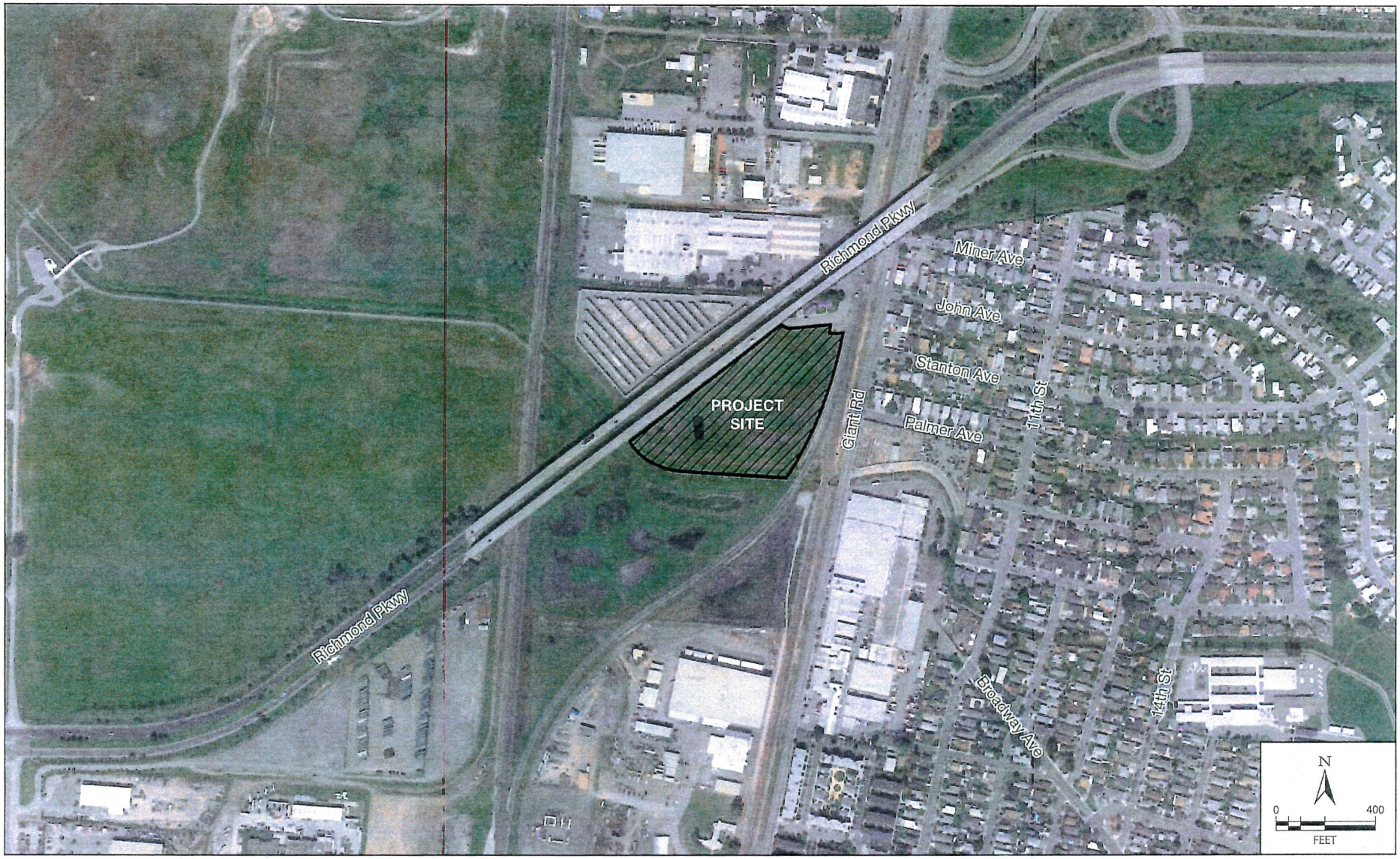

Figure 2

Aerial Overview of Site and Surroundings

Source: Douglas Herring & Associates; Base-Google Earth

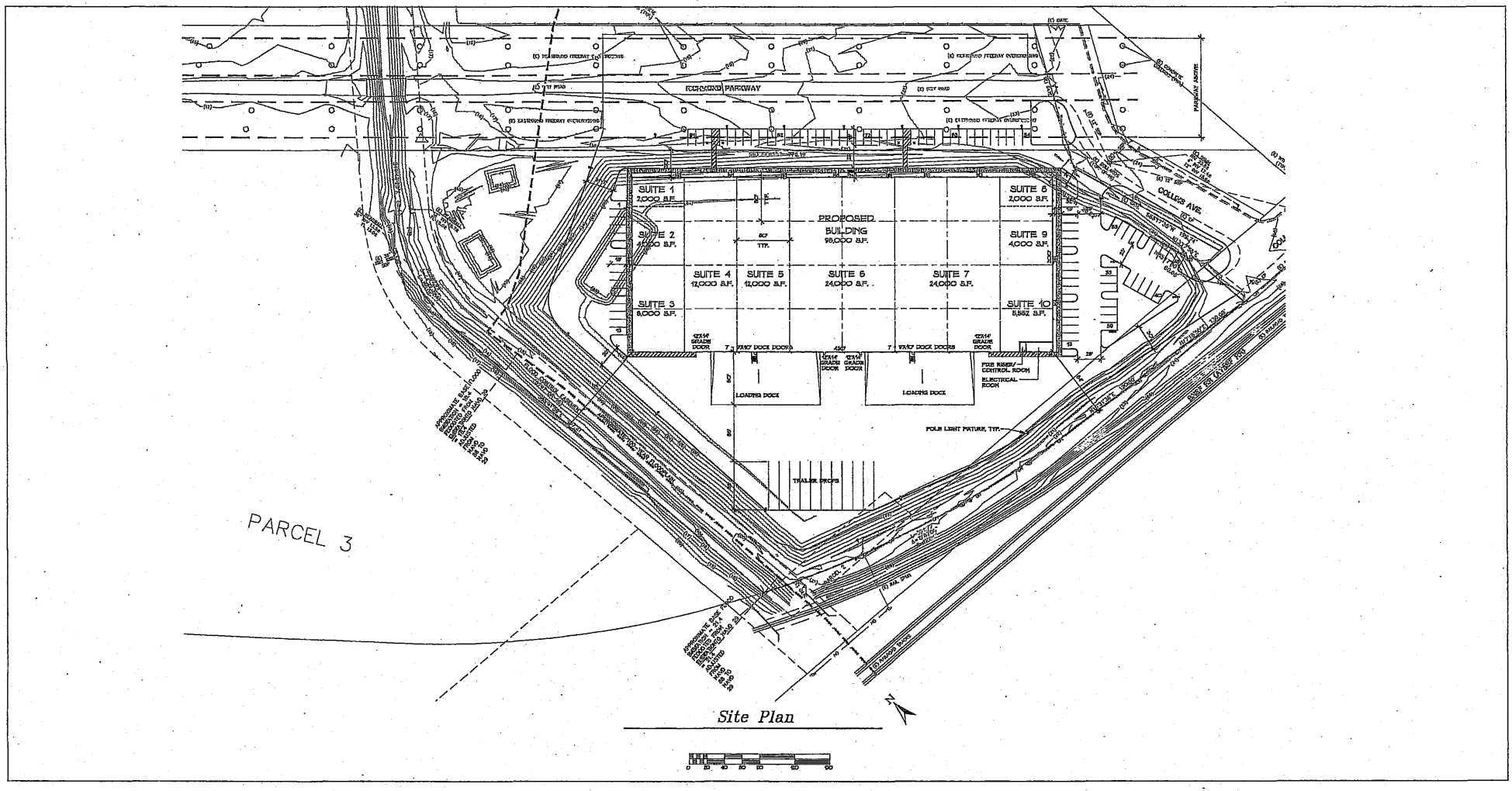

Figure 3

Proposed Site Plan

Source: Perkins, Williams & Cotterill Architects

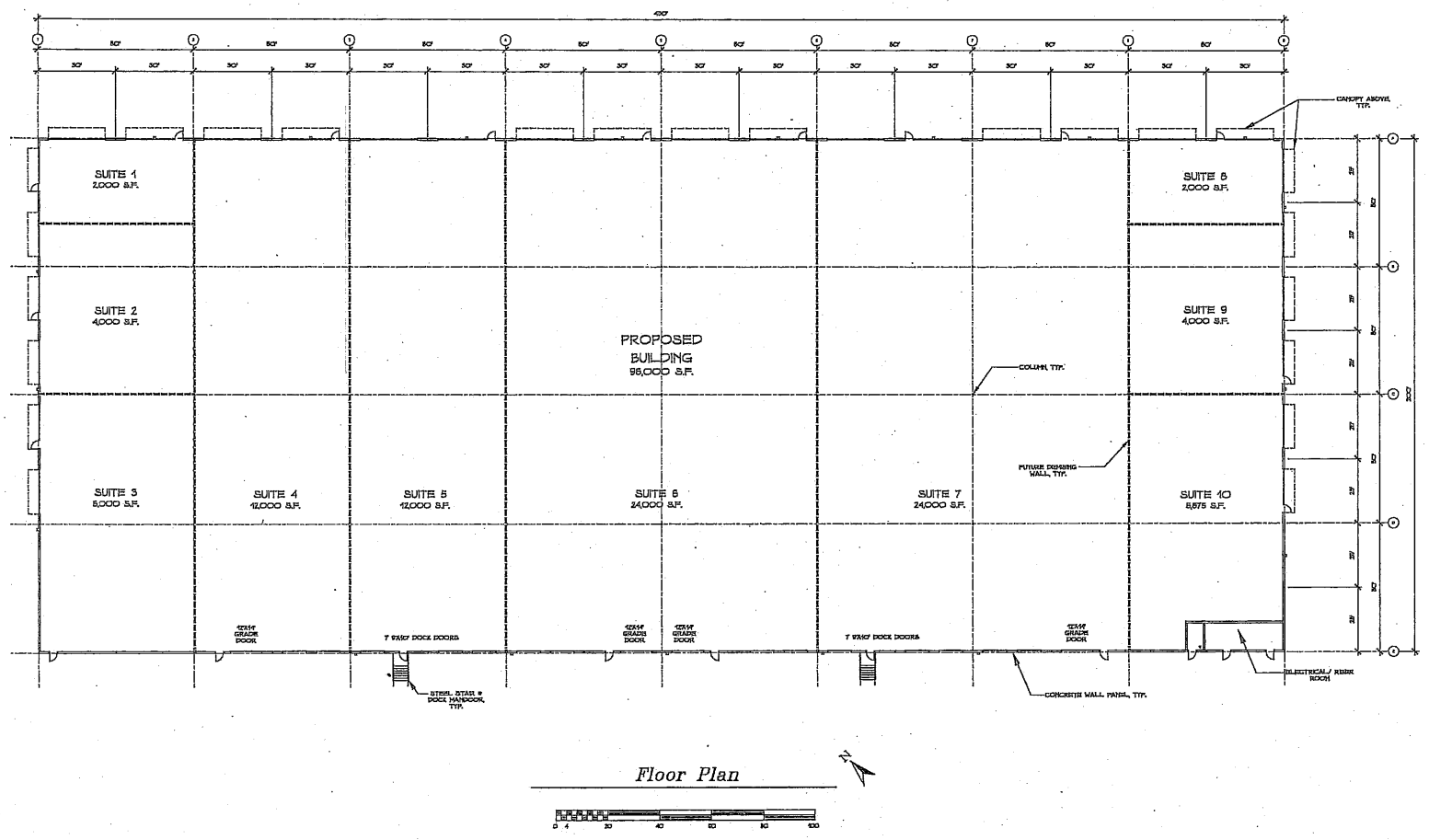

Figure 4

Tentative Floor Plan

Source: Perkins, Williams & Cotterill Architects

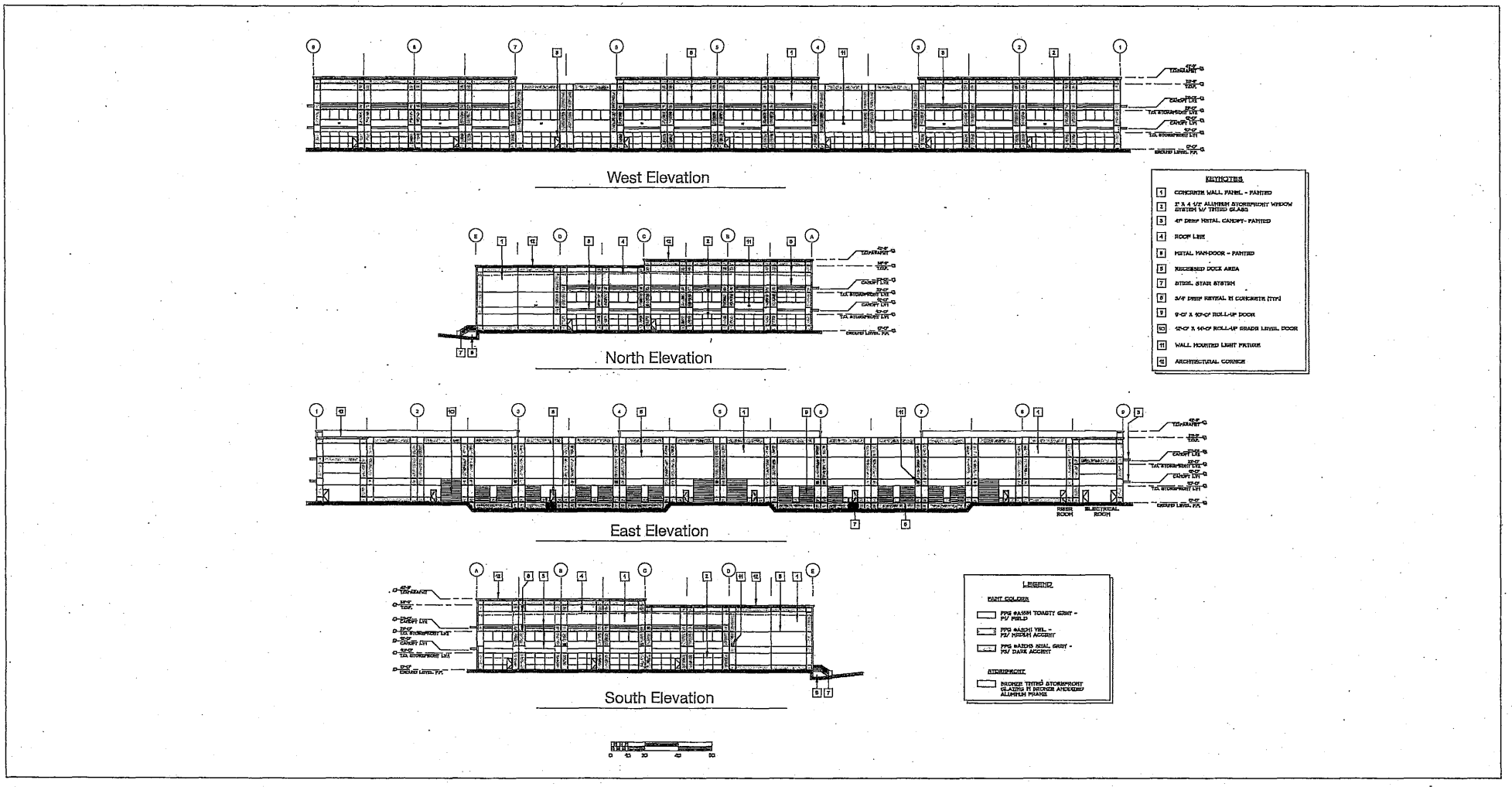

Figure 5

Exterior Elevations

Source: Perkins, Williams & Cotterill Architects

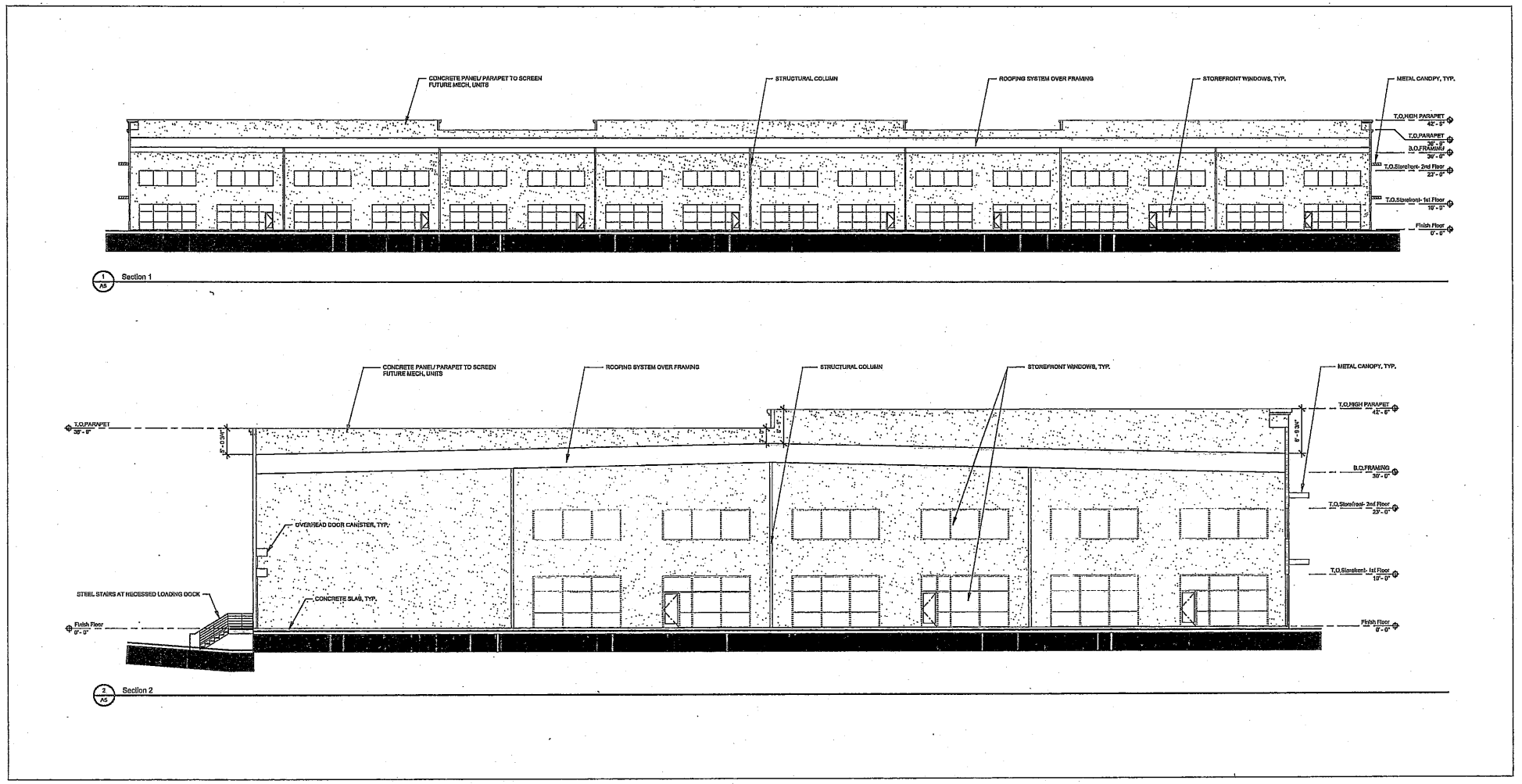

Figure 6

Building Cross Sections

Source: Perkins, Williams & Cotterill Architects

provided by pole-mounted fixtures. There would be seven light fixtures evenly spaced across the front parking lot, three along the edges of the southern parking area, and five fixtures interspersed throughout the triangular northern parking lot.[1] All light fixtures would use efficient light-emitting diode (LED) bulbs, would be downward-directed to prevent offsite glare, and would be Dark Sky compliant.

In addition to the wall-mounted luminaires described above, the loading docks and rear of the building would be illuminated by directional high-intensity LED fixtures mounted on 25-foot-high metal poles placed along the eastern and southern edges of the site. A total of four light fixtures would be pointed at the two loading docks and adjacent areas of the building.

Vehicle parking would be provided on all sides of the building. A single row of parking would extend along much of the front façade, just underneath the elevated Richmond Parkway, providing 38 parking spaces, including four handicap-accessible spaces. A single row of 15 spaces would be placed adjacent to the southern façade of the building, while a small triangular-shaped parking lot adjacent to the northern façade would provide an additional 38 spaces. A total of 91 spaces would be provided, exceeding the 64 spaces required by City code. In addition, 10 trailer parking stalls would be placed near the eastern edge of the property, opposite the loading docks.

The project proposes to collect and detain stormwater runoff from the site, including from the portion of the elevated Richmond Parkway that passes over the site, in two subsurface gravel storage areas that would be located near the southwestern end of the project building and in the truck parking and maneuvering area. The smaller basin at the southwestern end of the building would have a depth of 7.1 feet with a storage capacity of 1.45 acre-feet.[2] The larger basin would have a depth of 4.1 feet and unspecified storage capacity.[3] They would be lined with a bottom layer of Class 2 rock. The storage basins have been sized and designed so as to maintain post-development peak flow rates at or below existing conditions.

Discharge flow from the storage basins would first flow into an existing surface detention pond located in the southwest corner of the site, and from here would be metered into an existing 12-inch diameter concrete pipe that discharges into Rheem Creek with a headwall, flap gate, and rip-rap rock energy dissipater. As discussed in detail in the Initial Study section on hydrology and water quality, the project will be required to provide on-site biological treatment of all captured stormwater prior to discharge into Rheem Creek, in compliance with Contra Costa Clean Water Program requirements.

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[1] Although the western property line runs in a northeast/southwest direction, for ease of reference throughout this document, it is assumed to run north/south and constitute the west side of the site, with all other directional references similarly simplified.

[2] An acre-foot is the amount of water necessary to cover 1 acre of land to a depth of 1 foot, and is equivalent to 325,851.43 gallons, or 43,560 cubic feet.

[3] Sharrah Dunlap Sawyer, Inc., Parkway Commerce Center Stormwater Control Plan, APN 408-060-026, Richmond, CA, November 2, 2017.

The existing grassland vegetation that currently covers much of the site would be retained in its natural state along the eastern and southern sides of the site. As shown on Figure 7, four trees would be planted alongside the southern façade of the building, including three Pacific wax myrtle (*Morella californica*) trees, a western redbud (*Cercis occidentalis*), and a coast live oak (*Quercus agrifolia*). Strips of groundcover interspersed by shrubs would extend along the length of the front building façade. Shrub species would include dwarf coyote brush (*Baccharis filularis 'Pigeon Point'*), manzanita (*Arctostaphylos 'Pacific Mist'*), California lilac (*Ceanothus 'Yankee Point'*), coffeeberry (*Rhamnus californica 'Mound San Bruno'*), Douglas iris (*Iris Douglasiana*), and wild rose (*Rosa californica*). Groundcover species would include Berkeley sedge (*Carex tumulicola*), tufted hair grass (*Deschampsia cespitosa*), California buckwheat (*Eriogonum fasciculatum*), gray rush (*Juncus patens 'Carman Gray'*), blue wild rye (*Leymus condensatus 'Canyon Prince'*), Oregon grape (*Mahonia agrifolium*), deer grass (*Muhlenbergia rigens*), and creeping snowberry (*Symphoricarpos mollis*), among others.

The view of the proposed building from adjacent Collins Avenue would be substantially screened by 25 trees proposed for the northern end of the building and throughout the small parking lot, as shown on Figure 7. Proposed species include toyon (*Heteromeles arbutifolia*), Catalina ironwood (*Lyonnothamnus floribundus*), California sycamore (*Platanus racemosa*), western redbud, Pacific wax myrtle, and coast live oak.

Approximately 7,500 cubic yards of soil would be excavated from the site, requiring offsite disposal. This would result in between 375 and 500 truck trips, assuming a per-truck capacity of 15 to 20 cubic yards. This phase of site preparation is expected to last approximately 12 to 16 weeks, with no weekend work, resulting in approximately eight to nine truck trips per work day, if the work were completed in 12 weeks, and about six to seven trips per day if the work were completed in 16 weeks. Approximately 350 cubic yards of imported fill would be required for the proposed landscaping, since special landscape soils would be imported; the soil excavated for the site would not be suitable for this purpose.

Construction is expected to commence in September 2019 and be completed by the end of 2020, lasting approximately 15 months. About 5 to 20 construction workers are expected to be on site during most construction days, varying by construction phase. During site grading and foundation construction, roughly ten workers would be on site, while up to 20 workers would be present during construction of the building. All staging and construction worker parking would occur on site.

Planning Approvals

Design Review Permit: The project would require Design Review approval by the Design Review Board pursuant to Article 15.04.805 of the Richmond Municipal Code. In order to obtain this approval, the project will need to demonstrate consistency with the General Plan, applicable design guidelines, and the design review criteria set forth in Section 15.04.805.040 of the Municipal Code.

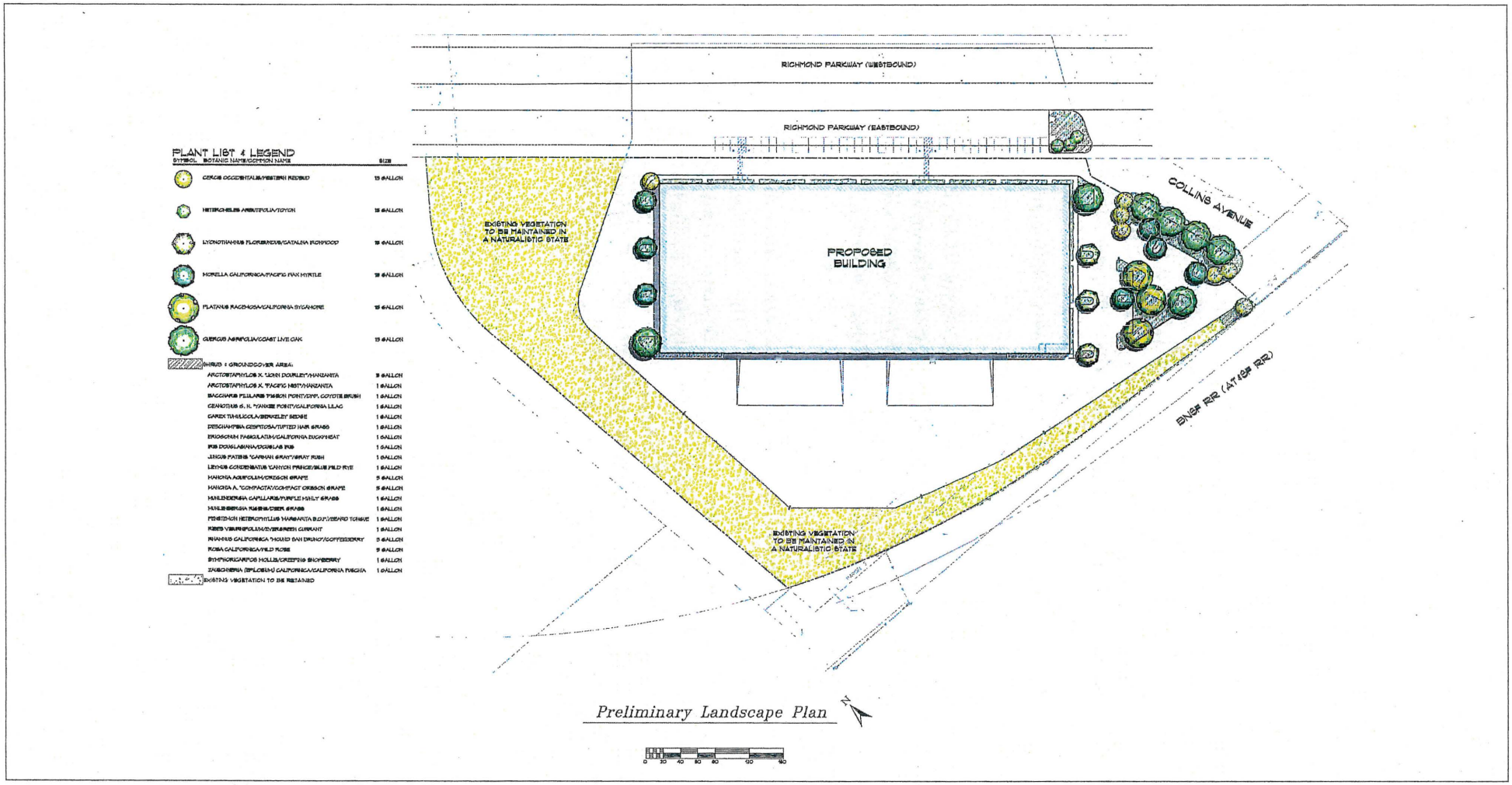

Figure 7

Preliminary Landscape Plan

Source: Perkins, Williams & Cotterill Architects

Conditional Use Permit: Although the anticipated cannabis cultivation and distribution facility would require approval of a Conditional Use Permit (CUP) by the Richmond Planning Commission pursuant to Article 15.04.806 of the Richmond Municipal Code, that authorization will be processed as a separate application once a tenant has been identified.

Other Approvals

State Water Resources Control Board (SWRCB): The project will require filing of a Notice of Intent (NOI) with the SWRCB for coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) administered by the SWRCB. This requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that addresses control of stormwater pollution during and after construction through implementation of Best Management Practices (BMPs). See Section IX, Hydrology and Water Quality, for additional information.

San Francisco Bay Regional Water Quality Control Board (RWQCB): The project will also require filing of an NOI with the SWRCB for coverage under the NPDES Municipal Regional Stormwater Permit (IGP) administered by the RWQCB. This also requires preparation and implementation of a SWPPP that addresses control of stormwater pollution through implementation of BMPs. See Section IX, Hydrology and Water Quality, for additional information.

Bay Area Air Quality Management District (BAAQMD): Installation and operation of three emergency power generators would require an Authority to Construct/Permit to Operate from the BAAQMD.

California Department of Food and Agriculture (CDFA): The anticipated cannabis cultivation and distribution facility would require a cannabis cultivation license from CDFA, pursuant to Title 3, Division 8, Chapter 1 of the California Code of Regulations (CCR), which would require preparation of a detailed cultivation plan, lighting plan, and cannabis waste management plan, among other requirements. The specific type of license would depend on the nature and size of the facility, which has yet to be determined. The facility would be subject to inspection by CDFA at any time, without prior notice.

California Department of Tax and Fee Administration (CDTFA): The anticipated cannabis cultivation and distribution facility may require a seller's permit from CDTFA.

9. Site Description and Surrounding Land Uses:

As previously noted, the vacant, undeveloped 7.3-acre project site is currently is covered with annual grassland, as shown on Figure 8-a. A rectangular detention basin in the southwest portion of the site is also covered with grasses and weeds. As described in Section IV, Biological Resources, there are three small wetlands on the site, two of which were dry at the time of the biological survey conducted in July 2018. The wetland areas were created as small detention ponds. Other than the fencing enclosing the site and the support columns for the Richmond Parkway (see Figure 8-b), there are no manmade improvements on the site. The Richmond Parkway is elevated approximately 25 to 30 feet above the ground level along the project site.

There are some minor variations in the topography of the relatively level site, with elevations ranging from 19 feet above mean sea level near the southwest corner to 26 feet above sea level in the northeast corner. The current topography is a result of the deposition in 2015 of clean soils

a) Viewing south across the project site from the northeast corner of the site.

b) Viewing southwest along the site's western edge, below the Richmond Parkway overcrossing.

Figure 8

Existing Site Conditions

Source: Douglas Herring & Associates

that were removed from the adjacent parcel to the south during the construction of mitigation wetlands on that parcel. The deposited soils created a pad set back 20 to 30 feet from the site perimeters that has an elevation ranging from 4 to 9 feet higher than the elevations along the site's edges. The elevated pad has side slopes inclined at approximately 2:1 (horizontal to vertical).

The southern boundary of the site lies just to the north of the Rheem Creek channel, which is shown on Figure 9-a. The designated 100-year flood plain flanking the creek intrudes into the edge of the project site. The creek, which is channelized east of Giant Road, functions as a flood control channel managed by the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD). The District holds a drainage easement comprised of an approximately 40-foot-wide strip of land centered on the creek, which runs along the entire southern perimeter of the project site. Building improvements and pavements are not allowed within this easement.

Land use surrounding the project site is quite varied. The western city limits of the City of San Pablo lie immediately to the east of the site. A residential neighborhood of small single-family homes extends to the east of Giant Road, while the east side of Giant Road itself is lined with commercial and industrial uses. La Palmera, which appears to be a food truck and catering business, is located opposite the northeast corner of the project site, between John Avenue and Stanton Avenue (see Figure 10-a). An unidentified small warehouse or light industrial building with a gravel parking lot is located immediately north of this business. Single-family homes extend to Giant Road in the block between Stanton Avenue and Palmer Avenue.

South of Palmer Avenue is a large parcel used for outdoor storage of ceramic urns and vehicles. The southern edge of the site is bordered by a section of Rheem Creek that is lined by concrete channels. South of the channel is a large warehouse or light industrial building that appears to be vacant and is offered for lease. Other industrial buildings adjoin this one to the south and east. While many of the spaces lack identification, the identifiable uses include a smog check business, a towing company, and a garden supply business. South of this large collection of light industrial and commercial uses are the Giant Road Apartments, a collection of two- and three-story buildings providing 86 units of affordable multi-family housing. Devon Square, another multi-family housing development, is located just south of the Giant Road Apartments. This development includes 74 attached townhome condominiums that are available both for sale and for rent.

Although two vacant wetland parcels are located immediately to the south of the project site (see Figure 9-b), more industrial development lies to the south of these parcels. Industrial, light industrial, and warehouse uses extend to the south for approximately a mile. This area also extends west of Giant Road for about a mile, though vacant and/or farmed plots of land are interspersed among the developed properties.

Immediately to the north of the project site is Budget Self Storage (see Figure 10-b), which extends to the west of the Richmond Parkway. More light industrial and warehouse uses extend

a) Viewing southeast along Contra Costa County flood control channel that extends along the southern edge of the project site.

b) Adjacent property to the south, as viewed from the site's southern edge.

Figure 9

Existing Adjacent Conditions

Source: Douglas Herring & Associates

a) Adjacent businesses and residences lining the east side of Giant Road east of the project site and Burlington Northern Santa Fe Railroad (BNSF RR) tracks.

b) Adjacent self-storage business located on the north side of Collins Avenue.

Figure 10

Neighboring Land Uses

Source: Douglas Herring & Associates

northward to Morton Avenue. Another residential neighborhood of single-family homes is located north of Morton Avenue, which is located about one-quarter mile north of the project site. The Collins Industrial Park, housing multiple businesses, is located at the southwest corner of Collins Avenue and Morton Avenue.

Aside from the Budget Self Storage business, the lands to the west of the project site are largely vacant, and some encompass wetlands flanking San Pablo Bay. However, the Richmond Rod and Gun Club is located on the shoreline, near the end of Goodrick Avenue, and a solar farm is located just to the south of the club.

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.

[X] Aesthetics	[ ] Agricultural Resources	[X] Air Quality
[X] Biological Resources	[X] Cultural Resources	[X] Geology/Soils
[ ] Greenhouse Gas Emissions	[X] Hazards & Haz. Materials	[X] Hydrology/Water Quality
[ ] Land Use/Planning	[ ] Mineral Resources	[X] Noise
[ ] Population/Housing	[ ] Public Services	[ ] Recreation
[X] Transportation/Traffic	[X] Utilities/Service Systems	
[X] Mandatory Findings of Significance		

DETERMINATION:

On the basis of the 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 the 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed name	For

EVALUATION OF ENVIRONMENTAL IMPACTS:

I. AESTHETICS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Explanation: The project site is situated in an area dominated by urban development, with light industrial development extending to the north, south, and southwest of the site, while residential and commercial land uses extend eastward of the site. An elevated pad covered with grasses and weeds extends across most of the site, effectively blocking any limited views of distant hillsides in Marin County on the other side of San Pablo Bay, which is located about three-quarters of a mile to the west.

The only publicly accessible views of or across the project site are available from northbound lanes of the Richmond Parkway, from Giant Road where it passes near the eastern boundary of the site, and from the southern end of Collins Avenue, west of Giant Road. The view from the Richmond Parkway is the most expansive and all-encompassing, as it looks down on the site from the elevated roadway, which travels along the entire western edge of the site. The site appears as an unremarkable vacant field surrounded by urban development, roadways, and railroad tracks. Large warehouse-type buildings form an immediate backdrop to the site, and hillsides developed with residential neighborhoods provide a middle-distance backdrop.

For viewers along Giant Road, only the eastern portion of the site is visible, and the view is dominated by the raised railroad tracks extending along the site's eastern boundary and the elevated Richmond Parkway extending along the site's western boundary. On clear days, the tops of hillsides of Point San Pablo can be seen in the distance. From this vantage point (i.e., Giant Road, opposite the site), a large industrial building is visually prominent to the south of the site and offices for Budget Self Storage are prominent to the north of the site.

Due to the limited viewsheds and the prominence of nearby industrial and commercial development, the project site does not provide views that would be considered scenic vistas. This is the case both with views across the site (as a view corridor) and of views encompassing the site itself. Therefore, the publicly-accessible vantage points along the street frontage of the site do not provide views of a scenic vista when viewing across the project site. While the proposed development would alter the existing visual character of the site, as discussed below in Section I-c, it would not block or curtail an existing public view of a scenic vista. Therefore, the proposed project would have a ***less-than-significant impact*** on a scenic vista.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*	☐	☐	☐	☒

Explanation: There are no State-designated scenic highways in the vicinity of the project site.[4] Furthermore, there are no scenic resources on the project site, which consists of a relatively flat parcel covered with grasses and weeds, as shown on Figure 8-a. Therefore, the project would have ***no adverse impact*** on scenic resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*	☐	☒	☐	☐

Explanation: The existing visual quality of the project site is generally low, consisting of a vacant parcel covered by grasses and weeds, surrounded by urban development (see Figure 8). While some viewers would likely prefer the site in its current state in comparison with the proposed warehouse development, the proposed changes would not constitute a substantial degradation in the visual quality of the site or its surroundings.

Residential receptors living east of Giant Road near the project site are expected to be the visual receptors most affected by the visual changes to the site that would occur with project implementation. Only one residence provides a direct view of the site from the residential property, a single-story single-family home located on the northeast corner of Palmer Avenue at Giant Road. Although there are three ground-floor windows in this house that face the project site, views of the site from the northernmost window are completely blocked by the row of full juniper trees that line the western edge of the property. These trees also partially block views from the other windows, depending on the position of the viewer and the viewing direction. While the proposed project would likely be partially visible from one or both of the other windows, adverse visual effects on a private vantage point are not typically treated as significant impacts under CEQA, particularly when a small number of private viewers would be affected.

Public views of the site are of greater concern, and the site is most prominently visible when viewed from Giant Road, opposite the site. In order to provide the public with a concrete idea of how the proposed project would affect local views of the site, accurate to-scale visual simulations were produced from two of the vantage points that would be most affected. The simulations were prepared by Square One Productions, a San Francisco firm that has been specializing in this type of work for over 30 years. The viewpoints selected in consultation with Richmond Planning staff were located on Giant Road at the intersections of Stanton Avenue and Palmer Avenue, as shown on Figure AES-1. Using three-dimensional computer modeling, the proposed project was

[4] California Department of Transportation, Officially Designated State Scenic Highways, accessed October 25, 2018 at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwy.htm.

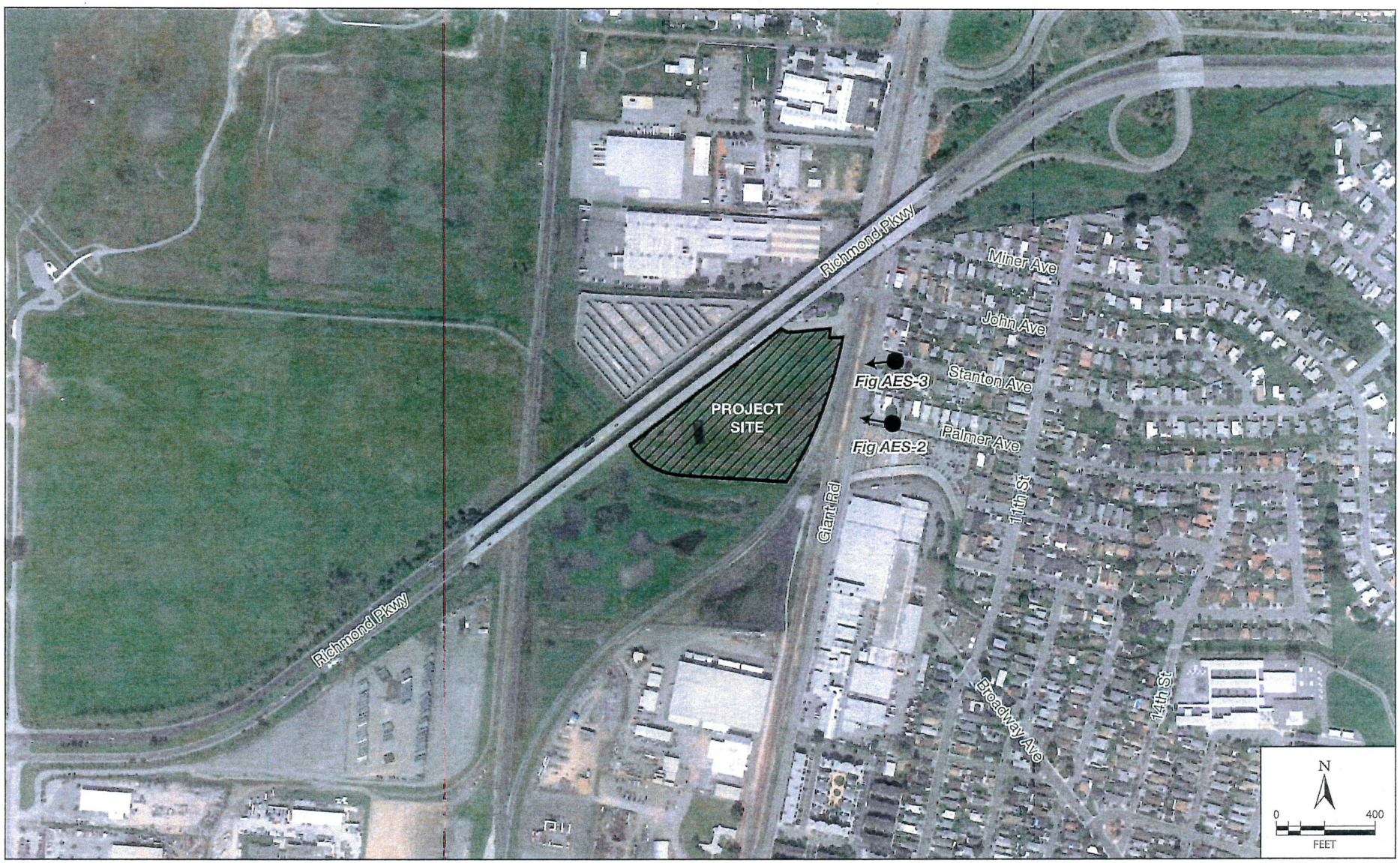

Figure AES-1

Vantage Points for Visual Simulations

Source: Square One Productions; Base-Google Earth

superimposed on documentary photographs of existing site conditions. The resulting Before and After photos are shown on Figure AES-2 for Palmer Avenue and on Figure AES-3 for Stanton Avenue.

As the visual simulations depict, the existing views would be substantially altered by the proposed project. From Stanton Avenue, the view of the elevated Richmond Parkway would be partially replaced by the large warehouse. However, the northern, shorter end of the building would face Giant Road and this side of the building would be visually articulated by window arrays, overhangs, a partial parapet that alters the massing, and contrasting bands of color. A generous planting of 25 trees of varying species. The view would continue to encompass the offices of the adjacent self storage business and a portion of the Richmond Parkway.

The overall appearance of the project as viewed from this vantage point would resemble a two-story modern office building, softened by landscaping. In comparison to much of the existing industrial and other development in the immediate vicinity, the proposed building would be more attractive than much of this development. Given the relatively low visual quality of the site in its existing condition, and the context in which it is located, the visual changes that would occur at this vantage point would not rise to the level of a substantial degradation in visual quality. Therefore, the visual impact on this vantage point would not be significant.

From Palmer Avenue, the view of the elevated Richmond Parkway would be virtually replaced by the large warehouse. The long rear elevation of the building would dominate the view from this vantage point. With a length of about 245 feet and a height at the rear elevation of 38 feet 9 inches, the building would be monolithic and visually dominant. This elevation would consist of loading docks with 18 large roll-up doors, where tractor-trailer trucks would frequently be visible maneuvering to and from the docks. In addition, up to 10 trailers could be parked at a time along the western portion of the site, further degrading the view. In this case, the introduction of a large monolithic building with clear warehouse/light industrial character to a currently vacant site would constitute a substantial adverse change in the visual character of the site. Therefore, the project would have a ***significant impact*** on the visual character of the site. Implementation of the following mitigation would reduce the impact to a less-than-significant level:

Mitigation Measure AES-1: A dense row of trees and shrubs shall be planted along the eastern edge of the project site adjacent to Giant Road. This row of vegetation shall be wrapped around the southern corner of the site and shall extend westward for a distance of at least 300 feet. Drought-tolerant species shall be selected that can provide substantial screening of the site. A revised planting plan depicting the additional trees and shrubs shall be submitted to the Richmond Planning Department for review and approval of proposed species, sizes, and location. Along with the planning plan, the applicant also shall prepare and submit a Landscape Maintenance Plan, also subject to review and approval by the Richmond Planning Department, that details a plan for maintaining the vegetation and ensuring its survival.

Existing view of project site from Palmer Avenue near Giant Road.

Proposed view of project site from Palmer Avenue near Giant Road.

Figure AES-2

Existing and Proposed Conditions Viewed from Vantage Point

Source: Square One Productions

Existing view of project site from Stanton Avenue near Giant Road.

Proposed view of project site from Stanton Avenue near Giant Road.

Figure AES-3

Existing and Proposed Conditions Viewed from Vantage Point 3B

Source: Square One Productions

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*	☐	☐	☒	☐

Explanation: The proposed project would not result in the introduction of a substantial source of new glare to the site. The only glare that would be created would be from sunlight glinting off of parked cars or windows, which is typical of all development. The building façades would not include reflective materials other than the glass windows.

New nighttime lighting would be added that be typical of that employed on most warehouse, office, and light industrial sites. Wall-mounted light luminaires would be placed at regular intervals on all sides of the building. The lights would be shielded and downward directed, and would not produce offsite glare or a substantial amount of new light in the project vicinity.

The parking areas on the north, west, and south sides of the building would be illuminated by pole-mounted LED light fixtures. There would be seven light fixtures evenly spaced across the front parking lot, three along the edges of the southern parking area, and five fixtures interspersed throughout the triangular northern parking lot. This would not constitute an excessive amount of lighting, and a certain amount of parking lot lighting is necessary for security and safety. The use of shielded, downward-directed light fixtures would prevent offsite migration of light.

The most significant source of new nighttime lighting would come from the four pole-mounted high-intensity LED fixtures that would be pointed at the two loading docks and adjacent areas at the rear of the building. While this light would be noticeable to offsite viewers, it would not produce offsite glare, due to the controlled directionality of the lighting. This new source of nighttime lighting would not substantially adversely affect residents in the residential neighborhood located east of Giant Road because, with the one exception discussed in Section I-c, above, there are no direct lines-of-sight from residential windows to the proposed loading docks. At the one exception, existing screening is provided by the dense row of juniper trees planted along the property's western edge. Passing motorists on Giant Road would be the only other visual receptors. The impact to drivers would be minimal because they would only be exposed to the lighting during the few seconds it takes to drive past the property. Given the industrial nature of much of the development in the project vicinity, this new source of lighting would not be incompatible with surrounding land uses. Furthermore, as the trees and shrubs required by Mitigation Measure AES-1 matured, the lighting would be increasingly obscured from offsite views. Finally, the total light output from the site would be required to comply with the limits established for Lighting Zone LZ3, set forth in Section 15.04.604.050 of the Richmond Municipal Code. Based on all of the foregoing considerations, the project's light and glare impacts would therefore be ***less than significant.***

II. AGRICULTURAL RESOURCES — *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California 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 Forestry Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☐	☒

Explanation: The project site is designated "Other Land" on the map of important farmland in Contra Costa County prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) by the Department of Conservation (DOC), a department of the California Resources Agency.[5] The DOC updates the maps every two years; the most recent map was prepared in 2012 and published in 2014.

"Other Land" is defined as land that is not included in any other mapping category defined by the FMMP, most of which are different categories of agricultural land. Common examples of Other Land include low density rural developments; brush; timberland; wetlands; riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

The surrounding lands to the north, east, south, and southwest of the project site are designated "Urban and Built-Up Land" by the FMMP. Land to the west and northwest, which is part of Point Pinole Regional Shoreline Park, is designated Other Land.

Since the project site does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, there is no potential for conversion of these types of farmlands. The project would have ***no impact*** on valuable farmland.

[5] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, "Contra Costa County Important Farmland 2012" (map), April 2014.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*	☐	☐	☐	☒

Explanation: The project property is not zoned for agricultural use or under a Williamson Act contract.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*	☐	☐	☐	☒

Explanation: The project site is not zoned as forest land and there is no forest land on the site. The proposed project would therefore have no impact on forest or timber land.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Result in the loss of forest land or conversion of forest land to a non-forest use?*	☐	☐	☐	☒

Explanation: Public Resources Code Section 12220(g) defines forest land as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There is no forest land on the project site as defined in Public Resources Code Section 12220(g).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☐	☒

Explanation: The project site does not contain farmland or forest land, and implementation of the proposed project would therefore have no potential to convert such lands to other uses.

III. AIR QUALITY — *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Conflict with or obstruct implementation of the applicable air quality plan?*	☐	☐	☒	☐

Explanation: The BAAQMD adopted its *Bay Area 2010 Clean Air Plan* (CAP)[6] in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHG emissions in a single, integrated plan; and establish emission control measures to be adopted or implemented in the 2010 through 2012 timeframe.[7] The primary goals of the 2010 Bay Area CAP are to:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

[6] Bay Area Air Quality Management District. *Bay Area 2010 Clean Air Plan*. September 15, 2010. Accessed January 2, 2019 at: http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.

[7] In 2015, the BAAQMD initiated an update to the 2010 CAP. On February 28, 2014, the District held a public meeting to report progress on implementing the control measures in the 2010 CAP, to solicit ideas and strategies to further reduce ozone precursors, particulate matter, toxic air contaminants, and greenhouse gases, and to seek input on innovative strategies to reduce greenhouse gases, mechanisms for tracking progress in reducing GHG, and how the District may further support actions to reduce GHG. The culmination of this effort will be an updated CAP.

On January 10, 2017, BAAQMD released the *Draft 2017 Clean Air Plan*.[8] The *Final 2017 Clean Air Plan* was adopted in April 2017.[9] The 2017 Clean Air Plan/Regional Climate Protection Strategy (CAP/RCPS) provides a roadmap for BAAQMD's efforts over the next few years to reduce air pollution and protect public health and the global climate. The CAP/RCPS includes the Bay Area's first-ever comprehensive RCPS, which identifies potential rules, control measures, and strategies that BAAQMD can pursue to reduce GHG in the Bay Area. Measures of the 2017 CAP addressing the transportation sector are in direct support of *Plan Bay Area 2040*, which was prepared by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) and includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan. Highlights of the *2017 Clean Air Plan* control strategy include:

- **Limit Combustion:** Develop a region-wide strategy to improve fossil fuel combustion efficiency at industrial facilities, beginning with the three largest sources of industrial emissions: oil refineries, power plants, and cement plants.
- **Stop Methane Leaks:** Reduce methane emissions from landfills, and oil and natural gas production and distribution.
- **Reduce Exposure to Toxics:** Reduce emissions of toxic air contaminants by adopting more stringent limits and methods for evaluating toxic risks at existing and new facilities.
- **Put a Price on Driving:** Implement pricing measures to reduce travel demand.
- **Advance Electric Vehicles:** Accelerate the widespread adoption of electric vehicles.
- **Promote Clean Fuels:** Promote the use of clean fuels and low or zero carbon technologies in trucks and heavy-duty vehicles.
- **Accelerate Low-Carbon Buildings:** Expand the production of low-carbon, renewable energy by promoting on-site technologies such as rooftop solar and ground-source heat pumps.
- **Support More Energy Choices:** Support of community choice energy programs throughout the Bay Area.
- **Make Buildings More Efficient:** Promote energy efficiency in both new and existing buildings.
- **Make Space and Water Heating Cleaner:** Promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

When a public agency contemplates approving a project where an air quality plan consistency determination is required, BAAQMD recommends that the agency analyze the project with respect to the following questions: (1) Does the project support the primary goals of the air quality plan; (2) Does the project include applicable control measures from the air quality plan; and (3) Does the project disrupt or hinder implementation of any 2017 CAP control measures? If the first two questions are concluded in the affirmative and the third question concluded in the negative, the BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.

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[8] Bay Area Air Quality Management District, *Draft 2017 Clean Air Plan*, January 10, 2017. Accessed January 2, 2019 at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/baaqmd_2017_cap_draft_122816-pdf.pdf?la=en

[9] Bay Area Air Quality Management District, *Final 2017 Clean Air Plan*, April 19, 2017. Accessed January 2, 2019 at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en.

Any project that would not support the 2017 CAP goals would not be considered consistent with the 2017 CAP. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance. As presented in the preceding and subsequent impact discussions, the proposed project would not exceed the BAAQMD significance thresholds; therefore, the proposed project would support the primary goals of the 2017 CAP and would not hinder implementation of any of the CAP control measures. Therefore, the proposed project would have a ***less-than-significant impact*** associated with, conflicting with, or obstructing implementation of the applicable air quality plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*	☐	☒	☐	☐

Explanation:

Construction Impacts

Construction activities are expected to occur from January of 2019 through March of 2020. Typically, construction activities would occur between 8 a.m. and 5 p.m. (ten hours per day), on Monday through Friday. CARB California Emissions Estimator Model (CalEEMod, Version 2016.3.2[10] was used to quantify construction-related pollutant emissions. CalEEMod output worksheets are included in Appendix A: CalEEMod Output Files of the Air Quality Technical Report.

The BAAQMD *CEQA Air Quality Guidelines* recommend quantification of construction-related exhaust emissions and comparison of those emissions to significance thresholds. For fugitive dust emissions, BAAQMD recommends implementation of best management practices to reduce wind-blown dust.

Table AQ-1 provides the estimated (unmitigated and mitigated) short-term (average daily) construction emissions that would be associated with the proposed project and compares those emissions to the BAAQMD's significance thresholds for construction exhaust emissions. The construction phases (i.e., site preparation, grading, building construction, paving, etc.) are sequential (i.e., do not generally occur simultaneously). Thus, the average daily construction emissions were determined as the total construction emissions divided by the number of construction days and then compared to the BAAQMD significance thresholds.

As indicated in Table AQ-1, the estimated average daily construction emissions would be below the BAAQMD's significance thresholds and would have a ***less-than-significant impact*** on air quality. The maximum daily construction emissions would vary from phase to phase; where NO_x, PM_{10}, and $PM_{2.5}$ emissions tend to be highest during site preparation and grading, and ROG tends to be highest during application of architectural coatings.

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[10] California Air Resources Board, *California Emissions Estimator Model User's Guide*, November 9, 2017 at: http://www.caleemod.com/.

Table AQ–1
Estimated Average Daily Project Construction Emissions
(pounds per day)

Condition	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO
Unmitigated Emissions					
Construction	6.24	34.8	1.43	1.34	21.6
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
Mitigated Emissions					
Construction	4.42	25.9	0.19	0.19	22.9
Significance Threshold	54	54	82	54	---
Significant Impact (Yes or No)?	No	No	No	No	No

Source: California Air Resources Board, EMFAC2014

As shown in Table AQ-1, construction of the proposed project would not exceed the daily significance thresholds for criteria air pollutants, BAAQMD considers construction projects that involve site disturbance to have a potentially significant impact on air quality unless the District's *Basic Construction Mitigation Measures* are implemented during construction. Therefore, for purposes of this analysis, the proposed project would have a ***potentially significant impact*** on air quality due to emissions of criteria air pollutants during project construction. Implementation of the following mitigation measures would reduce the impact to a less-than-significant level:

Mitigation Measure AQ-1: The property owner/applicant shall require the construction contractor to reduce the severity of construction-related dust and other air pollutant emissions by implementing BAAQMD's basic fugitive dust control and exhaust emissions reductions measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as

soon as possible after grading unless seeding or soil binders are used.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Emissions of VOCs due to the use of architectural coatings are regulated by the limits contained in BAAQMD Regulation 8: Organic Compounds, Rule 3: Architectural Coatings (Rule 8-3). Rule 8-3 was revised on January 1, 2011 to include more stringent VOC limit requirements. The revised VOC architectural coating limits specify that the use of paints and solvents with a VOC content of 100 grams per liter or less for interior and 150 grams per liter or less for exterior surfaces shall be required. It is assumed that the project sponsor would comply with this regulatory requirement.

Based on the CalEEMod for proposed project construction and using standard fuel consumption estimates, construction activities would require 86,080 gallons of diesel fuel and 13,775 gallons of gasoline.[1112] This includes all off-road construction equipment, hauling, vendor, and worker trips over a 326-working day construction period. For the finishing phase of construction, some electricity may be used (e.g., for power tools and work lighting). While this electricity usage cannot be quantified at this time, it is anticipated to be relatively minor compared to normal building operations. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Natural gas would not be used during construction.

Operational Impacts

CalEEMod was used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after the proposed project construction is complete and operational. The proposed project land use types and size and other project-specific information were input to the model. CalEEMod provides emissions

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[11] Fuel usage is estimated using the CalEEMod output for CO_2, and a $kgCO_2$/gallon conversion factor, as cited in the U.S. Energy Information Administration Voluntary Reporting of Greenhouse Gases Program, Accessed January 2, 2019 at: https://www.epa.gov/sites/production/files/2015-11/documents/emission-factors_2011.pdf.

[12] Fuel usage is estimated using the CalEEMod output for CO_2, and a $kgCO_2$/gallon conversion factor, as cited in the U.S. Energy Information Administration Voluntary Reporting of Greenhouse Gases Program, Accessed January 2, 2019 at: https://www.epa.gov/sites/production/files/2015-11/documents/emission-factors_2011.pdf.

for transportation, area sources,[13] electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. CalEEMod output worksheets are included in Appendix A: CalEEMod Output Files of the Air Quality Technical Report.

A daily weekday vehicle trip generation rate of five daily trips per 1,000 square feet (or 480 daily trips) was input to the model.[14] Approximately 30 percent of the vehicle trips would be delivery trucks (or 144 daily trips). The estimated annual vehicle miles traveled would be 1,401,365 miles, requiring approximately 43,400 gallons of gasoline and 16,325 gallons of diesel. The default trip lengths and trip types specified by CalEEMod for Contra Costa County were used.

Annual electricity and natural gas consumption were calculated using the demand factors provided in CalEEMod. The proposed project's building and parking lot lighting energy consumption was estimated to be approximately 2,300,420 kilowatt-hours (kWh) of electricity per year and natural gas consumption was estimated to be approximately 1.7 billion British Thermal Units (BTU) per year.

The proposed project would require three 600-horsepower emergency diesel generators operating for no more than 50 hours per year per generator (during engine testing and maintenance) and would keep the facility security and other systems operational in the event of an emergency power failure. Although the generators would only be operated during short-term power outages, it would be tested once or twice a month for a short duration, for an annual total that would not exceed 50 hours. During maintenance and testing the engine would typically operate for no more than two hours at a time. Maintenance would typically occur between 8 a.m. and 5 p.m. Because its power output would exceed 50 horsepower, the generators would require an Authority to Construct/Permit to Operate from the BAAQMD and would require notification of all residents living within 1,000 feet of the proposed project generator. The emergency generator would meet USEPA Tier 3 Exhaust Emissions Standards for Nonroad Compression-Ignition Engines Emission Standards and comply with BAAQMD permit requirements.[15] The three diesel generators would use a total of approximately 6,420 gallons per year.

Estimated daily and annual operational emissions that would be associated with the proposed project are presented in Tables AQ-2 and AQ-3, respectively, and are compared to BAAQMD's thresholds of significance. As indicated in Tables AQ-2 and AQ-3, the estimated proposed project operational emissions would be below the BAAQMD's significance thresholds and would have a ***less-than-significant impact*** on air quality.

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[13] Area sources include operational emissions associated with hearths (natural gas/propane fireplaces), consumer products (various solvents used in non-industrial applications, which typically include cleaning supplies, kitchen aerosols, and toiletries), area architectural coatings, and landscaping equipment.

[14] Diwu Zhou, Transportation Engineer, Fehr and Peers, Email Communication, January 2, 2019 and Richmond Parkway Commerce Center TIA Assumptions, Fehr and Peers, August 31, 2018.

[15] Bay Area Air Quality Management District, *Permit Handbook*, August 14, 2017, Accessed January 2, 2019 at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf.

Table AQ–2
Estimated Average Daily Operational Emissions
(pounds per day)

Condition	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO
Area	2.35	<0.01	<0.01	<0.01	0.02
Energy	0.05	0.46	0.03	0.03	0.38
Mobile	0.91	3.75	3.01	0.82	10.3
Emergency Generators	5.91	16.5	0.87	0.87	15.1
Total Project Operations	**9.21**	**20.7**	**3.91**	**1.73**	**25.7**
Significance Threshold	54	54	82	54	---
Significant Impact (Yes or No)?	No	No	No	No	No

Source: California Air Resources Board, CalEEMod Version 2016.3.2

Table AQ–3
Estimated Average Annual Operational Emissions
(tons)

Condition	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO
Area	0.43	<0.01	<0.01	<0.01	<0.01
Energy	<0.01	0.08	<0.01	<0.01	0.07
Mobile	0.14	0.67	0.53	0.15	1.74
Emergency Generators	0.07	0.21	0.01	0.01	0.19
Total Project Operations	**0.65**	**0.96**	**0.55**	**0.16**	**2.00**
Significance Threshold	10	10	15	10	---
Significant Impact (Yes or No)?	No	No	No	No	No

Source: California Air Resources Board, CalEEMod Version 2016.3.2

In addition to regional air quality impacts, addressed previously, BAAQMD requires reviewing a proposed project's localized CO impacts near intersections and other areas with motor vehicles. Increased traffic volumes due to the proposed project operations would result in increased pollutant emissions in the vicinity of the roadways utilized by this traffic, which can cause pollutant levels to exceed the CAAQS/NAAQS, especially near congested intersections. The BAAQMD *CEQA Air Quality Guidelines* identify the following screening criteria for determining whether a project's motor vehicle CO emissions would likely cause CAAQS/NAAQS to be

exceeded along congested roadway and other areas with motor vehicles. A project would have a less-than-significant CO impact if:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per day; or
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per day where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The proposed project would generate 480 new traffic trips per day, well below these thresholds, and thus would comply with these screening criteria. Based on BAAQMD's screening criteria, project-related traffic would not exceed CO standards and, therefore, no further analysis was conducted for CO impacts. The project's emissions of carbon monoxide would have a ***less-than-significant impact*** on air quality on both a project-level and cumulative basis.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*	☐	☒	☐	☐

Explanation: Construction emissions from the project would result in the generation of air pollutants in the project area and in the immediate vicinity, and would incrementally add to cumulative emissions. With implementation of the mitigation identified for the project construction emissions, the cumulative impact from construction would also be reduced to a less-than-significant level.

The project's ongoing operations would also add to ozone precursor emissions on a regional basis and would incrementally add to PM_{10}, $PM_{2.5}$, and CO emissions on a local basis. As noted in BAAQMD's *CEQA Air Quality Guidelines*, air pollution is, by its very nature, largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. According to the Air Quality Guidelines, if a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. The Air Quality Guidelines state that if a project would exceed the identified significance thresholds, its emissions would be cumulatively considerable. Conversely, if a project is determined to have less-than-significant project-level emissions, then it would also have a less-than-significant cumulative air quality impact.

The operational impacts discussed in this chapter are effectively project-level as well as cumulative impacts. Because the project-level operational impacts would be less than significant, the project's cumulative impacts on air quality would also be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Explanation: Health risk from exposure to air pollutants is evaluated based on the potential for exposure to $PM_{2.5}$ and toxic air contaminants (TACs), the two emission types that pose the most significant threat to human health. Virtually any land use that attracts and/or generates vehicle trips emits TACs and $PM_{2.5}$. It is only when substantial quantities of TACs are emitted that cancer or health risk can potentially rise to a level of significance. According to BAAQMD, more than 80 percent of the inhalation cancer risk from TACs in the Bay Area is from diesel engine emissions.[16] TACs are a set of airborne pollutants that may pose a present or potential hazard to human health, and are separated into carcinogens and non-carcinogens.[17] State and local regulatory programs are intended to limit exposure to TACs and the associated health risk. Both TACs and $PM_{2.5}$ are emitted by trucks, cars, construction equipment, and other mobile sources. They are also emitted by stationary sources that require permitting by the BAAQMD, which requires source controls.

The BAAQMD considers an excess cancer risk of more than 10 in one million or a non-cancer (i.e., chronic or acute) health risk greater than a Hazard Index (HI) of 1.0 to be a significant adverse impact.

The proposed project would not introduce a new sensitive receptor to the project site. Sensitive receptors are people most susceptible to poor air quality, and include children, the elderly, the infirm, or others with medical conditions susceptible to poor air quality (e.g., asthma, bronchitis, chronic respiratory disease). Land uses that are generally considered to be sensitive receptors include residences of all types, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities.

Project impacts related to increased health risk can occur either by introducing a new sensitive receptor in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The BAAQMD recommends using a 1,000-foot radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs. A lead agency should enlarge the radius if an unusually large source or sources of hazardous emissions that might affect a project lies outside the 1,000-foot radius.

The BAAQMD *CEQA Air Quality Guidelines* requires an assessment of air toxics impacts on sensitive receptors. The BAAQMD *CEQA Air Quality Guidelines* also requires an assessment of

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[16] Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, page 5-3, May 2017.

[17] Toxic air contaminants are a broad class of compounds known to cause morbidity or mortality. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., gasoline service stations, dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

$PM_{2.5}$ concentrations as a result of the proposed project construction exhaust emissions. The proposed project would constitute a new emission source of TACs (such as diesel particulate matter (DPM)) and $PM_{2.5}$ during project construction from operation of heavy-duty construction equipment.[18] Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk.

A Health Risk Assessment (HRA) was conducted to determine the health impacts related to the project, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified by the BAAQMD's *CEQA Air Quality Guidelines*. In accordance with the BAAQMD *CEQA Air Quality Guidelines*, the HRA also evaluated concentrations of $PM_{2.5}$. The HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[19]

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. A maximally exposed individual (MEI) represents the worst-case risk estimate, based on a theoretical person continuously exposed for a lifetime at the location of highest air concentration of TACs. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period, which provides a further overestimate of the exposure.

This HRA analyzes the incremental health risks to sensitive receptors in the vicinity of the proposed project, using the estimated air emissions associated with the construction activities, the schedule for construction activities, the location of construction activities relative to nearby sensitive receptors, and meteorological data. The U.S. Environmental Protection Agency's (EPA's) AERMOD atmospheric dispersion model then calculates air concentrations (in micrograms per cubic meter, or $\mu g/m^3$) of DPM and $PM_{2.5}$ at the nearby sensitive receptors. The supporting methodology and assumptions used in this HRA are provided in Appendix B: Health Risk Assessment Methodology and Assumptions of the Air Quality Technical Report.

Both acute (short-term, such as one-hour) and chronic (long-term, such as annual) adverse health impacts unrelated to cancer were also addressed and are measured against a hazard index (HI). The hazard index is defined as the ratio of the estimated air concentrations of DPM at the nearby sensitive receptors to a reference exposure level (REL) that could cause adverse health effects. The BAAQMD considers the health impact to be significant if the HI is greater than 1.0 (i.e., the estimated air concentrations of DPM is greater than the REL).

There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde, and other compounds, which do have acute RELs. Acrolein emissions represent over 90 percent of the acute health impacts from diesel engines. Thus, this HRA focused on the acute health impacts on acrolein emissions. The acute REL for acrolein established by the California OEHHA

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[18] In 1998, CARB classified diesel particulate matter as a toxic air contaminant, citing its potential to cause cancer and other health problems. The U.S. Environmental Protection Agency concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects.

[19] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015. Accessed January 2, 2019 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

is 2.5 $\mu g/m^3$.[20] Thus, if the proposed project-related one-hour concentration of acrolein exceeds 2.5 $\mu g/m^3$, resulting in an acute HI of greater than 1.0 (i.e., acrolein one-hour concentration/2.5 $\mu g/m^3$), the acute health impacts would be significant. The chronic reference exposure level for DPM established by the California OEHHA is 5 $\mu g/m^3$.[21] Thus, if the proposed project-related annual concentration of DPM exceed 5.0 $\mu g/m^3$, resulting in a chronic HI of greater than 1.0 (i.e., DPM annual concentration/5.0 $\mu g/m^3$), the chronic health impacts would be significant.

Dispersion modeling also estimated the exposure of sensitive receptors to concentrations of $PM_{2.5}$ (expressed in $\mu g/m^3$) generated during project construction. The BAAQMD *CEQA Air Quality Guidelines* require inclusion only of $PM_{2.5}$ exhaust emissions in this analysis. (Fugitive dust emissions are addressed under BAAQMD dust control measures which are required to be implemented during project construction by Mitigation Measure AQ-1).

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, this HRA was accomplished by applying the highest estimated concentrations of TACs at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a young child exposure (3rd trimester of mother's pregnancy through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer-causing air pollutants.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models, and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of this HRA are highly overstated.

Proposed Project Construction Health Impacts on Existing Residential Receptors

The following describes the HRA results associated with existing receptors due to unmitigated proposed project construction activities and cumulative emission sources. The maximum cancer risk from unmitigated proposed project construction emissions for a residential-adult receptor would be 1.03 per million and for a residential-child receptor would be 23.0 per million. As shown in Table AQ-4, the total maximum cancer risk from unmitigated project construction emissions for a residential child receptor would be 23.0 per million.[22] The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual or MEI) to the northeast of the proposed project near Giant Road and John Avenue. Thus, the cancer risk due to construction activities are potentially above the BAAQMD threshold of 10 per million and would be ***potentially significant impac***t.

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[20] California Office of Environmental Health Hazards Assessment, *Acute, 8-hour, and Chronic Reference Exposure Levels*, June 2014. Accessed January 2, 2019 at http://www.oehha.ca.gov/air/allrels.html.

[21] *Ibid.*

[22] This theoretical individual would be born on construction year 1 and subsequently be exposed to the full construction period. Individuals born after construction year 1 would be exposed to shorter construction duration and thus, result in a lower risk and health impacts.

Table AQ–4
Estimated Unmitigated Construction Health Impacts on Existing Receptors

Source	Cancer Risk (adult/child)	Health Hazard Index (acute/chronic)	$PM_{2.5}$ Concentration
Project Construction	1.03/**23.0**	0.20/0.03	0.13
Significance Threshold	10	1.0	0.3
Potentially Significant?	**Yes**	No	No

Implementation of BAAQMD's Enhanced Exhaust Emission Reduction Measures, set forth in the following mitigation measure, would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-2: *BAAQMD Enhanced Exhaust Emissions Reduction Measures.* The applicant shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
2. All off-road equipment shall have:
   a) Engines that meet or exceed either USEPA or CARB Tier 3 off-road emission standards, and
   b) Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

As shown in Table AQ-5, with the implementation of Mitigation Measure AQ-2, the maximum cancer risk from proposed project construction for a residential-adult receptor would be 0.14 per million and for a residential-child receptor would be 3.20 per million. The total maximum cancer risk from mitigated proposed project construction emissions for a residential receptor would be 3.20 per million. Thus, the cancer risk due to construction activities would be below the BAAQMD threshold of 10 per million and would be less than significant with mitigation.

Table AQ–5
Estimated Mitigated Construction Health Impacts on Existing Receptors

Source	Cancer Risk (adult/child)	Health Hazard Index (acute/chronic)	$PM_{2.5}$ Concentration
Project Construction	0.14/3.20	0.03/<0.01	0.02
Significance Threshold	10	1.0	0.3
Potentially Significant?	No	No	No

The unmitigated acute HI would be 0.20, based on a project-related maximum one-hour diesel concentration of 38.2 $\mu g/m^3$ (per dispersion modeling analysis), an REL for acrolein of 2.5 $\mu g/m^3$, and a ratio of acrolein within DPM emissions of 1.3 percent of DPM emissions.[23] The resultant unmitigated acute HI is calculated as 38.2 $\mu g/m^3$ times 1.3 percent divided by 2.5 $\mu g/m^3$, which is 0.20. The mitigated acute HI would be 0.02. The acute HI would be below the project-level threshold of 1.0 and would therefore be less than significant.

The unmitigated chronic HI would be 0.03, based on a proposed project-related maximum annual diesel concentration of 0.13 $\mu g/m^3$ (per dispersion modeling analysis) and an REL for DPM of 5.0 $\mu g/m^3$. The resultant unmitigated chronic HI is calculated as 0.13 $\mu g/m^3$/5.0 $\mu g/m^3$, which is 0.03. The mitigated chronic HI would be less than 0.01. The chronic HI would be below the project-level threshold of 1.0 and would therefore be less than significant.

The proposed project's unmitigated annual $PM_{2.5}$ concentration from construction activities would be 0.13 $\mu g/m^3$. With implementation of Mitigation Measure AQ-2, the annual $PM_{2.5}$ concentration would be reduced to 0.02 $\mu g/m^3$. Thus, the annual $PM_{2.5}$ concentration due to project construction would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered less than significant.

Proposed Project Operational Health Impacts on Existing Residential Receptors

An HRA was also conducted for the proposed project operations using the AERMOD dispersion model, the same tool used for the construction activities. Operation of the emergency generators would create diesel emissions that could have adverse health effects on nearby receptors. The emergency generators would be located at least 200 feet from the nearest existing residence; within the southwest portion of the project site along the southern portion of the building. The emergency generators would require an Authority to Construct/Permit to Operate from the BAAQMD and would require notification of all residents living within 1,000 feet about the proposed project generators.

The maximum cancer risk from proposed project operations of the generators and loading dock trucks for a residential receptor would be 0.72 per million which would be below the BAAQMD threshold of 10 per million and would be considered a ***less-than-significant cancer risk impact.*** The proposed project's annual $PM_{2.5}$ concentration from the generators and loading dock truck

[23] Profile 4674 within the US EPA Speciate 4.2, November 2008. Accessed January 2, 2019 at https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40.

operations would be less than 0.01 $\mu g/m^3$ which would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered a ***less-than-significant $PM^{2.5}$ exposure impact.*** The operational health impacts are summarized in Table AQ-6.

Table AQ–6
Estimated Mitigated Operational Health Impacts on Existing Receptors

Source	Cancer Risk (adult/child)	Health Hazard Index (acute/chronic)	$PM_{2.5}$ Concentration
Project Operations	0.72	0.20/0.01	0.01
Significance Threshold	10	1.0	0.3
Potentially Significant?	No	No	No

The total acute HI would be 0.20 and would be below the project-level threshold of 1.0 and would therefore be less than significant. The total chronic HI would be less than 0.01 and would be below the project-level threshold of 1.0 and would therefore be less than significant. The total annual $PM_{2.5}$ concentration from construction activities would be less than 0.01 $\mu g/m^3$ and would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered less than significant.

It should be noted that 25 trees are proposed for the northern end of the building (generally, between the proposed project and nearby residences) and throughout the small parking lot. Proposed species include Catalina ironwood, California sycamore, western redbud, Pacific wax myrtle, and coast live oak. Large, evergreen trees can be an effective strategy for reducing exposure to air pollution. Fine particulates become trapped and filtered by the leaves, stems, and twigs of the trees. Trapped pollution particles are eventually washed to the ground by rainfall. Research supports a reduction in particulate matter concentration ranging from 0.5 to 5 percent from planting trees near a source of $PM_{2.5}$. However, this air quality analysis did not account for any reduction associated with tree planting.

Proposed Project Combined Health Impacts on Existing Residential Receptors

The combined total maximum cancer risk from mitigated construction activities and project operations would be 3.92 per million (3.20 per million from mitigated construction activities plus 0.72 per million from project operations). Thus, the cancer risk due to mitigated construction activities and project operations would be below the BAAQMD threshold of 10 per million and would be ***less than significant*** with implementation of Mitigation Measure AQ-2, required above for construction impacts.

The total acute HI would be 0.20 and would be below the project-level threshold of 1.0 and would therefore be less than significant. The total chronic HI would be less than 0.01 and would be below the project-level threshold of 1.0 and would therefore be less than significant. The total annual $PM_{2.5}$ concentration from construction activities would be 0.02 $\mu g/m^3$ and would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered ***less than significant.*** The combined health impacts for mitigated construction activities and operations are summarized in Table AQ-7.

Table AQ–7
Estimated Mitigated Construction and Operational Health Impacts on Existing Receptors

Source	Cancer Risk (adult/child)	Health Hazard Index (acute/chronic)	$PM_{2.5}$ Concentration
Project Operations	3.92	0.20/0.01	0.02
Significance Threshold	10	1.0	0.3
Potentially Significant?	No	No	No

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Explanation: Though offensive odors from stationary and mobile sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion.

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. With respect to the proposed project, during the short-term construction of the project, diesel-fueled equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people. Given the location of the site, which is exposed to westerly winds from San Pablo Bay, located approximately 3,500 feet to the west, such atmospheric dispersion is usually more pronounced than at inland locations, further reducing the potential for odors to accumulate or concentrate.

Construction-related odors would be emitted at the project site primarily during the site preparation and grading phases, which are expected to last for a total of 15 working days. Odors would be emitted again during the approximately three-week period later in the construction process when paving of the parking areas and circulation roadways would be performed. However, with average wind speeds of 10.7 miles per hour year round in the project area, diesel odors emitted by construction equipment would be subject to substantial atmospheric mixing, which would both dilute the odors and carry them aloft. Secondly, wind directions are predominately from the south-southwest with a low frequency of calm wind speed conditions (less than 1 percent of the time). A majority of the nearby residences are to the east of the project site and thus, are not directly downwind of the dominant wind direction. Therefore, construction

of the proposed project would have a ***less-than-significant impact*** due to the generation of objectionable odors.

Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. As a general matter, the types of development that pose potential odor problems include agriculture, food processing, dairies, rendering plants, refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as *flowery* or *sweet*, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word *strong* to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Cannabis cultivation facilities can be major sources of odors, even when the operations are completely indoors. Depending on the ventilation and filtration system employed, indoor cultivation facilities can be major sources of odors. Cannabis odors are largely associated with a class of chemicals referred to as terpenes, which are produced by flowering plants. The cannabis plant can produce more than 100 different terpenes, which differ among the various plant varieties.

The *CalCannabis Cultivation Licensing Final Program Environmental Impact Report* prepared by the California Department of Food and Agriculture for the Statewide licensing program found odor impacts to be less than significant because in cases where the perception of the cannabis cultivation odor as objectionable is widespread in a jurisdiction, it is anticipated that the jurisdiction has developed or will develop odor control requirements that match the jurisdiction's expectations and standards.[24]

The City of Richmond considers the migration of odors from cannabis cultivation to be a potentially significant impact, as demonstrated by the following requirements of the Richmond Municipal Code[25]:

> **Section 7.102.050 (b)(4)(D):** The applicant for a marijuana business permit shall additionally provide the following information: Detailed information about the proposed ventilation system and include technical specifications that such a system is capable of preventing the release of all marijuana odors for the cultivation operation.
>
> **Section 7.102.060 – Permit Approval and Operating Conditions:** Any permit issued, or modified to allow relocation, pursuant to this chapter shall include, and each permittee shall continually comply with, all of the following conditions of operation, provided that additional conditions may be imposed as necessary to preserve the public health, safety, and welfare.
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> . . .

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[24] California Department of Food and Agriculture, *CalCannabis Cultivation Licensing Final Program Environmental Impacts Report*, page 4.3-33, November 2017.

[25] City of Richmond, California Code of Ordinances.

(d) The property provides a sufficient odor absorbing ventilation and exhaust system so that odor generated inside the property is not detected outside the property, anywhere on adjacent property or public rights-of-way, or within any other unit located within the same building as the marijuana dispensary, cultivation site, marijuana product manufacturer or any other subsequently approved marijuana business.

Absent appropriate measures to control the off-site migration of cannabis odors, the proposed project would have a ***significant impact*** related to odor generation. Implementation of the following mitigation would reduce the impact to a less-than-significant level:

Mitigation Measure AQ-3: The project sponsor shall submit an Odor Control Plan to the City prior to building occupancy of the cannabis cultivation facility. The Odor Control Plan shall contain detailed information about the proposed ventilation system of the building and the planned odor control technology (such as carbon filters). The Odor Control Plan shall demonstrate how the proposed ventilation system and odor control technology will ensure odor generated inside the property is not detected outside the property or in other units within the warehouse building, in accordance with Richmond Municipal Code Section 7.102.060(d).

As an example, the odor control may utilize a mixture of natural and biodegradable ingredients injected into a high-pressure fog system that eliminates the molecules that contain odor rather than simply masking. An exhaust air filtration system with odor control that prevents internal odors from being emitted externally may be utilized. An air system that creates negative air pressure between the commercial cannabis business's interior and exterior, so that the odors generated inside the commercial cannabis business are not detectable on the outside of the commercial cannabis business may also be utilized.

IV. BIOLOGICAL RESOURCES — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☒	☐	☐

Explanation:

The biological resources assessment for the proposed project was performed by Olberding Environmental, Inc. based on reconnaissance-level surveys of the site as well as a review of information from the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Inventory, and species listed as Rare, Threatened, or Endangered by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW).[26]

The biological resources assessment evaluated potential impacts to special-status plant and wildlife species that could be present on the site. Special-status plant species include species listed as Rare, Threatened, or Endangered by the USFWS (2017a) or by the State of California (CDFW 2017c). Federal Proposed and Candidate species (USFWS, 2009b) are also special-status species. Special-status species also include species listed on List 1A, List 1B, or List 2 of the CNPS Inventory (Skinner and Pavlik, 1994; CNPS 2009). All species in the above categories fall under State regulatory authority under the provisions of CEQA, and may also fall under federal regulatory authority. Considered special-status species are species included on List 3 (Plants About Which We Need More Information—A Review List) or List 4 (Plants of Limited Distribution—A Watch List) of the CNPS Inventory. These species are considered to be of lower sensitivity and generally do not fall under specific State or federal regulatory authority. Specific mitigation considerations are not generally required for List 3 and List 4 species.

Field Surveys

An Olberding Environmental biologist conducted a reconnaissance-level survey of the project site and adjacent lands on July 16, 2018. The following field surveys for potential biological resources were performed:

General Habitat Survey – An Olberding Environmental biologist conducted a survey of species habitat within the entire study area, including visible portions of the adjacent properties. The purpose of the habitat survey was to evaluate wildlife habitats and the potential for any protected species to occur on or adjacent to the property, including special-status plant species. The habitat types occurring on the project site were characterized according to the generalized plant community classification schemes presented in *A Manual of California Vegetation* (Sawyer, Keeler-

[26] Olberding Environmental, Inc., *Biological Resources Analysis Report for the Parkway Commerce Center Property, City of Richmond, Contra Costa, California*, July 2018.

Wolf, and Evens, 2009). All vascular plant species that were identifiable at the time of the survey were recorded and identified using keys and descriptions in *The Jepson Manual* (2012).

Reconnaissance-Level Raptor Survey – A reconnaissance-level survey for raptors (birds of prey) was conducted on the property. Observation points were established on the periphery of the site to view raptor activity over a 15- to 30-minute time period. This survey was conducted with the use of binoculars and notes were taken for each species occurrence. Additionally, utility poles and perch sites in the vicinity of the site were observed. All raptor activity within and adjacent to the site was recorded during the reconnaissance-level observation period.

Reconnaissance-Level Burrowing Owl Survey – A reconnaissance-level burrowing owl (*Athene cunicularia*) survey was also conducted on the property to identify potential burrow sites or burrowing owl use of on-site habitat. The general presence and density of suitable burrow sites (e.g., rodent burrows) was evaluated.

Survey Results

The approximately 7.3-acre project site supports three habitat types consisting of non-native annual grassland, non-jurisdictional wetland, and bare rock. As shown on Figure BIO-1, the majority of the site is dominated by non-native annual grassland. Characteristic grassland vegetation includes non-native species such as wild oat (*Avena fatua*), Italian rye grass (*Festuca perennis*), curly dock (*Rumex crispus*), bristly oxtongue (*Helminthotheca echioides*), black mustard (*Brassica nigra*), and fennel (*Foeniculum vulgare*). A complete list of plant species observed on the site is provided in Table BIO-1.

Three small non-jurisdictional wetlands are present in the southwest corner of the site. The largest of the three contained standing water at the time of the survey, but the other two wetland sites were dry. Characteristic vegetation within the wetlands includes tall flatsedge (*Cyperus eragrostis*), water plantain (*Alisma lanceolatum*), hyssop loosestrife (*Lythrum hyssopifolia*), hill morning glory (*Calystegia subacaulis*), cattails (*Typha latifolia*), rabbitsfoot grass (*Polypogon monspeliensis*), and coyote thistle (*Eryngium vaseyi*).

The two smaller wetlands are circular in shape and were both dry at the time of the survey. These wetlands featured vegetation such as yellow sweet clover (*Melilotus indicus*), fat hen (*Atriplex prostrata*), hill morning glory (*Calystegia subacaulis*), and field bindweed (*Convolvulus arvensis*).

A small pile of bare rock and gravel is present in the southwest corner of the site, west of the three seasonal wetlands.

No special-status plants were found to potentially occur within the project site due to unsuitable habitats and lack of nearby and/or recent CNDDB occurrences. Although the Santa Cruz tarplant (*Holocarpha macradenia*) was determined to have a moderate potential to occur on the property, it was not observed during the July 2018 survey, and is therefore presumed absent from the site.

No special-status wildlife species were observed on the site. However, the annual grassland habitat provides foraging opportunities for a wide range of bird species. Passerine species (perching birds such as sparrows, finches, and songbirds) observed during the July 2018 site survey included black phoebe (*Sayornis nigricans*), cliff swallow (*Petrochelidon pyrrhonota*), house finch (*Haemorhous mexicanus*), and northern mocking bird (*Mimus polyglottos*). The turkey vulture (*Cathartes aura*) was the only raptor species observed during the survey. However, the grassland habit could potentially be utilized for foraging by other species including red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), red-shouldered hawk (*Buteo lineatus*), American

Figure BIO-1

Habitat Types Present on the Project Site

Source: Olberding Environmental Inc.

kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*) and northern harrier (*Circus cyaneus*). The complete list of bird species observed during the biological surveys is presented in Table BIO-2.

The project site does not have suitable habitat for burrowing owl due to the lack of ground squirrel burrows and the high vegetation height. The only burrows present on site were made by small mammals such as pocket gophers and voles, and are inadequate for burrowing owls. For these reasons the burrowing owl is presumed absent from the site.

No mammals were seen during the survey; however, burrows created by small mammals including but not limited to Botta's pocket gopher (*Thomomys bottae*) and various vole species (*Microtus spp.*) were observed.

The cover from the grassland habitat, the mammal burrows, and the bare rock and gravel offer suitable habitat for various reptile species such as western fence lizards (*Sceloporus occidentalis*) Pacific gopher snake (*Pituophis catenifer catenifer*), and California king snake (*Lampropeltis californiae*), though none were observed during the survey.

The non-jurisdictional wetland features offer suitable habitat for various wildlife species. During the wet months, the full ponds can offer foraging habitat for avian species including but not limited to killdeer (*Charadrius vociferous*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), and various duck species. However, they are unlikely to provide suitable habitat for saltmarsh species, such as rails, due to the lack of tall, dense, emergent vegetation.

A total of 11 raptor or passerine bird species were identified as having potential to occur on the project site, but in a foraging capacity only; suitable nesting habitat for these species is not present on the site. Six species including red-shouldered hawk, red-tailed hawk, white-tailed kite, northern harrier, sharp-shinned hawk (*Accipiter striatus*), and Cooper's hawk have a high potential to forage on the site, while loggerhead shrike (*Lanius ludovicianus*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and American kestrel (*Falco sparverius*) have a moderate potential to occur in a foraging capacity.

Based on the CNDDB search results, three special-status bats with the potential to occur on the project site were identified, including Townsend's big-eared bat (*Corynohinus townsendii*), Yuma myotis (*Myotis yumanensis*), and hoary bat (*Lasiurus cinereus*). The CNDDB listed the hoary bat as occurring within a 5-mile radius of the site; this occurrence was recorded approximately 5 miles southeast of the site. Olberding Environmental determined that the large overpass of Richmond Parkway could provide suitable roosting habitat for Townsend's big-eared bat, however no suitable roosting habitat is present on the site for hoary bat or Yuma myotis. The grassland habitat, non-jurisdictional wetlands, and adjacent Rheem Creek provide an array of insects, allowing for abundant foraging opportunities for bats. Olberding concluded that there is a moderate potential for the Townsend's big-eared bat to occur on the site in a foraging and roosting capacity, and the hoary bat and Yuma myotis have a moderate potential to occur in a foraging capacity only.

Table BIO-1
Plant Species Observed on or Adjacent to Project Site

Scientific Name	Common Name
Alisma lanceolatum	Water plantain
Anthemis cotula	Stinking chamomile
Asclepias fascicularis	Narrow-leaf milkweed
Atriplex prostrata	Fat hen
Avena fatua	Wild oat
Baccharis pilularis	Coyote brush
Brassica nigra	Black mustard
Bromus diandrus	Ripgut brome
Bromus hordeaceus	Soft chess
Calystegia subacaulis	Hill morning glory
Carduus pycnocephalus	Italian thistle
Convolvulus arvensis	Field bindweed
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	Tall flatsedge
Eryngium vaseyi	Coyote thistle
Festuca perennis	Italian rye grass
Helminthotheca echiodes	Bristly oxtongue
Lactuca serriola	Prickly lettuce
Lotus corniculatus	Birdsfoot trefoil
Lythrum hyssopifolia	Hyssop loosestrife
Medicago polymorpha	Bur clover
Melilotus indicus	Yellow sweet clover
Phalaris aquatica	Harding grass
Phalaris paradoxa	Hood canary grass
Polypogon monspeliensis	Rabbits foot grass
Rumex crispus	Curly dock
Rumex pulcher	Fiddle dock
Trifolium hirtum	Rose clover
Typha latifolia	Cattail
Vicia sativa	Common vetch

Source: Olberding Environmental, Inc., 2018

Table BIO-2

Bird Species Observed on or Adjacent to Project Site

Scientific Name	Common Name
Cathartes aura	Turkey vulture
Columba livia	Rock pigeon
Corvus brachyrhynchos	American Crow
Haemorhous mexicanus	House finch
Meliospize melodia	Song sparrow
Melozone crissalis pilularis	California towhee
Mimus polyglottos	Northern mockingbird
Petrochelidon pyrrhonota	Cliff swallow
Sayornis nigricans	Black phoebe

Source: Olberding Environmental, Inc., 2018

Potential Impacts on Special-Status Species

Given the presence of suitable foraging habitat on the project site, there is the potential for foraging birds to be disturbed and displaced during construction. Any affected birds would be readily able to relocate to other foraging habitat in the area, and the loss of foraging opportunities on the project site would therefore not constitute a significant impact. However, there are large trees in proximity to the site that could be used as nesting habitat by raptors and passerine birds. There are 11 raptor or passerine bird species that could be adversely affected by construction disturbance, with the associated stress potentially affecting their ability to successfully incubate and rear hatched chicks. This would be a ***potentially significant impact***, which would be reduced to a less-than-significant level with implementation of the following mitigation measure:

Mitigation Measure BIO-1: If project construction-related activities would take place during the nesting season (February through August), preconstruction surveys for nesting passerine birds and raptors (birds of prey) within the project property and the large trees within the adjacent riparian area and light industrial area north of the site (near Collins Avenue) shall be conducted by a qualified wildlife biologist 14 days prior to the commencement of the tree removal or site grading activities. If any bird listed under the Migratory Bird Treaty Act is found to be nesting within the project site or within the area of influence, an adequate protective buffer zone shall be established by a qualified biologist to protect the nesting site. This buffer shall be a minimum of 75 feet from the project activities for passerine birds, and a minimum of 200 feet for raptors. The distance shall be determined by the biologist based on the site conditions (e.g., topography, if the nest is in a line of sight to the construction activity), and shall factor in the sensitivity of the birds nesting. The nest site(s) shall be monitored by a qualified biologist periodically to see if the birds are stressed by the construction

activities and if the protective buffer needs to be increased. Once the young have fledged and are flying well enough to avoid project construction zones (typically by August), the project can proceed without further regard to the nest site(s).

The site's foraging habitat for birds could also be utilized by special-status bats. Similar to the preceding discussion on impacts to raptors and passerine birds, the loss of foraging habitat for bats would not be a significant impact because alternative nearby foraging habitat is plentiful. However, there is potential roosting habitat for Townsend's big-eared bat on and adjacent to the project site. Two railroad bridges over Rheem Creek are located adjacent to the southeast corner of the site and a small wooden vehicle bridge spans the creek in the site's southwest corner. The undersides of these bridges provide suitable roosting habitat for Townsend's big-eared bat. Bats could also roost in nearby trees. Construction activity could disturb roosting bats, which would be a ***potentially significant impact.*** Implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-2: To avoid "take" of special-status bats, the following mitigation measures shall be implemented prior to the removal of any existing trees or structures on the project site:

a) A bat habitat assessment shall be conducted by a qualified bat biologist during seasonal periods of bat activity (mid–February through mid–October – ca. Feb. 15 – Apr. 15, and Aug. 15 – October 30), to determine suitability of each existing structure as bat roost habitat.

b) Structures found to have no suitable openings can be considered clear for project activities as long as they are maintained so that new openings do not occur.

c) Structures found to provide suitable roosting habitat, but without evidence of use by bats, may be sealed until project activities occur, as recommended by the bat biologist. Structures with openings and exhibiting evidence of use by bats shall be scheduled for humane bat exclusion and eviction, conducted during appropriate seasons, and under supervision of a qualified bat biologist.

d) Bat exclusion and eviction shall only occur between February 15 and April 15, and from August 15 through October 30, in order to avoid take of non–volant (non–flying or inactive, either young, or seasonally torpid) individuals.

OR

A qualified wildlife biologist experienced in surveying for and identifying bat species shall survey the large trees and abandoned structures on and in proximity to the project site. If tree removal is proposed, the survey shall determine if any special-status bats reside in the trees. Any special-status bats identified shall be removed without harm. Bat houses sufficient to shelter the number of bats removed shall be erected in open space areas that would not be disturbed by project development.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☐	☒

Explanation: Although there is riparian habitat associated with Rheem Creek to the south of the project site, there is no riparian habitat, tidal salt marsh, or other sensitive natural communities on the project site and the proposed project would not adversely affect riparian habitat or other sensitive natural communities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*	☐	☐	☐	☒

Explanation: Wetlands are transitional habitats between upland terrestrial areas and deeper aquatic habitats such as rivers and lakes. Under federal regulation, wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Part 328.3[b]). Swamps, marshes, bogs, fens, and estuaries are all defined as wetlands, as are seasonally saturated or inundated areas such as vernal pools, alkali wetlands, seeps, and springs. In addition, portions of the riparian habitat along a river or stream may be a wetland where the riparian vegetation is at or below the ordinary high water mark and thus also meets the wetland hydrology and hydric soil criteria.

Three small wetlands are present in the southwest corner of the project site, as shown on Figure BIO-1. The largest of the three contained standing water at the time of the biological survey in July 2018, but the other two wetland sites were dry. All three of the wetlands are considered non-jurisdictional in that they are not regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, or by the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Although the on-site wetland features appear to have positive indicators of wetland soils, hydrology, and vegetation, these wetlands are the result of an ongoing construction project, and are therefore exempt from Corps jurisdiction. Therefore, the project would have ***no impact*** on federally protected wetlands.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒

Explanation: No native resident or migratory wildlife corridors or nursery sites were identified on the project site during the biological surveys. Therefore, the project would have ***no impact*** on nursery habitat for birds or mammals.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

Explanation: There are no trees present on the project site. Therefore, the project would have ***no impact*** with respect to conflicts with local policies or ordinances protecting biological resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Explanation: The project is not subject to any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans. As a result, the proposed project would result in ***no impact*** with respect to conflicts with such plans.

V. CULTURAL RESOURCES — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*	☐	☒	☐	☐

Explanation: In order to be considered a significant historical resource as defined in Section 15064.5 of the *CEQA Guidelines*, a building must be at least 50 years old. In addition, Section 15064.5 defines an historical resource as, "... a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources," properties included in a local register of historical resources, or properties deemed significant pursuant to criteria set forth in *Public Resources Code* Section 5024.1(g). According to *CEQA Guidelines* Section 15064.5(a)(3), a lead agency can determine that a resource is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided that the determination is supported by substantial evidence in light of the whole record.

In order to be eligible for listing in the California Register of Historical Resources, a property must meet at least one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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;
- Has yielded, or may be likely to yield, information important in prehistory or history.[27]

There are no buildings, foundations, or other structures on the project site, making it highly unlikely that there are historic resources present on the site. Furthermore, as discussed in more detail in the following section, a pedestrian survey of the site by archaeologists encountered no evidence of historic resources on the project site, nor were any recorded historic resources identified in archival searches of historic resource records. Therefore, the project is not expected to adversely affect historic resources. However, implementation of Mitigation Measure CR-1, required in the following section, would ensure that potential impacts to historic resources remain less than significant.

[27] California Resources Agency, *CEQA Guidelines*, Section 15064.5(a)(3), as amended October 23, 2009.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Explanation: The San Francisco Bay area was occupied by Native Americans as far back as 3,000 to 4,000 years ago. Recorded archaeological sites in Richmond and the surrounding region indicate that at the time of initial Euroamerican incursion into the project area (circa 1770), the region was occupied by Native Americans who spoke Chochenyo.[28] These people were a subset of the Penutian–speaking Bay Miwok (referred to as "Costanoans" by the Spanish) residing in northern California at the time the Spanish arrived in the region.[29] The Miwok territory encompassed much of the San Francisco Bay area and extended eastward to the Central Valley.

With the arrival of the Spanish at the turn of the nineteenth century, the Native Americans in the area were either forced from the area or conscripted to work on one of the large "rancherias" established in the region, where many Chochenyo died from overwork and introduced European diseases. By the beginning of the California Gold Rush in 1848, the Costanoan culture, including the Chochenyo subset, no longer survived in the region. Artifacts from the prehistoric occupation of the Bay Area by the Costanoans remain buried throughout the region, particularly in areas proximate to the historic margins of tidal marshlands around what is now San Francisco Bay, and near other water sources and at locations otherwise suitable for human subsistence habitation. Various Native American archaeological sites have been recorded within the City of Richmond, including sites that have been deemed eligible for the NRHP.[30]

An archival search was conducted by the Northwest Information Center (NWIC) at Sonoma State University, which is part of the California Historical Resources Information System (CHRIS), to evaluate the potential for significant archaeological resources to be present on the project site.[31] Due to the project site's location adjacent to a watercourse and in proximity to historic bay shores and tidal marshes—conditions favored for prehistoric Native American habitation—the NWIC concluded that there is a moderate to high potential for unrecorded Native American cultural resources to be present within the project site. To further explore this possibility, the NWIC recommended that a qualified archaeologist conduct further archival and field study to identify archaeological resources that may be present on or beneath the surface of the site. The NWIC also recommended that the City of Richmond reach out to Native American tribes affiliated with the project area to determine whether they had any knowledge of Native American resources in the project area.

Accordingly, the archaeological consulting firm of Pacific Legacy, Inc. was retained to conduct additional research.[32] The work by Pacific Legacy also included coordination with affiliated

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[28] City of Richmond, *Honda Port of Entry at the Point Potrero Marine Terminal Draft Environmental Impact Report*, State Clearinghouse No. 2008022063, Volume I, July 2008.

[29] In anthropological literature, the Costanoans are often referred to as the Ohlone.

[30] City of Richmond, *Richmond General Plan Update Draft Environmental Impact Report*, Section 3.5, Cultural Resources, February 2011.

[31] Northwest Information Center, Sonoma State University, *Record Search Results for the Proposed Parkway Commerce Center*, NWIC File No. 18-0857, November 1, 2018.

[32] Pacific Legacy, *Results of Archaeological Survey for Collins Avenue, Richmond, Contra Costa County, California*, PL No. 3508-01, March 22, 2019.

Native American tribes identified by the Native American Heritage Commission (NHC), the results of which are discussed in Section XVII of this Initial Study. Pacific Legacy archaeologists Elena Reese, M.A. and Chris Peske, B.A. conducted a pedestrian survey of the project site on Friday, March 1, 2019.

Pacific Legacy also conducted a supplemental record search that included a 0.25-mile buffer around the project site. The record searches included a review of the following sources:

- National Register of Historic Places (Directory of Determinations of Eligibility, California Office of Historic Preservation, Volumes I and II, 2001;
- California Inventory of Historic Resources (State of California 1976);
- California Historical Landmarks (State of California 1996);
- California Points of Historical Interest listing (State of California 1992);
- Historic Property Data File (State of California 2005); and
- other pertinent historic data on file with Pacific Legacy.

Archival and records searches revealed that no archaeological sites had been previously recorded within or adjacent to the project site and that all of the site appears to have been previously surveyed. Four previous cultural resource studies have included the project site. Two studies, a survey by Banks et al. (1977) (S-871) and an archaeological testing program by Banks and Orlins (1979) (S-001768), for the Wildcat and San Pablo Creeks Flood Control and Water Resources Project, included the project site. The Rheem BNSF and UPRR Connection Track Project included a survey through a portion of the current project parcel (Tang 2009, S-036936). A fourth survey was completed by Busby in 2000 (S-023397).

The supplemental record search revealed that 16 archaeological studies have been completed within 0.25-mile of the project site and four archaeological resources have been recorded within that 0.25-mile buffer, including three historic-period resources and one prehistoric cultural resource. However, no archaeological resources have been recorded within the project site. Furthermore, no signs of historic period or prehistoric cultural resources, deposits, features, or artifacts were observed during the pedestrian survey of the site by Pacific Legacy archaeologists, who surveyed approximately 95 percent of the site, excluding the detention ponds.

Although the pedestrian survey of the project site did not identify any archaeological resources within the parcel, there was limited ground surface visibility in most areas due to the previously imported soil pad, dense vegetation, and standing water. The survey crew inspected areas of exposed soils and periodically removed vegetation by scraping the ground surface to remove the vegetation and expose the soils. The crew observed areas free of vegetation and tire tracks assumed to be associated with the Phase II Environmental Site Assessment soil testing activities conducted by ENGEO on February 22, 2019, discussed in Section VIII of this Initial Study. Despite the lack of physical or archival evidence of cultural resources on the project site, based on the number of recorded prehistoric sites in the area, Pacific Legacy concluded that there is the potential for prehistoric resources to be present within the subsurface of the site. Any disturbance to such resources, were they to exist, could result in a ***significant, adverse impact*** on archaeological resources. Implementation of the following standard CEQA mitigation measures, required by Section 15064.5 of the *CEQA Guidelines*, would reduce the potential impact to a less-than-significant level:

Mitigation Measure CR-1: If any cultural artifacts are encountered during site grading or other project construction activities, all ground disturbance within

100 feet of the find shall be halted until the City of Richmond is notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). (Construction personnel shall not collect any cultural resources.) The results of any additional archaeological effort required through the implementation of Mitigation Measures CR–1 or CR–2 shall be presented in a professional-quality report, to be submitted to the project sponsor, the City of Richmond Planning and Building Services Department, and the Northwest Information Center at Sonoma State University in Rohnert Park. The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)-(f) of the *CEQA Guidelines* and Public Resources Code Section 21083.2.

Mitigation Measure CR–2: In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the project sponsor, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*	☐	☒	☐	☐

Explanation: Paleontological resources are the fossilized remains of vertebrate or invertebrate organisms from prehistoric environments found in geologic strata. They are valued for the information they yield about the history of the earth and its past ecological settings. They are most typically embedded in sedimentary rock foundations, and may be encountered in surface rock outcroppings or in the subsurface during site grading. There are no rock outcroppings at the project site, which has surface layers of very stiff, dark brown silty clay fill layered with lighter brown clay mixed with varying amounts of sand and gravel.[33] Below the fill is a 4- to 5-foot-thick layer of very stiff silty clay underlain by less plastic silty and sandy clays. Other than a layer of medium dense silty sand encountered at a depth of approximately 48 feet in one boring the native materials below the fill are generally clayey in nature.

[33] Alan Kropp & Associates, Inc., *Geotechnical Investigation, Parkway Commerce Center Proposed Warehouse Project, Richmond Parkway at Giant Road, Richmond, California,* Section 5.05: Subsurface, September 11, 2015.

The project site is in an area mapped as having deep alluvial soils (undivided Quaternary deposits) underlain by an assemblage of Franciscan Complex deposits of interbedded clays, silts, gravel, and sands deposited by upland erosion and marine action during the post-glacial flooding of San Francisco Bay, about 12,000 years ago.[34] These types of deposits do not contain abundant fossil remains, and the majority of recorded paleontological resources in Contra Costa County have been found to the east of Interstate 680, which is located more than 18 miles southeast of the project site. However, while most vertebrate fossils (such as fragments of extinct bison, camels, mammoths, horses, and bony fish) in the County have been found on the slopes of the Diablo Range or in nearby valleys, invertebrate fossils (e.g., from snails, clams, and other marine organisms) have been encountered throughout the County.

Fossils have been reported in the Franciscan Complex, mostly radiolarian chert beds containing microfossils of radiolaria—the silicon-based skeletons of single-celled planktonic marine organisms—which are important as stratigraphic markers. Limestone nodules and concretions in Franciscan shales, and the shales themselves, often contain radiolaria, foraminifera (another single-celled marine organism), gastropods (snails), pelecypods (clams), and plant microfossils (pollen and spores).[35]

The Environmental Impact Report for the City's recent General Plan Update identified the areas of the City underlain by undivided Quaternary deposits, including the project site, as having a High Sensitivity for both vertebrate and invertebrate paleontological resources, as defined by the Society of Vertebrate Paleontology.[36] If any unique paleontological resources are present at the project site, they could be damaged, destroyed, or lost during subsurface disturbance of the site during project construction. This would be a ***potentially significant impact.*** Implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level:

Mitigation Measure CR–3: Prior to issuance of a grading permit for the project, a qualified paleontologist shall evaluate the potential for significant paleontological resources to be present at the project site and recommend appropriate measures to protect, recover, and evaluate such resources. Should paleontological resources be encountered during construction or site preparation activities, such works shall be halted in the vicinity of the find, and a qualified paleontologist shall be contacted to evaluate the nature of the find and determine if mitigation is necessary. All feasible recommendations of the paleontologist shall be implemented.

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[34] City of Richmond, *Richmond General Plan Update Draft Environmental Impact Report*, page 3.5-9, February 2011.

[35] *Ibid.*

[36] *Ibid*, page 3.5-24.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Explanation: See Section V(b), above.

VI. GEOLOGY AND SOILS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.	☐	☐	☐	☒

Explanation: There is no known active earthquake fault located on or near the project site. The nearest seismically active fault is the Hayward-Rodgers Creek fault, located approximately 0.3 miles northeast of the site. The Concord and Green Valley faults are located about 15 miles and 15.25 miles northeast of the site, respectively, while the San Andreas fault lies about 17 miles to the southwest.[37] There is therefore no potential for fault rupture at the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	☐	☐	☒	☐

Explanation: The San Francisco Bay Area is recognized by geologists and seismologists as one of the most seismically active region in the United States. Similar to most urban locations throughout the Bay Area, the project site is potentially subject to moderate to high seismic ground shaking during an earthquake on one of the major active earthquake faults that transect the

[37] Alan Kropp & Associates, Inc., *Geotechnical Investigation, Parkway Commerce Center, Proposed Warehouse Project, Richmond Parkway at Giant Road, Richmond, California,* Project No. 2784-2, L-30342, September 11, 2015.

region. Major earthquakes have occurred on the Hayward, Calaveras, and San Andreas faults during the past 200 years, and numerous minor earthquakes occur along these faults every year. At least five known earthquakes of Richter magnitude (RM) 6.5, four of them greater than RM 7.0, have occurred within the San Francisco Bay Area within the last 150 years. This includes the great 1908 San Francisco earthquake (moment magnitude 7.8) and the 1989 Loma Prieta earthquake (RM 6.9).

According to a 2014 analysis by the Working Group on California Earthquake Probabilities (WGCEP), an expert panel co-chaired by U.S. Geological Society seismologists, there is a 72 percent probability that an earthquake of magnitude 6.7 or greater will occur in the San Francisco Bay Area in the next 30 years and a 20 percent probability that an RM 7.5 earthquake will occur (starting from 2014).[38] The WGCEP estimates there is a 14.3-percent chance of an RM 6.7 quake occurring on the Hayward fault in the next 30 years. It is therefore likely that a major earthquake will be experienced in the region during the life of the project that could produce strong seismic ground shaking at the project site.

A major earthquake on any of the active faults in the region could result in very strong to violent ground shaking. The intensity of earthquake ground motion would depend upon the characteristics of the generating fault, distance of the site to the earthquake epicenter and rupture zone, magnitude and duration of the earthquake, and site-specific geologic conditions. The California Geological Survey's seismic hazards evaluation of the City of Richmond indicates there is a 10-percent probability that seismic ground shaking will produce a peak horizontal ground acceleration of at least 0.66 g at the site within the next 50 years.[39]

Engineers use the estimated peak horizontal ground acceleration to design buildings for larger ground motions than are expected to occur during a 50-year interval in order to maximize a building's ability to withstand seismic ground shaking that may occur at a project site. New buildings are required to be designed in accordance with the California Building Code (CBC), which is expected allow a structure to withstand the peak horizontal ground acceleration and associated ground shaking that may occur at a project site. The site-specific geotechnical investigation for the proposed project recommends that the following parameters be used for seismic design of the proposed warehouse building:[40]

- Latitude = 37.9781 degrees, Longitude = -122.3547 degrees
- Risk Category of Buildings and Other Structures = II (assumed)
- Site Class = D
- Mapped Spectral Response Acceleration for Short Period (SS, Site Class B) = 2.402g
- Mapped Spectral Response Acceleration for 1-Second Period (S1, Site Class B) = 0.999g
- Mapped Considered Earthquake Spectral Response Acceleration for Short Period (SMS, Site Class D) = 2.402g
- Mapped Considered Earthquake Spectral Response Acceleration for 1-Second Period (SM1, Site Class D) = 1.499g

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[38] Edward H. Field and Members of the 2014 Working Group on California Earthquake Probabilities, U.S. Geological Survey, California Geological Survey, *UCERF3: A New Earthquake Forecast for California's Complex Fault System*, USGS Open File Report 2015-3009, 2015.

[39] California Department of Conservation, California Geological, Survey, *Seismic Hazard Zone Report for the Richmond 7.5-Minute Quadrangle, Alameda County, California*, Ground Motion Interpolator (2008), Figure 3.3, 2003.

[40] Alan Kropp & Associates, Inc., *Op. Cit.*

the most recent version of the California Stormwater Quality Association (CASQA) BMP construction handbook, Caltrans stormwater quality construction site BMP handbook, and/or any other or newer BMPs available since the release of the handbooks, as required given project needs.

Mitigation Measure WQ-2: In areas within stream buffer zones or adjacent to sensitive riparian areas, facilities, construction, and associated staging should avoid, to the extent feasible, disturbance of riparian vegetation, including trees and their root systems. The SWPPP shall specifically address special considerations for controlling sediment and other pollutants within these areas, through additional erosion control measures, timing of construction during the dry season, staged grading to reduce the area of exposed soil at any one period of time, and/or other measures specifically tailored to riparian and sensitive areas.

Operational Impacts

Similar to other projects within the City of Richmond, this project would be required to comply with the Municipal Regional Permit, which prescribes methods for industrial developments to control and treat stormwater runoff. The MRP requires project proponents to incorporate site design measures, source controls, stormwater treatment measures, and/or other low-impact development (LID) measures to reduce stormwater runoff and limit the transport of pollutants to receiving waters. The MRP also requires implementation of source control measures for specific pollution-generating activities such as accidental spills or leaks and landscape/outdoor pesticide use. The Stormwater Control Plan (SWCP) that has been prepared for the project has identified potential sources of runoff pollutants and contains permanent and operational source control BMPs.[55]

The project plans to develop runoff management infrastructure to handle all needs within the site itself. A storm drain system would be built to convey surface runoff from the development footprint into underground gravel storage basins located below pervious pavement, while also incorporating as many LID BMP features as practicable. The feasibility of pervious pavement with underground gravel storage holding up to 1.45 acre-feet of runoff while functioning properly under semi-truck and trailer traffic will need to be investigated as part of final design plans. The underground storage basins would be located within the elevated pad of the project footprint as self-retaining areas. Some parking lot areas would drain to LID features initially, with underdrains that direct overflows into the underground storage basins.

The underground detention basins would temporarily detain runoff before metering discharge into the creek. Infiltration potential of the Clear Lake clay HSG C soils present on the site is very low, so the project would not be able to utilize infiltration as a primary means of fulfilling water treatment requirements. Pervious pavement underground storage facilities are not water quality treatment facilities per the Contra Costa Clean Water Program C.3 guidance document. Chapter 3 in the C.3 document contains guidance related to design and construction of bioretention facilities and other integrated management practices that will comply with the Municipal Regional Permit. Total treatment volume in final designs may vary from the volume projected in the preliminary hydrologic analysis. Because the underground storage facility approach would not provide water quality treatment controls as required by the MRP, the project has the potential

[55] Sharrah Dunlap Sawyer, Inc., *Parkway Commerce Center Stormwater Control Plan*, November 2, 2017.

to not fully treat stormwater prior to discharging to the receiving waters, which would be a ***potentially significant impact*** on water quality.

Preliminary stormwater runoff drainage studies in the SWCP assessed the 10- and 100-year runoff events using the HEC-1 model platform. Contra Costa County Flood Control District (CCCFC) requires that (a) the 25-year and 100-year storm events be modeled in development of stormwater basin sizing for watersheds between 1 and 4 square miles in area and that (b) HEC-HMS be used as the model platform,[56] Consequently, revisions to the SWCP will be required prior to City approval. Because a final set of stormwater management measures and controls have not been prepared for the project at this time, there remains a potential that once the industrial building is operational, runoff could result in a potentially significant impact on surface water quality.

Increased runoff generated on the project site as a result of the increase in impervious surfaces would have the potential to result in hydromodification in Rheem Creek. The Municipal Regional Permit requires projects to control for hydromodification (HM) effects from impervious areas. To comply with this provision, the project would be required to implement management measures such that post-project runoff does not exceed estimated pre-project flow rates in the range from 10 percent of the pre-project 2-year peak flow up to the pre-project 10-year peak flow, with duration curve exceedances of no more than 10 percent over no more than 10 percent of the range of flows to control. Additional documentation would be required to show that proposed controls will satisfy the requirements of the hydromodification provision. Therefore, in the absence of a final SWCP report that demonstrates that the post-project runoff would not exceed estimated pre-project flow rates for 10 percent of the 2-year through the 10-year, 24-hour storm, the project has the potential to result in hydromodification in the receiving waters, which would also be a ***potentially significant impact.*** The final SWCP would need to (a) document compliance with HM controls or show that proposed LID features meet the HM requirements, (b) or provide supporting documentation that HM controls are not required for this project, (c) or provide approved mitigation concepts that would increase downstream resiliency such that erosion issues would be negligible.

Mitigation Measure WQ-3 is set forth below to address these impacts and requires the project applicant to submit to the City a final set of stormwater management measures/controls that comply with Municipal Regional Permit requirements.

Mitigation Measure WQ-3: The project sponsor shall implement appropriate post-construction stormwater treatment measures to meet Contra Costa County standards to reduce water quality and hydromodification impacts to downstream surface waters. Prior to final approval, the applicant shall provide documentation of stormwater treatment designs, appropriate controls, and management measures to ensure compliance with the Municipal Regional Permit administered by the San Francisco Bay Water Quality Control Board (SFBRWQCB). The final Stormwater Control Plan (SWCP) shall include appropriate stormwater quality treatment in compliance with the volumetric or flow-based treatment criteria as described in the Municipal Regional Permit. The final SWCP shall also include design calculations that show that post-project runoff meets the appropriate hydromodification (HM) management requirement. If pervious pavement gravel storage basins remain in the design, the final construction plans shall include design calculations that show these facilities could

[56] See http://www.cccounty.us/5746/Hydrograph-Standards.

function within required ranges for anticipated semi-trailer traffic. Documentation shall be submitted to the City for approval of final design elements prior to the commencement of construction.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?*	☐	☐	☐	☒

Explanation: The proposed project would not pump groundwater at the project site and therefore would not deplete groundwater supplies. Furthermore, groundwater is not utilized for water supply by the City or County for municipal supplies. The project would increase impervious surface area at the project site, which could reduce groundwater infiltration, but the rate of infiltration from the project site would not change appreciably since the site's Clear Lake clay HSG C soils have very low infiltration potential. Thus, the incremental restriction to percolation of rainwater to the groundwater table that would result from the introduction of new impervious surfaces to the site would have no adverse effect on groundwater recharge or groundwater supplies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*	☐	☒	☐	☐

Explanation: Construction-related impacts relating to erosion or siltation both on and off-site are discussed in Section IX(a). Although the project would have a ***potentially significant impact*** due to erosion and siltation, implementation of the project-specific SWPPP, as required by Mitigation Measure WQ-1, would mitigate the impact related to erosion and siltation during project construction to a less-than-significant level. Also noted in Section IX(a), runoff generated by newly impervious surfaces would be mitigated through compliance with the Municipal Regional Permit, as required by Mitigation Measure WQ-3, such that HM effects that could induce in-stream erosion and cause siltation in downstream reaches would be avoided. This would result in project impacts that are less than significant with mitigation.

Rheem Creek is an earthen, engineered trapezoidal channel through the project site. The proposed project would utilize existing 12-inch stormwater outfall pipe infrastructure (pipe, rock,

flap gate, headwall, detention) along Rheem Creek for all stormwater releases from the project site. Rock placed on the inflow and outflow sides of the outfall pipe are presently functioning as energy dissipation materials. Use of the existing infrastructure would preserve existing drainage features where outfalls flow directly into Rheem Creek and would result in no water quality impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*	☐	☒	☐	☐

Explanation: Preliminary designs for the proposed detention basins show that adequate capacity can be provided on the project site such that the proposed project would not cause additional flooding within the Rheem Creek system, and that the flooding impact would be less than significant. However, detention basins do not fulfill stormwater treatment requirements of the Municipal Regional Permit. The design and configuration of these flood control basins may change during the design process, especially when integrating stormwater quality treatment measures to comply with requirements. Since the final design was not determined at the time of this environmental review, future design changes could potentially result in offsite flooding, which would be a ***potentially significant impact***. Mitigation Measure WQ-4 below is intended to guide the design process and ensure that final designs maintain peak flows at or below existing levels, resulting in a less-than-significant impact.

All treatment and detention facilities would require maintenance for the life of the development project to remain effective. Therefore, the applicant must establish a dedicated funding responsibility for either owners of the land or a designated public entity. In its role as an MS4 operator and permit holder, the City of Richmond is required to enforce these site design and water quality protection measures for all new development projects within its jurisdiction. Lack of adequate maintenance could result in significant flooding impacts if not mitigated. Implementation of Mitigation Measure WQ-5 would reduce this impact to a less-than-significant level.

Mitigation Measure WQ-4: Total detention volume in final designs may vary from the volume projected in the preliminary hydrologic analysis. Prior to final approval, the applicant shall submit final stormwater detention designs that show appropriate controls have been included to ensure that the post-project 25- and 100-year peak flows will not exceed pre-project peaks to meet Contra Costa County Flood Control District (CCCFC) standards.

Mitigation Measure WQ-5: In coordination with the City Engineer, the applicant shall prepare and execute a binding agreement that ensures that maintenance of all detention facilities will be performed as necessary to continuously provide the required volume storage in a 25-year storm and in a 100-year storm throughout the life of the project. The agreement shall include a financing mechanism acceptable to

the City Engineer to ensure that the required maintenance will be performed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐

Explanation: No stormwater from the project site would be discharged into the City's stormwater drainage system, as there are no local connections from the project site to the City stormwater system. The proposed project would increase impervious surfaces within the sub-watershed, which could adversely affect water quality and increase peak flows without proper control. Peak flow increases could lead to exceedance of the capacity of downstream infrastructure within the watershed. The project would implement controls to maintain stormwater runoff peak flows at or below pre-project levels, as required by Mitigation Measures WQ-4 and WQ-5 (see Section IX-d), such that the impact on surface water contribution to additional sources of polluted runoff would be less than significant with the required mitigation. Sources of stormwater pollution were previously addressed in Section IX-a. As discussed therein, the additional sources of polluted runoff that would be created by the proposed project would have a less-than-significant impact on water quality with implementation of Mitigation Measures WQ-1, WQ-2, and WQ-3.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐

Explanation: Potential degradations in water quality due to the proposed project were addressed in Section IX-d. With implementation of Mitigation Measures WQ-1, WQ-2, and WQ-3, water quality impacts would be reduced to less than significant.

The project area has had impacts to groundwater via metals and hydrocarbon contamination from previous uses of the site. In 1998, SFBRWQCB issued a "no further action" status for petroleum hydrocarbons at the site. No wells are anticipated to be dug and no groundwater withdrawals will occur, so groundwater contamination should not be a concern for the project.

Indirect infiltration basins such as the proposed underground detention basins are required to be 10 feet above seasonally high groundwater elevations per the Municipal Regional Permit so as to provide enough distance through unsaturated soils to adequately treat stormwater contaminants and prevent any direct impacts to groundwater quality. Groundwater levels at the site were encountered at 14 to 18 feet below the elevated pad grade during geotechnical investigations. If the underground storage basins are meant to provide indirect infiltration, storm flows from the project site could exceed the carrying capacities of the underlying soils due to their low infiltration potential. This could result in uncontrolled overflows of the detention basins during seasonally wet conditions along the historical Rheem Creek flowline that traverses the project footprint, with

untreated polluted stormwater potentially being discharged from the site, which could adversely affect water quality in the downstream receiving waters. This would be a ***potentially significant impact***. The impact would be reduced to a less-than-significant level through implementation of the following mitigation measure:

Mitigation Measure WQ-6: The proposed un-lined underground storage basins shall be designed and constructed to maintain a minimum of 10 vertical feet between the invert of each basin and the seasonally high groundwater elevation, as required by the Municipal Regional Permit. Upon completion of the final project design, the applicant shall provide documentation to the City Engineer that shows compliance with this requirement.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*	☐	☐	☐	☒

Explanation: The project would not create new housing. See Section IX-h, below, for additional information regarding flood hazard areas in the project vicinity.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*	☐	☐	☐	☒

Explanation: The majority of the project site is within a larger surrounding area mapped as Zone X by the Federal Emergency Management Agency (FEMA), which is the designation assigned to areas that have been determined to be outside the 0.2-percent annual chance flood plain (i.e., the 500-year flood plain).[57] The southwest corner of the site and the Rheem Creek channel on the southern edge of the site are within Zone AH, which is assigned to areas within the 1-percent annual chance flood plain (i.e., the 100-year flood plain) where average flood depths of 1 to 3 feet have been determined, usually within areas of ponding. The Flood Insurance Rate Map (FIRM) published by FEMA shows the base flood elevation at the project site to be 20 feet above mean sea level. The FIRM indicates that the southwest corner of the project site would be inundated during the 100-year flood. No development is proposed for this portion of the site, which is planned to be left in a naturalistic state.

Although the City's zoning map does not appear to assign a Creek Protection Overlay District to the project site, it is assumed that one applies to the Rheem Creek channel because the regulations

[57] Federal Emergency Management Agency, Flood Insurance Rate Map, Contra Costa County, California and Incorporated Areas, Community Panel Number 06013C0226G, revised September 30, 2015.

pertaining to this district state that the regulations apply to all creeks and riparian systems shown on Figure 15.04.302.030 of the Richmond Municipal Code; Rheem Creek is portrayed on this figure. Development within the Creek Protection Overlay District and alterations to creek channels or culverts are regulated by Article 15.04.302 of the Richmond Municipal Code. Among other requirements, new structures may not be placed within creek setbacks, which are established as a minimum of 20 feet from the top of bank, provided the bank or edge of riparian vegetation can be clearly determined; otherwise, the setback shall be a minimum of 30 feet from the centerline of the creek. The proposed project would be required to comply with these and other regulations in Article 15.04.302. No project conflicts with the regulations were identified. If the project sponsor decides to construct a fence within the creek setback, an administrative use permit would need to be granted by the Zoning Administrator.

Because no grading or other changes would be made within identified FEMA zones, the proposed project would have ***no impact*** from placing structures within a 100-year flood hazard area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

Explanation: According to the General Plan EIR, although portions of the City of Richmond are located within the dam failure inundation zone for the San Pablo Reservoir dam, the East Bay Municipal Utilities District (EBMUD) completed a seismic upgrade of the dam foundation and buttress in September 2010, and the dam is now fully operational.[58] General Plan Policy SN1.E requires the City to meet regularly with EBMUD staff to discuss dam failure hazards and EBMUD's Emergency Action Plan. The General Plan EIR concluded that with implementation of applicable General Plan policies, new development in the City would be exposed to a less-than-significant impact from dam failure inundation. Furthermore, the project site is outside the dam failure inundation zone for San Pablo Reservoir, as determined by the California Office of Emergency Services.[59] Therefore, the proposed project would not expose people or structures to risks associate with inundation from a dam failure.

[58] City of Richmond, *Richmond General Plan Update Draft Environmental Impact Report*, Section 3.9, Hydrology and Water Quality, February 2011.

[59] California Office of Emergency Services, Dam Inundation Registered Images and Boundary Files in ESRI Shapefile Format, September 2015.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Explanation: A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. The General Plan EIR reported that there are no designated seiche risk areas within the City. Therefore, there is no potential for inundation by seiche at the project site.

Debris flows, mudslides, and mudflows begin during intense rainfall as shallow landslides on steep slopes. The rapid movement and sudden arrival of debris flows can pose a hazard to life and property during and immediately following a triggering rainfall. The project site is essentially flat, as is the surrounding area. There is therefore no potential for mudslides or debris flows.

Tsunamis (seismic sea waves) are long-period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events. Although tsunamis are typically generated by seismic activity on subduction faults, such as those located in Alaska and Washington, local tsunamis can be generated by strike-slip faults, such as the San Andreas and Hayward faults in the Bay Area. Potentially damaging tsunamis can be generated hundreds or even thousands of miles away. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled but are still at or near sea level. The project site is not located within a tsunami inundation area, as mapped by the California Emergency Management Agency as being.[60] Therefore, the project would not be subjection to inundation by tsunami. Furthermore, the elevated pad upon which the project will be built makes it highly unlikely that sea level rise would cause inundation in this area.

X. LAND USE AND PLANNING — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

Explanation: The project site currently consists of an undeveloped vacant field. The project would not include any construction such as new off-site roadways that could physically divide an existing neighborhood, nor would it otherwise create any barriers to existing circulation within the community. Therefore, implementation of the proposed project would not physically divide an established community.

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[60] California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning, State of California, County of Contra Costa, Richmond Quadrangle/San Quentin Quadrangle, July 31, 2009.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purposed of avoiding or mitigating an environmental effect?*	☐	☐	☒	☐

Explanation:

General Plan: Land Use

The General Plan land use designation of the site is Business/Light Industrial, which is one of six Business and Industry land use classifications defined in the *Richmond General Plan 2030*. The Business/Light Industrial category allows commercial and institutional uses, such as large-scale research and development campus, light industrial uses, industrially-related storage and distribution, and office uses. It has a height limit of 55 feet and an allowable floor area ratio (FAR) of 0.25 to 3.0. The proposed project is a principal permitted use within the Business/Light Industrial land use designation. With a site area of 316,490 square feet and 96,000 square feet of floor area, the project would have an FAR of 0.3, within the allowable development intensity. With a maximum height of 42 feet 6 inches to the top of the parapets, the proposed building would conform to the height limit. Thus, the proposed project would conform to the Business/Light Industrial General Plan land use designation and the stipulated development standards. Additional development standards are required by the Zoning Ordinance, discussed later in this section.

In addition to the land use designations, the Land Use and Urban Design Element of the General Plan identifies specific areas within the City where targeted General Plan policies may apply. These areas include the following (the General Plan figure number showing a map of the corresponding areas is in parentheses):

- key corridors (Figure 3.3)
- activity centers (Figure 3.4)
- community areas (Figure 3.6)
- change areas (Figure 3.7)
- major activity centers (Figure 3.8)
- change area key corridors (Figure 3.9)
- change area districts (Figure 3.10)

The project site is not located within any of the special areas denoted in the figures listed above.

General Plan Policies

All of the *Richmond General Plan 2030* policies were reviewed to identify those applicable to the proposed project and evaluate the project's consistency with those policies. No conflicts with adopted General Plan policies were identified for the proposed project.

In particular, the project would further the City's goal expressed in Land Use and Urban Design Element Policy LU3.2, Local Employment Base, which calls for expansion and diversification of the local employment base to provide quality jobs for all Richmond residents. The project would also be supportive of Policy LU3.4, Efficient and Productive Use of Land, which promotes the development of underutilized vacant sites with industrial and commercial land uses to maximize jobs and revenue.

The project would be consistent with Policy LU4.3, Habitat and Biological Resources Protection and Restoration, because it would preserve the area adjacent to the Rheem Creek channel abutting the site's southern boundary in its naturalized state. For the same reason, it would be consistent with Conservation, Natural Resources and Open Space Element Policy CN1.1, Habitat and Biological Resources Protection and Restoration; Policy CN2.1, Open Space and Conservation Areas; and Policy CN3.2, Water Quality, which calls for the protection of water quality in creeks and other water bodies.

With implementation of Mitigation Measure AES-1 (see Section I, Aesthetics), the project would be in conformance with Policy LU5.3, Land Use Compatibility, which calls for, among other things, landscaped screening between industrial operations and adjacent residential or recreational activities in order to create adequate buffers. (This would also render the project consistent with supporting Action LU5.C, Industrial Use Buffers – Expanded Definition, which also calls for buffers between industrial and residential uses, as well as other mitigations.)

North Richmond Shoreline Specific Plan

The site is within the planning area for the *North Richmond Shoreline Specific Plan* (NRSSS), which recognizes the unique character of the plan area and establishes a guide to regulate development of the area in a manner that improves its image, benefits community residents, and accommodates a reasonable level of development within a framework of conservation and public access to the Bay.[61] The NRSSS is consistent with and is intended to implement the broader goals and policies of the Richmond General Plan. The NRSSS specifically calls for expansion of industrial uses in the southern portion of the Plan area (in which the project site is located) and maximization of the attractiveness of these areas for continued industrial uses.

The proposed project is consistent with the overarching goals of the NRSSS, including the land use goal to "(P)rovide fuller utilization of the plan area for a range of land uses, with emphasis given to employment-generating uses, recreational uses, and preservation of natural resource areas." The project would support and contribute to the attainment of numerous objectives set forth in the Specific Plan that, in general, encourage industrial and commercial development that avoids land use conflicts, protects the natural resources in the area, and contributes to the achievement of City and County land use and economic goals.

The land use map for the NRSSS designates the project site as Heavy Industrial. This designation is intended to accommodate existing heavy industrial uses while upgrading their physical and visual appearance. It concentrates heavy industrial and limited commercial uses in the area south and east of the Richmond Parkway to minimize potential conflicts with adjacent, less intensive land uses. While the quality of on-site improvements in Heavy Industrial areas is commonly

[61] City of Richmond, *North Richmond Shoreline Specific Plan*, June 1993.

lower than that expected within a Light Industrial district, perimeter screening of sites and open storage areas is required to ensure a visual character in keeping with the overall image of the Plan area.

The allowed uses in the Heavy Industrial land use designation include warehouse/industrial and heavy manufacturing, with little or no accessory office space. Permitted industrial activities include, but are not limited to, manufacturing, printing and publishing, contractors' storage yards, warehouses, machine shops, and commercial nurseries. The NRSSS references an obsolete zoning district in stating that all uses permitted in the City's M-3: Heavy Industrial zoning district (and in Contra Costa County's Heavy Industrial district) are allowed, subject to the standards set forth in the Specific Plan. Conditional uses mirror those in the City's M-3 district and the County's Heavy Industrial district.

The project site's Heavy Industrial land use designation in the NRSSS is not fully consistent with the land use designation of Business/Light Industrial assigned to the site by the General Plan, and State law requires a specific plan to be consistent with the general plan for the jurisdiction.[62] However, the proposed project is not responsible for any inconsistency that may be present between the two adopted planning documents. Typically, where there are conflicts between a specific plan and zoning regulations, the specific plan shall prevail. In any event, the intended uses of the proposed project would appear to be consistent with the uses permitted by the NRSSS for Heavy Industrial land use categories. There may be office space associated with some of the ultimate tenants of the project, and it will be up to City planning staff to determine whether the extent of the proposed office use would conflict with the NRSSS land use designation for the site.

The project would not conflict with any of the policies promulgated in the NRSSS and would further the City's achievement of Economic Development Objective 1, which reads: "Promote new business opportunities that will increase the opportunity for Richmond residents, particularly the unemployed and underemployed, to capture new and retained jobs." Similarly, it would support Land Use Policy 1, which reads: "Encourage development which will provide increased job opportunities, primarily for residents in the surrounding area." The discussion for this policy notes that the plan area is currently occupied by industrial uses that require substantial amounts of land and generate low employment per acre. By providing a higher density of permitted light industrial and office development within the allowed development intensity assigned to the site, the project would assist the City in achieving the development objectives for the NRSSS. As noted in the discussion for Land Use Policy 1, "By stabilizing and upgrading the existing heavy industrial base, encouraging new light industrial uses, and providing for higher end office, research and development uses, the Specific Plan area will increase jobs available to the local unemployed and underemployed."

The NRSSS also promulgates performance standards and development standards for uses within the Specific Plan area. With respect to the performance standards, all uses must be planned, developed, conducted, and operated in such a manner that noise, smoke, dust, odors and waste of any kind are confined and/or purified on-site so as to control pollution of air, soil, or water to meet the standards or requirements of the applicable reviewing agency and in a manner to eliminate any detrimental effect on the public health, safety and welfare. Uses must conserve the adjacent environment, be in harmony with the objectives of the Specific Plan, and not create unmitigated nuisances (dust, smoke, fumes, noise, brilliant light) that are offensive to the senses or interfere with other development or enjoyment of other property in the vicinity.

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[62] California Government Code, Section 65454.

The development standards for the Heavy Industrial designation are set forth in Table LU-1. Standards for parking, loading, light industrial assembly and manufacturing, warehouses, and office uses are set by the applicable City zoning codes.

Table LU-1

Specific Plan Development Standards for Heavy Industrial Uses

Development Parameter	Applicable Standard
Minimum Lot Area	1 acre
Minimum Lot Width	100 feet
Maximum Building Height	75 feet
Floor Area Ratio (FAR)	0.40
Minimum Landscaped Area	10 percent
Building Setbacks	
Front Yard	15 feet
Side Yard	0 feet
Street Side Yard	15 feet
Rear Yard	0 feet
Setback from Natural Conservation District	N/A
Parking Area Setbacks	
Front Yard	10 feet
Side/Rear Yard	5 feet

In addition to these standards, the NRSSS establishes supplemental development standards. These standards pertain to height, which must be compatible with the shoreline, parks, and other open space areas; side yards for contiguous parcels; outdoor screening of mechanical equipment; parking, loading, outdoor storage, and refuse area landscaping and screening requirements; site landscaping; signage; and site and building maintenance. The standards also require all utility lines to be placed underground. The NRSSS states that review for consistency with the standards occurs through the City's Public Development Review Board. This board no longer exists, but its functions have been assumed by the City's Design Review Board.

The NRSSS also establishes development standards for parks, open space, and public access corridors, but these standards are not applicable to the proposed project. Although there are standards for a Rheem Creek Public Access Corridor, which call for a pedestrian trail on the north side of the creek, the land use map for the NRSSS shows this trail west of the Richmond Parkway, and the discussion indicates that the trail is intended to provide a link between the Parchester Village residential neighborhood located north of the project site and the Bay Trail segment planned to the west. Consequently, development of the proposed project would not conflict with this planned public access corridor.

The project would not conflict with the Circulation Element of the NRSSS, which, along with the rest of the Specific Plan, is dependent on construction of the Richmond Parkway, which has been completed since adoption of the Specific Plan in 1993.

The NRSSS includes design guidelines for new development in the Specific Plan area. New development should adhere to the following four design principles:

1. Site and building design should recognize and complement the unique shoreline character of the area;
2. Site and building design should maximize visual and physical access to the shoreline and natural areas, while respecting their integrity and sensitivity.
3. Views of the marshlands, wetlands and bay should be ever-present from the developed areas, and the focus of building and site design.
4. All site development should be contained within landscapes consistent in character with the natural shoreline landscape.

In support of these principles, Design Guideline 1 states that "(d)evelopment should be sited and designed to maximize physical and visual access to the Bay shore. Although the proposed building is oriented towards the Bay, the project site does not provide visual access toward the Bay. The view is blocked by the self-storage business located to the west of the site. The elevated Richmond Parkway also impedes visual access to the west.

Design Guidelines 2 through 4 pertain to development located in proximity to the Bay shore, and do not appear applicable to the proposed project. Design Guideline 5 states: "Building masses are to be simple in form and of strong geometry. Signage and other attachments should be designed as part of the building." As demonstrated in the elevations of the proposed building as well as the visual simulations presented in Section I, Aesthetics, the project conforms to this guideline.

Additional detailed design guidelines will or may apply to the project, but a more granular level of detail is beyond the scope of this environmental review. It will be up to City planning staff and the Design Review Board to conduct a detailed review for conformance with the applicable design guidelines of the NRSSS. However, one additional guideline warrants mention here: Table 5 presents different landscape treatments for specific areas in the planning area, predominantly pertaining to streetscapes at specified locations. One of the specified locations is: "on both sides of Rheem Creek." The landscape treatment called for in this area is riparian plantings consisting of native or adapted riparian area trees and shrubs. Suggested species include willow, buckeye, hazelnut, coffeeberry, plus understory. The proposed retention of existing vegetation within the creek corridor would appear to be consistent with the guidelines in Table 5, and this would be confirmed during design review. The NRSSS requires design review for all new development and substantial "rehabilitation" projects.

The proposed project appears to conform with the applicable provisions of the NRSSS discussed above.

Zoning Ordinance

The project site is zoned IL, Light Industrial. The IL zoning district is intended to accommodate a diverse range of light industrial uses, including general service, research and development, warehousing, and service commercial uses. It includes industrial complexes, flex space, and industrial buildings for single or multiple users, warehouses, mini-storage, wholesale, commercial recreation, and other related uses. Small-scale retail and ancillary office uses are also

permitted. This district permits a higher development intensity than the ILL, Limited Light Industrial district.

Table 15.04.204.020 of the Zoning Ordinance lists permitted uses, conditionally permitted uses, and prohibited uses in the City's industrial zoning districts. It lists Marijuana Cultivation Facility as a permitted use in the IL district, subject to a Conditional Use Permit. Related conditional uses include Marijuana Distributor, Marijuana Product Manufacturer, Marijuana Testing Laboratory, and Marijuana Transporter. Any of these uses may operate at the proposed warehouse building. Indoor Warehousing and Storage, another potential use at the project, is listed in Table 15.04.204.020 as a principal permitted use. Although Light Fleet-Based Service is a conditional use in the IL district, Freight/Truck Terminal and Warehouse is not allowed; this use is only permitted as a conditional use in the IG, General Industrial and IW, Water-Related Industrial districts. However, Indoor Warehousing and Storage is a principal permitted use in the IL district. Offices, Business and Professional is another potential use in the proposed project; it is also a principal permitted use in the IL district.

Development Standards

The development standards for the IL district are codified in Section 15.04.204.030 of the Zoning Ordinance. The maximum allowable development intensity is a floor area ratio (FAR) of 0.65. The district has a height limit of 55 feet, and allows a 0-foot front and street side setback. It requires a minimum interior side setback of 10 feet, or 15 feet where abutting an RL, PCI, or PR district (or 5 feet if a solid fence separates the properties). No rear setback is required except where abutting an RL, PCI, or PR district, which does not apply to the project site.

However, although there is no RL district—which is a single-family residential district—abutting the site, east of Giant Road there is single-family residential development that is located in the City of San Pablo. In any event, the rear setback depicted on the site plan ranges from 84 feet to approximately 275 feet, and there is additional buffer provided by the BNSF railroad right-of-way and Giant Road between the project site and the residential neighborhood to the east. Thus, the project would not be inconsistent with the rear setback requirements of the IL district. There are also additional transitional standards set forth in Section 15.04.204.030 where an industrial district adjoins a residential district, and although these standards would not be applicable to the project, it would nonetheless conform to the standards.

Section 15.04.204.030 of the Zoning Ordinance also stipulates that customer parking should be located near the office area and, where parking is located between a building and a street, a landscaped setback at least 10 feet wide must be provided between the parking area and adjacent right-of-way. The project's parking areas are in conformance with this requirement. The project is also consistent with a requirement for loading docks and service areas to be located more than 20 feet from the boundary of a residential district.

Off-street parking and loading requirements are promulgated in Article 15.04.607 of the Zoning Ordinance. Within light industrial districts, surface parking lots must be paved and set back 15 feet from minor streets and 25 feet from collector streets. The nearest proposed parking area is set back more than 15 feet from Collins Avenue, a minor street. The minimum required number of parking spaces must be at least 33 percent of the estimated parking demand set forth in Table 15.04.607.040. For limited light industrial use, this demand is estimated at 0.75 spaces per 1,000 gross square feet of development. The proposed 96,000-square-foot project building would thus have a parking demand of 72 parking spaces and would require at least 23 spaces; the proposed 91 spaces would more than meet the number of required spaces. Where 25 or fewer parking spaces are required, one handicap-accessible parking space is required; the project would provide four handicap van-accessible spaces.

Section 15.04.607.040(H) of the Zoning Ordinance stipulates that a project shall provide no more private, off-street parking spaces than the estimated peak-period demand listed in Table 15.04.607.040. With estimated parking demand of 72 parking spaces, the proposed 91 spaces would exceed the allowed maximum. However, exceedances may be allowed by granting of a conditional use permit. This CUP for the project may allow this exception to the maximum parking allowance. However, CEQA no longer treats parking effects as a potentially significant impact on the environment.

The Zoning Ordinance establishes bicycle parking requirements, listing the required number of spaces for different land use types in Table 15.04.607.080. For uses not listed in the table, one short-term bicycle parking space and one long-term bicycle parking space are required for every 20 automobile parking spaces. The proposed warehouse use is not listed in Table 15.04.607.080 so the alternative requirement would apply. Thus, the project would be required to provide four short-term and four long-term bicycle parking spaces. No bicycle parking is currently depicted on the project plans. However, detailed floor plans have not yet been developed. It is assumed for purposes of this analysis that the City will require the applicant to provide the required bicycle parking facilities as a condition of approval.

Loading requirements are set forth in Table 15.04.607.090 of the Zoning Ordinance. For all industrial uses except research and development, two large loading spaces are required for buildings of 50,000 square feet to less than 100,000, resulting in two required loading spaces for the proposed project. The ten proposed loading spaces would satisfy this requirement. Large loading spaces must be a minimum of 50 feet in length, 12 feet in width, and have a vertical clearance of at least 14 feet. The project plans demonstrate compliance with these standards.

The review of the City's zoning regulations did not encompass every possible development standard, performance standard, or regulation that could apply to the project, but it included review of key requirements, and no conflicts were identified. It will be up to City staff and decision makers to make a final determination on zoning consistency.

Based on the review of the General Plan, Zoning Ordinance, and other local and regional planning documents summarized above, the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purposed of avoiding or mitigating an environmental effect.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*	☐	☐	☐	☒

Explanation: There is no adopted habitat conservation plan (HCP) applicable to the City of Richmond.

XI. MINERAL RESOURCES — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*	☐	☐	☐	☒

Explanation: No regionally significant mineral deposits have been mapped on or in the vicinity of the project site. The site is within a large area classified as Mineral Resource Zone MRZ-1 by the California Department of Conservation's Division of Mines and Geology (DMG).[63] [64] The MRZ-1 designation is assigned to areas where sufficient data exists for a determination that no significant mineral deposits exist, or where it is judged that there is little likelihood for their presence. Furthermore, the site is surrounded by existing urban development to the north, east, and in close proximity to the south, while the elevated Richmond Parkway defines the western boundary of the site. In this context, large-scale mineral extraction would not be practical even if mineral resources were present on the site. Therefore, the project would not have an effect on the availability of mineral resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☐	☒

Explanation: The Richmond General Plan does not identify any local mineral resources in the project vicinity, and the Richmond General Plan EIR reports that the City's significant sectors of sandstone and shale aggregates are located in the San Pablo-Potrero Hills Ridge Area, well away from the project site. The EIR discussion is based on the mineral resource zones mapped by the DMG, discussed in Section XI-a, above. The map of geology and mineral resource sectors presented in the General Plan EIR indicates that the project site is underlain by alluvium.[65] For the reasons set forth in Section XI-a, there is no potential for the project to have an adverse effect on the availability of significant mineral resources.

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[63] California Department of Conservation, Division of Mines and Geology, *Update of Mineral Land Classification: Aggregate Minerals in the South San Francisco Bay Production-Consumption Region*, Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region (Plate 1 of 29), 1996.

[64] *Ibid*, Designated Areas Update: Regionally Significant Construction Aggregate Resource Areas in the South San Francisco Bay Production-Consumption Region (Plate 9 of 29), 1996.

[65] City of Richmond, *Richmond General Plan Draft Environmental Impact Report*, Figure 3.7-1: Geology and Mineral Resource Sectors, February 2011.

XII. NOISE — *Would the project result in:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*	☐	☒	☐	☐

Explanation:

Introduction to Noise Descriptors

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing.

Most of the sounds that we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the facts that human hearing is less sensitive at low frequencies and extreme high frequencies than in the mid-range frequency. This is called "A" weighting, and the decibel level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. Typical A-weighted levels measured in the environment and in industry are shown in Table NOI–1 for different types of noise.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources that create a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{01}, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period. A single number descriptor called the L_{eq} is also widely used. The L_{eq} is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, DNL (day/night average sound level), was developed. The DNL divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dB higher than the daytime noise level.

The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting, adding 5 decibels to the average noise levels during the

evening and 10 decibels to the average noise levels during the nighttime period. CNEL and DNL descriptors are similar and are often used interchangeably. Noise standards established in the Richmond General Plan are expressed using the CNEL descriptor. For obvious reasons, the DNL and CNEL descriptors are only relevant in cases where residential or other noise-sensitive land uses are nearby.

Table NOI–1

Typical Noise Levels

Noise Level (dBA)	*Outdoor Activity*	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast/recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: (modified from Caltrans Technical Noise Supplement, 2011)

Noise levels that are generally considered acceptable or unacceptable can characterize various environments. Lower levels are expected in rural or suburban areas than would be expected in commercial or industrial zones. Nighttime ambient levels in urban environments are about 7 decibels lower than the corresponding average daytime levels. The day-to-night noise level difference in rural areas away from roads and other human activity can be considerably less. Noise levels above 45 dBA at night can result in the onset of sleep interference.[66] At 70 dBA, sleep interference becomes considerable.

City of Richmond Noise Standards

Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth the specific standards and procedures for addressing particular noise sources and activities. General plans recognize that different types of land uses have different sensitivities toward their noise environment. Residential areas are generally considered to be the most sensitive type of land use to noise, while industrial/commercial areas are generally considered to be the least sensitive. Local noise ordinances typically set forth standards related to construction activities, nuisance-type noise sources, and industrial property-line noise levels.

[66] U.S. Environmental Protection Agency, *Community Noise*, 1971.

Richmond General Plan

In the Public Safety and Noise Element of the Richmond General Plan, the City has adopted the State of California Land Use Noise Compatibility Matrix. These standards specify a CNEL of up to 70 dBA as "Normally Acceptable" for commercial businesses. Noise levels between 70 dBA and 85 dBA may be "Conditionally Acceptable" only after a detailed analysis of the noise reduction requirements is made by a qualified acoustical engineer and needed noise insulation features have been included in the project design. Noise levels above 75 dBA are normally unacceptable unless a detailed noise study identifies appropriate measures to reduce noise exposure to an acceptable level.

City of Richmond Municipal Code

Section 15.04.840.010 of the Richmond Municipal Code (and Chapter 9.52, the Community Noise Ordinance) establishes exterior noise limits that are not to be exceeded more than 30 minutes in any hour, as measured at the property line or district boundary. For light industrial districts (the project is in an IL, Light Industrial district), the standards establish a maximum noise level of 70 dBA.

Richmond Municipal Code Chapter 9.52, the Community Noise Ordinance generally regulates noise as follows:

> It shall be unlawful for any person, corporation, firm or association to make, create or continue, or cause, permit, maintain, or suffer to be made or continued, any loud, raucous, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area or that exceeds the maximum dBA levels set forth herein or that violates any provision of this chapter. The standard for determining whether a violation of the provisions of this chapter exists may include, but is not limited to, the following:
>
> (a) The volume, level and intensity of the noise;
>
> (b) Whether the nature of the noise is usual or unusual;
>
> (c) Whether the origin of the noise is natural or unnatural;
>
> (d) The level and intensity of the background noise, if any;
>
> (e) The proximity of the noise to residential dwellings;
>
> (f) The proximity of the noise to residential sleeping facilities;
>
> (g) The nature and zoning of the area within which the noise emanates;
>
> (h) The density of the inhabitation of the area within which the noise emanates;
>
> (i) The time of day or night the noise occurs;
>
> (j) The duration of the noise;
>
> (k) Whether the noise is recurrent, intermittent, a cumulative period, or constant;
>
> (l) Whether the noise is produced by a commercial or non-commercial activity; and
>
> (m) Whether the noise can be heard more than twenty-five (25) feet away from any adjoining property boundary line in a residential district;
>
> (n) The intrusiveness of the noise;
>
> (o) Whether it is a mobile noise source;

(p) The number of persons affected by the noise; or

(q) Whether noise exceeds the maximum dBA levels set forth in 9.52.100 or 9.52.110.

Similar to the standards set forth in Section 15.04.840.010, the alternative standards referenced in Section 9.52.100 establish maximum noise levels that should not be exceeded more than 30 minutes in any hour as measured at a property line or zoning district boundary, but they are not the same as the standards in Section 15.04.840.010. For light industrial districts, the limits are 70 dBA, and 60 dBA when at the boundary of a residential district. In addition, a noise level of 50 dBA must not be exceeded more than 5 minutes in any hour at any boundary of a residential zone between the hours of 10:00 p.m. and 7:00 a.m., though these restricted hours may be modified by a Conditional Use Permit. These alternative noise standards may be applied by the enforcing police officer responding to a noise complaint, who has the discretion to apply either the Section 15.04.840.010 standards or the alternative Section 9.52.100 standards.

Construction and demolition noise are regulated separately by Municipal Code Section 9.52.110, which states that, where technically and economically feasible, temporary construction activity shall be conducted in such a manner that the maximum sound levels at affected properties shall not exceed the dBA levels shown in Table NOI–2.

Table NOI–2

City of Richmond Construction Noise Limits

Time Period	Single-Family Residential Zoning Districts	Multi-Family Residential Zoning Districts	Commercial and Industrial Zoning Districts
Maximum Sound Levels for Mobile Construction Equipment (intermittent, short-term operation of less than 15 days)			
Weekdays 7:00 a.m. to 7:00 p.m.	75 dBA	80 dBA	85 dBA
Weekends & Holidays 9:00 a.m. to 8:00 p.m.	60 dBA	65 dBA	70 dBA
Maximum Sound Levels for Stationary Construction Equipment			
Weekdays 7:00 a.m. to 7:00 p.m.	60 dBA	65 dBA	70 dBA
Weekends & Holidays 9:00 a.m. to 8:00 p.m.	55 dBA	60 dBA	65 dBA

Source: City of Richmond, Municipal Code, Section 9.52.110.

In addition, Section 9.52.060 of the City of Richmond Municipal Code states:

(a) All construction equipment powered by internal combustion engines shall be properly muffled and maintained.

(b) Unnecessary idling of internal combustion engines is prohibited.

(c) All stationary noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.

(d) Quiet construction equipment, particularly air compressors, are to be selected whenever possible.

(e) Use of pile drivers, sources of impulsive sound and jack hammers shall be prohibited on Sundays and holidays, except for emergencies or as approved in advance by the Building Official.

Additional City of Richmond construction noise standards are set forth in Section 15.04.840.110 of the Zoning Ordinance, which requires adherence to the following Construction Operation Standards:

> During the construction of a project, all portions of the site shall be watered as necessary to reduce emissions of dust and other particulate matter and all stockpiles shall be covered. Streets shall be made dirt free at the completion of construction. All construction and transport equipment shall be muffled in accordance with State and Federal laws. Construction and transport equipment shall be operated so as to minimize exhaust emissions. Grading and pile driving operations within ¼ mile of residential units shall be limited to between 7 a.m. and 7 p.m., or as otherwise restricted as part of an approval. All water run–off from construction site shall be controlled. During construction trucks and equipment should be running only when necessary.

Existing Noise Levels

To quantify existing ambient noise levels in the immediate project vicinity, the RCH Group conducted short-term (10-minute) measurements at six locations in the project site vicinity on Thursday, August 9, 2018; the locations are shown on Figure NOI-1. Noise measurements were made using a Larson-Davis SoundTrack LXT-1-L Datalogging sound level meter calibrated before and after the measurements. The noise measurements are summarized in Table NOI-3 below.

Based on observations by RCH Group, the dominant sources of existing noise in the vicinity of the project are passing trains, traffic from Richmond Parkway and Giant Road, and airplane overflights. No stationary sources of significant noise were observed in the project vicinity. Average short-term noise levels on the measurement day were between 58 and 86 dBA, L_{eq} at the noise monitoring locations on and near the project site.

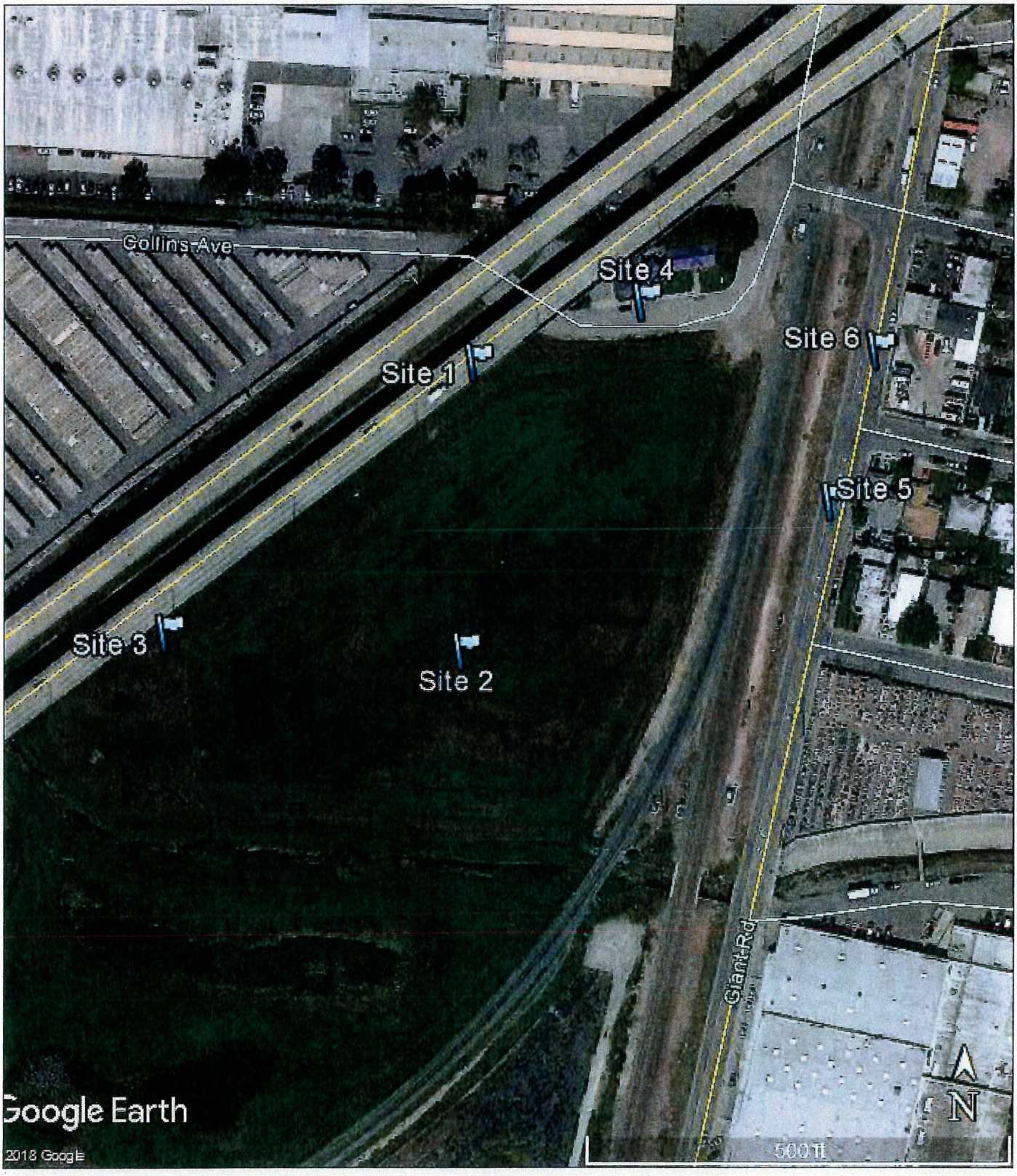

Figure NOI-1

Noise Measurement Locations

Source: ENGEO

Table NOI–3
Existing Noise Measurements

Location	*Time Period*	*Noise Levels (dB)*	Noise Sources
Site 1. Southeast side of Richmond Parkway EB, beneath overpass, 100 feet southwest of Collins Road	Thursday, August 9, 2018 10:08-10:18 a.m.	*5-minute L_{eq}'s: 62, 63*	Trucks on Richmond Parkway were up to 69 dB. Lighter traffic was 54 dB. Airplane was 52 dB. Relative quiet was 45 dB. Quieter noises included industrial activities (buzzing), a train whistle, and back-up beeps.
Site 2. Middle of site, at proposed location of southwest loading dock, 250 feet southeast of Richmond Parkway EB	Thursday, August 9, 2018 10:33-10:43 a.m.	*5-minute L_{eq}'s: 58, 58*	Trucks on Richmond Parkway were up to 68 dB. Traffic was usually 60 dB. Industrial activities were 46 dB.
Site 3. Southwest corner of the site, 40 feet southeast of Richmond Parkway EB and 80 feet southwest of the corner of the proposed building site location	Thursday, August 9, 2018 11:00-11:10 a.m.	*5-minute L_{eq}'s: 61, 63*	Trucks on Richmond Parkway were 62-69 dB. Airplane was 61 dB. Other traffic was usually 57 dB. Industrial activities were 44 dB.
Site 4. Collins Avenue adjacent to Budget Self Storage. 80 feet southeast of Richmond Parkway EB and 240 feet southwest of John Avenue	Thursday, August 9, 2018 11:24-11:34 a.m.	*5-minute L_{eq}'s: 60, 59*	Trucks on Richmond Parkway were up to 67 dB. Trucks at John Avenue crossing the railroad tracks were up to 65 dB. Traffic on Richmond Parkway was usually 55 dB. Airplanes were up to 52 dB. Relative quiet was 47 dB. Quieter noises included a dog barking.
Site 5. Giant Road, 25 feet from the centerline of Giant Road and 100 feet south of the centerline of Stanton Avenue	Thursday, August 9, 2018 11:44-11:54 a.m.	*5-minute L_{eq}'s: 66, 86*	Passing train horn was 105 dB. Autos on Giant Road were up to 81 dB. A heavy truck on Giant Road was 76 dB. A medium truck on Giant Road was 73 dB. Trucks on Richmond Parkway were up to 64 dB. Noise from residence was up to 61 dB. Relative quiet was 46 dB. Quieter noises included industrial activities and back-up beeps.
Site 6. Giant Road, 25 feet from the centerline of Giant Road and 75 feet north of the centerline of Stanton Avenue	Thursday, August 9, 2018 12:00-12:10 p.m.	*5-minute L_{eq}'s: 69, 68*	Medium trucks on Giant Road were 76-80 dB. Autos on Giant Road were 66- 79 dB. Trucks on Richmond Parkway were up to 61 dB. Relative quiet was 48 dB. Quieter noises included industrial activities.

Source: RCH Group, 2018

Construction Noise Impacts

The primary noise impact of the project would be the impact of noise from construction on nearby residences. These sensitive receptors are located as close as approximately 200 feet from the planned area of construction. Project construction activities would cause a temporary increase of ambient noise levels in the project vicinity.

Construction activities would include site preparation, grading, building construction, paving, etc. These activities would require the use of numerous pieces of noise-generating equipment, such as excavators, dozers, tractors, graders, scrapers, etc. Site grading would be expected to be the noisiest phase of project construction. Based on typical construction equipment sound levels, site grading would be expected to generate noise levels of about 87 to 88 dBA at 50 feet from the equipment.

Construction worker traffic and construction-related material haul trips would also generate noise and incrementally raise ambient noise levels along local haul routes, depending on the number of haul trips made and types of vehicles used. Construction activities and associated traffic would occur primarily during the daytime.

Point sources of noise, including stationary and idle mobile sources such as idling vehicles or on-site construction equipment, attenuate at a rate of 6.0 dBA to 7.5 dBA per doubling of distance from the source, based on the inverse square law and the equations for spherical spreading of noise waves over hard and soft surfaces.[67] For this analysis, an attenuation rate of 6 dBA is conservatively assumed for construction noise. At this attenuation rate, construction noise of 88 dBA would be approximately 76 dBA at the nearest residential receptors. Because Municipal Code Section 9.52.110 establishes a limit of 75 dBA in residential areas, project construction activities could result in excessive noise levels at nearby residential receptors. This would be a ***significant, adverse impact,*** which would be reduced to a less-than-significant level through implementation of the following mitigation measure:

Mitigation Measure N-1: To reduce noise impacts due to construction at nearby sensitive receptors, the applicant shall employ the following mitigation measures:

a) Construction activities shall only take place during the hours between 7:00 a.m. and 7:00 p.m.

b) Construction equipment shall be properly equipped with standard mufflers, properly maintained and in good working order.

c) If stationary construction equipment would cause a substantial noise impact, it shall be located as far away from sensitive residences as necessary to reduce noise to acceptable levels and/or be equipped with engine-housing enclosures.

d) The construction contractor shall designate a "Construction Noise Coordinator" who would be responsible for responding to local complaints about construction noise. The Noise Coordinator shall determine the cause of the complaint and shall require that reasonable

[67] California Department of Transportation (Caltrans), *Technical Noise Supplement*, 1998.

measures warranted to the correct the problem be implemented. The telephone number for the Noise Coordinator shall be conspicuously posted at the construction site.

Operational Noise Impacts

After completion of construction, noise from commercial operations would be similar to existing noise levels in the area, i.e., similar to traffic noise from Giant Road and Richmond Parkway. The loudest intermittent noises currently are from train horns in the area. The ongoing commercial uses would have to comply with all requirements of the Richmond Noise Ordinance. However, typical operational traffic generated by the project would not cause a significant noise impact.

The project proposes to install three 600-horsepower emergency diesel generators. If operated at night, the noise from these generators would be limited to 50 dBA at the nearest residential areas (200 feet away), as required by Community Noise Ordinance, Section 9.52.100. Depending on the model, shielding, and placement of these generators they could exceed 50 dBA at the nearest residential areas. This would be a ***potentially significant operational noise impact.*** Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

Mitigation Measure N-2: To reduce noise impacts from the three 600-horsepower emergency generators, the applicant shall employ the following mitigation measures:

1. Design the three 600-horsepower emergency generators to have a constant running noise level (when all three are operating) that would be less than 50 dBA at the property line of the nearest residences.
2. Once fully installed, test the emergency generators to verify that when they are all operating, the noise they generate is less than 50 dBA at the property line of the nearest residences.
3. If noise levels exceed 50 dBA, modify the emergency generator systems through the addition of attenuation shielding until the 50-dBA standard is met.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*	☐	☐	☒	☐

Explanation: While vibration generated by construction activity can cause annoyance to nearby receptors, operation of typical construction equipment (such as would be required for this project) is not associated with excessive levels of groundborne vibration or noise. Any vibration generated during project construction would be minimal, intermittent, and would occur only during the short-term grading period. Furthermore, groundborne vibration falls off quickly with distance. As shown in Table NOI-4, at a distance of 200 feet the predicted vibration levels from project

construction equipment would not exceed the 0.5 in/sec PPV threshold for residential and commercial structures. Following completion of construction, there would be no potential for the project to generate vibration. Therefore, occupants of the nearby residences would not experience excessive groundborne vibration or groundborne noise as a result of the project-generated vibrations. This would be a ***less-than-significant*** impact.

Table NOI–4
Representative Vibration Source Levels for Construction Equipment

Equipment		*Peak Particle Velocity at 200 Feet (in/sec)*
Pile Driver (impact)	Upper range	0.067
	Typical	0.028
Pile Driver (sonic)	Upper range	0.032
	Typical	0.008
Vibratory Roller		0.009
Large Bulldozer		0.004
Loaded Trucks		0.003
Jackhammer		0.002
Small Bulldozer		0.000

Source: Federal Transit Administration, 2006

Note: Vibration levels at 200 feet were calculated using the equation provided by FTA that may be used to estimate vibration at different distances based on reference vibration levels at 25 feet for various construction equipment.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☒	☐

Explanation: The noise that would be generated by onsite operations is discussed in Section XII-a, above. The noise that would be generated by the project would have no discernable effect on the ambient noise levels in the project vicinity. (The use of emergency generators, also addressed in Section XII-a, would not cause a permanent increase in ambient noise.)

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐

Explanation: Short-term construction noise impacts are addressed in Section XII-a, above.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Explanation: The project site is not located within the area governed by an airport land use plan or within 2 miles of an airport. There is therefore no potential for project workers to be exposed to excessive noise levels from airport operations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Explanation: There are no private airstrips in the vicinity of the project. There is therefore no potential for project workers to be exposed to excessive noise levels from private airstrip operations.

XIII. POPULATION AND HOUSING — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Induce substantial 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)?*	☐	☐	☒	☐

Explanation: The proposed project would not induce population growth by creating new housing or constructing new infrastructure. However, it would create new jobs, which could draw new residents to the City of Richmond.

Because specific end users of the proposed project have not yet been identified, there are no concrete estimates of the number of jobs that could be generated by the project. To develop a reasonable estimate, data on the number of workers affiliated with different types of buildings and land uses published in December 2016 by the U.S. Energy Information Administration (EIA) was analyzed. The EIA data is correlated with building floor space, providing median square footage per worker for different building sizes and for a range of principal building activities. The data is based on surveys of 5,557 commercial buildings across the United States. Commercial buildings were defined in the survey as all buildings greater than 1,000 square feet in which at least half of the floor space is used for a purpose that is not residential, industrial, or agricultural.

For buildings between 50,001 square feet and 100,000 square feet, which would include the proposed project building, the median square feet per worker was 1,442 square feet.[68] If this ratio were applied to the project, it would result in approximately 66 workers.

Of 18 different categories of principal building activity, the only categories relevant to the proposed project were Warehouse/Storage and Office; there were no light industrial or manufacturing categories in the data set. The reported median square feet per worker was 1,500 square feet for Warehouse/Storage buildings and 600 square feet for Office buildings, which would result in 64 workers and 160 workers, respectively. Since it is currently anticipated that the different building suites would likely be leased to construction contractors, warehouse companies, and/or light industrial businesses, the median square feet for Warehouse/Storage buildings appears to be a more applicable to the proposed project. Since the median number of employees that would be created by the project using this factor is similar to the number of employees indicated by the building size (i.e., 66 employees), for purposes of this analysis, it is assumed the proposed project would create jobs for 66 workers.

If it is conservatively assumed that these would be net new jobs and all of the employees would relocate from outside the area to take the jobs, the City's population could increase by about 186 people, given the average household size in West Contra Costa County of 2.83 persons per

[68] U.S. Energy Information Administration, *Commercial Buildings Energy Consumption Survey (CBECS)*, Table B2: Summary Table: Total and Medians of Floorspace, Number of Workers, and Hours of Operation, 2012, revised December 2016.

household.[69] With a current population of 110,967 residents, this would represent 0.167 percent of the City's total population.[70] According to the Richmond General Plan EIR, the City's population was expected to grow by 30,147 residents between 2005 and 2030, or roughly 1,206 residents annually. The population growth that could occur as a result of project implementation would represent 0.617 percent of growth anticipated in the General Plan EIR and about 15.4 percent of the expected annual growth.

The population growth that could be generated by the project would be well within the growth projections presented in the General Plan EIR, which concluded that the City's future population growth would not result in a significant environmental impact. The population growth projections are based on the carrying capacity of different land use parcels in the City, as determined by their General Plan land use designations. Since the proposed project would be consistent with the land use designation assigned to the site (Business/Light Industrial), the General Plan growth projections previously included growth associated with future development of the site. Therefore, the population growth that could occur as a result of implementation of the proposed project was previously evaluated in the General Plan EIR.

The General Plan EIR projected that 22,488 new jobs would be created in the City between 2005 and 2030. During this same time frame, the City is expected to add approximately 15,548 new housing units, resulting in a jobs-to-housing balance of 1.24 jobs per household. The 186 new jobs created by the project would represent 0.83 percent of the new jobs anticipated in the City of Richmond by 2030. With annual growth in jobs in the City of 900 jobs per year, the new project-generated jobs would comprise 20.6 percent of annual job growth.

Increases in population are not, in and of themselves, considered physical environmental effects. CEQA is concerned with adverse environmental impacts that could be associated with population growth induced by a project. The proposed project could result in a small increase in the City's population, but any new residents would be expected to find housing opportunities from among the City's existing housing stock. The project would not entail or require construction of new housing, so there would be no environmental effects from new construction. The environmental effects of the proposed project are addressed throughout this Initial Study in the other technical sections. For the reasons set forth above, the project would have a ***less-than-significant impact*** on population growth.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

Explanation: There is no existing housing on the project site; the project would have no effect on housing.

[69] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report*, Section 3.2, Demographics, February 2011.

[70] California Department of Finance, Demographic Research Unit, Report E-1: Population Estimates for Cities, Counties, and the State, January 1, 2017 and 2018 [table], May 1, 2018.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

Explanation: There is no existing development on the project site that would be displaced, and no construction of new housing would be required.

XIV. PUBLIC SERVICES - *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 following public services:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Fire protection?*	☐	☐	☒	☐

Explanation: Fire response to the project site would be provided by the Richmond Fire Department (RFD), which operates seven stations located throughout the City of Richmond's geographical area of 56 square miles. The Department currently has a staff of 90 sworn personnel and 5 non-sworn administrative staff.[71] In 2017, the Department responded to 12,890 calls for service, including 8,239 medical emergencies and 795 fires. The General Plan EIR reported that in 2009 the Department had an acceptable staffing ratio of 1 fire personnel per 4,200 residents. All personnel are trained as Emergency Medical Technicians to the level of EMT-D and HazMat First Responder Operational.

The nearest fire stations to the project site are Station No. 68, located at 2904 Hilltop Drive, approximately 1.1 miles to the east, and Station No. 62, located at 1065 7th Street, approximately 2 miles to the south. Due to the proximity of Station No. 68 and the proximity of Station No. 62 to the Richmond Parkway, response time to the site in the event of an emergency would normally be under 6 minutes, within the Department's response time goal established in the General Plan of responding to 85 percent of emergency calls within 6 minutes or less. Supplemental response could come from the City of Pinole Fire Department, which has a mutual aid agreement with the City of Richmond. The Pinole Fire Department operates a fire station at 880 Tennent Avenue in the City of Pinole, approximately 3.8 miles northeast of the project site.

The General Plan EIR reported that the RFD's Citywide average response time in 2009 was 5 minutes for emergency and non-emergency calls for service. The EIR evaluated the potential impact on the City's fire protection services that could result from buildout of the General Plan. The EIR concluded that implementation of the General Plan would increase the demand for fire

[71] Richmond Fire Department, Department Facts, accessed December 10, 2018 at: http://ca-richmond.ca.us/1483/Department-Facts.

protection and emergency services, but would not reduce the level of protection. The impact analysis noted that the City requires proposed new structures to meet the California State Fire Code and City building requirements, which further reduces potential impacts on fire protection services. In addition, new development is required to pay development impact fees as established by City ordinance, which provide funding for public facilities, including fire facilities. The General Plan EIR concluded that the potential impact on the City's fire protection services would be less than significant. Buildout of the General Plan, as analyzed in the General Plan EIR, was based on the City's land use diagram as well as the maps of the City's change areas. The land use diagram assigned a Business/Light Industrial land use category to the project site and assumed development of the site at the maximum allowable intensity. Because the proposed project would have an FAR of 0.3, within the allowable development intensity for the Business/Light Industrial land use designation, the project's potential impact on fire protection and emergency services was previously analyzed in the General Plan EIR.

The proposed project would not result in a new or substantially more severe impact than was already disclosed in General Plan EIR. Therefore, the project's potential impact on fire protection services would be ***less than significant.***

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Police protection?	☐	☐	☒	☐

Explanation: Police protection would be provided to the project by the Richmond Police Department (RPD), which operates out of a central station at 1701 Regatta Boulevard and has a force of 90 sworn officers.[72] The General Plan EIR reported that the RPD had a staffing ratio of 1.6 sworn officers per 1,000 residents in 2008.[73] The RPD had an average response time in 2009 of 6 minutes and 43 seconds for Priority 1 calls—such as shootings, robberies, burglaries, and assaults—and 14 minutes and 50 seconds for Priority 2 calls.

Similar to the preceding discussion on fire protection services, development of the project site with light industrial uses was included in the General Plan update evaluated in the General Plan EIR. The General Plan EIR found a less-than-significant impact on police protection services would result from implementation of the General Plan. The anticipated increase in the intensity of development would not result in an increase in response times for various calls to the RPD for service because adopted City policies require regular monitoring of response times and increases in facilities, equipment, and/or personnel, as needed.

The proposed project is consistent with the project previously evaluated in the General Plan EIR. It would not result in a new or substantially more severe impact than was already disclosed in General Plan EIR. Therefore, the project's potential impact on police protection services would be ***less than significant.***

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[72] Chris Magnus, Chief of Police, Richmond Police Department, *RPD Update*, Spring 2014.

[73] City of Richmond, *Ibid.*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Schools?	☐	☐	☒	☐

Explanation: The project would not create new housing but, as discussed in Section VIII(a), could result in an increase in the population of the City of Richmond of approximately 186 people, or 66 households. This new population could potentially have school-age children who would incrementally increase demand for school services in the City of Richmond. Because new families could be located anywhere in Richmond, it is unknown what schools might be affected. This discussion therefore focuses on the project's potential impacts on the school district overall.

Public school services in the City of Richmond are provided by the West Contra Costa Unified School District (WCCUSD), which serves the cities of Richmond, El Cerrito, San Pablo, Pinole, and Hercules and the unincorporated areas of Bayview-Montalvin Manor, East Richmond Heights, El Sobrante, Kensington, North Richmond and Tara Hills. WCCUSD operates 39 elementary schools, six middle schools, eight high schools, two adult education schools, and other education programs.[74] Within the City of Richmond, the WCCUSD operates 25 public schools and two adult schools.

The WCCUSD currently utilizes the following student generation rates for new single-family residential development to determine the impact of new development on schools:[75]

Grade Level	Single-Family Generation Rate	Multi-Family Generation Rate
TK–6	0.231	0.269
7–8	0.024	0.010
9–12	0.082	0.154
Total	**0.337**	**0.433**

Assuming the higher of these rates, the proposed project could generate 17 elementary school students, less than one middle school student, and ten high school students. The actual number would likely be lower because this assumes that all employees at the project would be new residents to the City of Richmond or nearby jurisdictions within the WCCUSD, all with school-age children, which is an overly conservative assumption.

Since new households that could be created as a result of the jobs created by the proposed project would likely live in various parts of the District, it is likely that the 28 potential new students that could be generated by these new households would be distributed among different schools. The addition of two to ten students to most schools would have a minor effect on school capacity. This is particularly true because District-wide enrollments have been declining in recent years, and further significant declines are projected through at least the 2025-2026 school year. The WCCUSD's most likely projections show District-wide enrollment declining from 28,273 students

[74] West Contra Costa Unified School District, Schools Directory, accessed December 10, 2018 at: https://www.wccusd.net/ domain/96.

[75] Jack Schreder & Associates for West Contra Costa Unified School District, *School Facility Needs Analysis for West Contra Costa Unified School District*, Table 1: Student Generation Factors, December 17, 2018.

- Design Spectral Response Acceleration for Short Period (SDS, Site Class D) = 1.601g
- Design Spectral Response Acceleration for 1-Second Period (SD1, Site Class D) = 0.999g

Seismic design in accordance with these parameters would exceed the expected peak horizontal ground acceleration at the site, as determined by the California Geological Survey. Therefore, although strong seismic ground shaking could be experienced at the site during the life of the project, by complying with applicable building codes, the proposed building would be expected to maintain structural integrity and protect the occupants from injury.

Given the magnitude of seismic ground shaking and related peak ground acceleration that could be experienced at the site, there is potential for a strong seismic event in the region to result in catastrophic structural failure of the proposed warehouse/light industrial building, with potential to severely injure or kill building occupants. However, in accordance with recent CEQA case law (e.g., *California Building Industry Association v. Bay Area Air Quality Management District* (Aug.12, 2016) 2 Cal.App.5th 1057), CEQA generally no longer considers an impact of the environment on a project to be a significant impact. Accordingly, this would be a ***less-than-significant impact.*** However, the proposed building would be required to comply with the seismic design standards included in the 2016 California Building Code, which includes detailed structural design requirements intended to provide adequate structural integrity to withstand the maximum credible earthquake (MCE) and the associated ground motion acceleration. Compliance with the applicable building codes will maximize the structural stability of the proposed building and minimize the potential for damage and injury during a strong seismic event.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

Explanation: Liquefaction occurs when clean, loose, saturated, uniformly graded, fine-grained soils are exposed to strong seismic ground shaking. The soils temporarily lose strength and cohesion due to buildup of excess pore water pressure during earthquake-induced cyclic loading, resulting in a loss of ground stability that can cause building foundations to fail. Soil liquefaction may also damage roads, pavements, pipelines, and underground cables. Soils susceptible to liquefaction include saturated, loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

Large construction projects located within a Zone of Required Investigation, as mapped by the California Geological Survey, are required to obtain site-specific geologic investigations, and may be subject to mitigation requirements. The zones are assigned to areas that are prone to liquefaction and landslides. The project site is not located within a Zone of Required Investigation.[41] However, the site is mapped by the Association of Bay Area Governments (ABAG) as having Moderate Susceptibility to liquefaction, with the historic alignment of Rheem Creek (which previously crossed the center of the site) as having Very High Susceptibility to

[41] California Geological Survey, Earthquake Zones of Required Investigation [interactive map], accessed November 8, 2018 at: https://maps.conservation.ca.gov/cgs/EQZApp/app/.

liquefaction.[42] Therefore, the project site appears to be susceptible to liquefaction during strong seismic shaking. Design and construction of the project in accordance with applicable CBC seismic design requirements would maximize the ability of the proposed building to withstand seismic-related ground failure, including liquefaction. Given these requirements, potential exposure of the project to seismic-related ground failure would be a ***less-than-significant impact.***

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☐	☒

Explanation: There is currently a level raised pad covering the project site, extending to the Richmond Parkway alignment on the west and to within 60 feet of the other site boundaries. Based on the topographic survey of the site, the pad is between approximately 3 feet and 14 feet higher in elevation than the land along the site boundaries, and has side slopes ranging from about 2: 1 to 3: 1 (horizontal: vertical). The geotechnical investigation report for the site reports slightly different data, stating that the pad is elevated approximately 5 feet above adjacent grades on the north end of the site and 8 to 9 feet above the adjacent grades on the south end of the site, and has side slopes ranging from about 2.5: 1 to 1.5: 1. The geotechnical investigation report determined through research that the fill on the site was placed in engineered, compacted lifts to at least 90-percent compaction. Subsurface testing conducted as part of the geotechnical investigation measured the compaction for the in-place material at approximately 92 percent, with individual tests ranging from 82 percent to 100 percent relative compaction.[43]

The area surrounding the site is essentially level. Given the limited elevation differences on the site, the lack of steep slopes, and the stability of the compacted pad, it is presumed that there is very low potential for landslide at the project site. However, the proposed building would be required to comply with the site preparation, foundation, and structural design requirements of the 2016 California Building Code. With compliance with these requirements, the project site would not be subject to landslide.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐

Explanation: Any construction project that exposes surface soils creates a potential for erosion from wind and stormwater runoff. The potential for erosion increases on large, steep, or windy sites; it also increases significantly during rainstorms. Site grading would occur across the majority of the site, disturbing approximately 7 acres of land, increasing the potential for exposure of soils to the erosional effects of wind and rain. Being located immediately adjacent to Rheem Creek, which is hydrologically connected to San Pablo and San Francisco bays, erosion

[42] Association of Bay Area Governments, Liquefaction Susceptibility [interactive map], accessed November 8, 2018 at: http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility.

[43] Alan Kropp & Associates, Inc., *Op. Cit.*

occurring at the site would directly impact water quality in the adjacent receiving waters. Therefore, the potential for erosion during project construction would be fairly high and would be considered a ***potentially significant impact*** on the environment. The impact would be reduced to a less-than-significant level through implementation of the Stormwater Pollution Prevention Plan (SWPPP) required by Mitigation Measure WQ-1 and additional erosion controls required by Mitigation Measure WQ-2 (see Section IX).

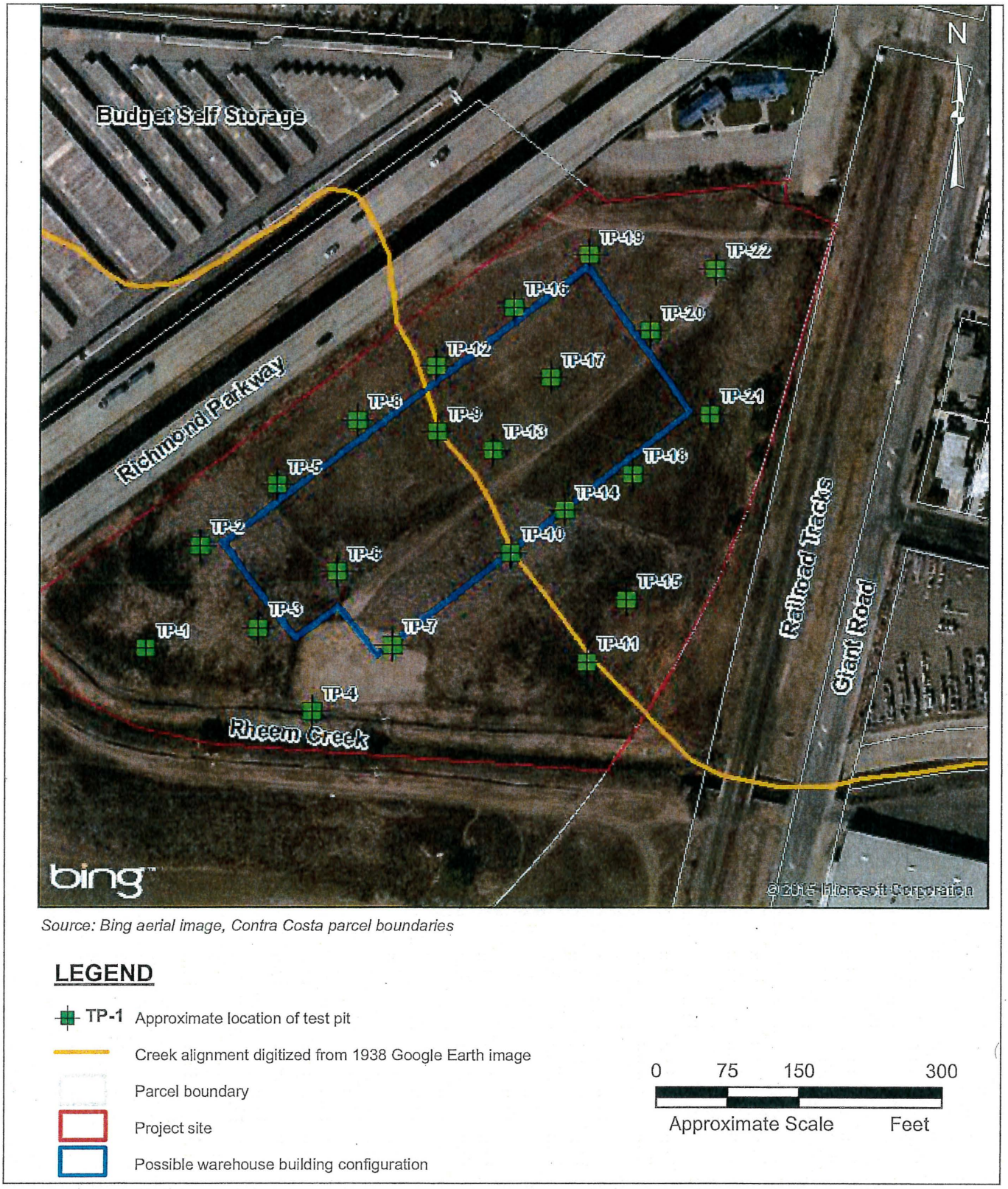
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*	☐	☒	☐	☐

Explanation: As previously noted, there is no appreciable potential for landslide at the project site, but there is potential for liquefaction. The stability of the subsurface of the project site was evaluated by a geotechnical engineer.[44] The evaluation included excavation of 22 test pits across the site in the locations depicted on Figure GEO-1. The test pits were excavated to depths of 5 to 8 feet below the pad grade.

All 22 test pits encountered fill material for the full depth of excavation. The fill typically consisted of stiff to very stiff dark brown silty clay, layered with lighter brown clay with varying amounts of sand and gravel. In-place density tests were taken at depths varying from the surface to 6 feet below grade within the pits to evaluate the in-place fill density. Bulk samples representative of the two different materials as encountered in the test pits were collected and laboratory compaction curves (ASTM D1557) were conducted on the samples. The laboratory compaction tests were compared with the measured in-place fill density to evaluate the relative degree of compaction achieved within the fill. As previously noted, the results of the testing indicated an average relative degree of compaction for the in-place material of approximately 92 percent, with individual tests ranging from 82 percent to 100 percent relative compaction. After completion of test pit excavation and testing, the test pits were backfilled with the excavated material, which was moisture conditioned and placed in compacted lifts.

To evaluate the deeper soil profile across the site, the geotechnical investigation also included the drilling of six test borings to depths ranging from approximately 21.5 to 51.5 feet below pad grade, at the locations shown on Figure GEO-2. Borings B-1 and B-4 were drilled along the former (historic) alignment of Rheem Creek across the site and encountered fill material to a depth of approximately 14 feet below pad grade. The remaining borings encountered fill to depths of 10 to 12 feet. Up to 8 feet in depth, the fill encountered in the borings typically consisted of dark brown silty clay and lighter brown silty and sandy clay with varying amounts gravels, consistent with the test pit excavations. Below 8 feet, some of the fill encountered in the borings became significantly more sandy, with some layers of clayey sand encountered, and had increased amounts of gravels and angular rock fragments. These fill materials were generally stiff to very stiff (clays) and medium dense (sands). Below the fill, the borings typically encountered a 4- to 5-foot- thick layer of dark brown to dark gray, relatively plastic stiff to very stiff silty clay, which

[44] *Ibid.*



Source: Bing aerial image, Contra Costa parcel boundaries

LEGEND

- TP-1 Approximate location of test pit
- Creek alignment digitized from 1938 Google Earth image
- Parcel boundary
- Project site
- Possible warehouse building configuration

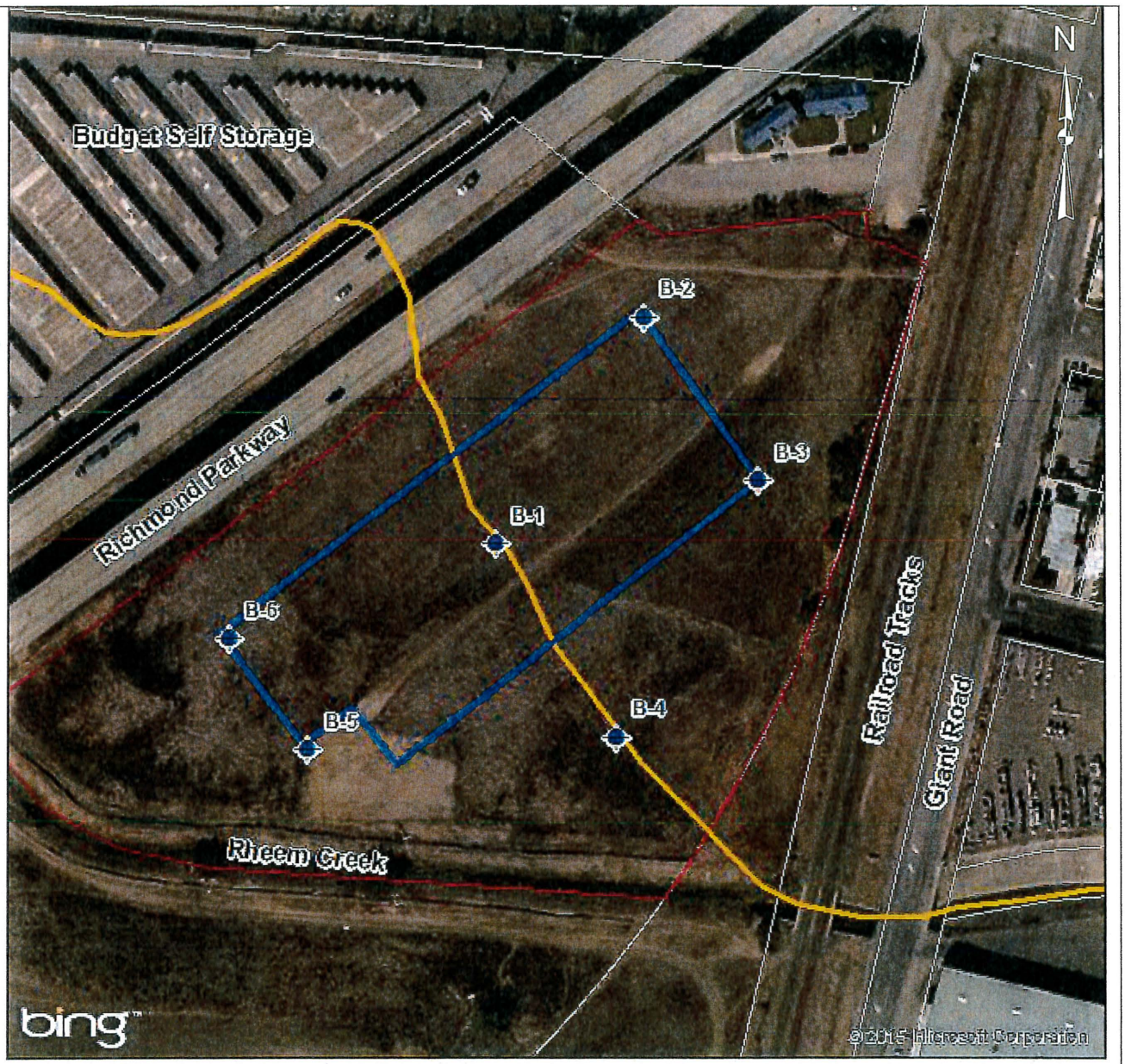
0 75 150 300

Approximate Scale Feet

Figure GEO-1

Geologic Test Pit Locations

Source: Alan Kropp & Associates



Source: Bing aerial image, Contra Costa parcel boundaries

LEGEND

- B-1 — Approximate location of exploratory boring
- Creek alignment digitized from 1938 Google Earth image
- Parcel boundary
- Project site
- Possible warehouse building configuration

0 75 150 300

Approximate Scale Feet

Figure GEO-2

Geologic Soil Boring Locations

Source: Alan Kropp & Associates

was underlain by lighter colored and less plastic silty and sandy clays. A layer of medium dense silty sand was encountered at a depth of approximately 48 feet in Boring B-1 that extended to the bottom of the boring at 51.5 feet. Otherwise, the native materials encountered below the fill were generally clayey in nature.

Atterberg Limits tests were conducted on representative samples of the dark brown silty clay fill material as encountered in the test pits and on the dark brown silty clay native material as encountered below the fill in the test borings. The dark brown fill material had a Plasticity Index (PI) of 32 and the dark brown native material had a PI of 30. These PI's are indicative of an expansive soil with significant potential for shrink and swell with changes in moisture content. The lighter colored fill had a PI of 16, which is indicative of a moderately expansive soil.

The extensive fill area on the project site was reportedly placed during three separate episodes. The site was initially part of a waste disposal area for manufacturing wastes associated with a facility located at 3002 Giant Road. Waste was reportedly pumped into settling ponds on the site up unit 1976, when the associated manufacturing complex ceased operations. Site remediation was conducted by Kennedy/Jenks Consultants (KJC) in 1995, which included over-excavation of contaminated soils on the subject site and disposal of the soils in a designated containment area at the current location of the Budget Storage facility on west side of the Richmond Parkway. KJC over-excavated approximately 1 to 5 feet across much of the site, and deeper in the area of the historic alignment of Rheem Creek.[45] The over-excavation area included the central approximately two-thirds of the project site. The over-excavation area was backfilled to pre-remediation grades with soil excavated from the containment area to the west side as well as soil imported from local quarries.

Additional fill was reportedly place on the site in 2010, when excess material from various road projects in Contra Costa County was placed on the site and on the parcel immediately to the south. The geotechnical investigation was unable to locate written documentation on the fill or determine the quantity of fill place and any compaction that may have occurred.

Most recently, several feet of fill were placed across the site in 2015, increasing the height of the pad elevation to the levels reported in Section VI-a-iv, above. The fill was imported from the parcel immediately to the south of the project site, on the other side of the current Rheem Creek alignment. Prior to fill placement, the subject site was stripped of vegetation and debris. The site was then scarified to a depth of 12 inches below the ground surface, moisture conditioned, and compacted. The fill was placed in 4- to 6-inch lifts and compacted.

Based on the subsurface conditions, the geotechnical consultant concluded that the site is underlain by approximately 10 to 14 feet of fill soils, with deeper fills located along the historic alignment of Rheem Creek across the center of the site, and that the upper 6 to 8 feet was placed during the 2015 grading described above. Although there are indications that the 2015 fill was placed with standard compaction equipment and techniques, there was apparently only a limited program of engineering observation and density testing during fill placement, which would typically be done for fills that are intended to support structures. However, results of the 2015 subsurface testing led the geotechnical consultant to conclude that both the 2015 fill and the older fill appeared to have been placed with compaction effort and was moderately well compacted, though it may still be subject to differential settlement.

The fill material, as well as the native soil materials (from which the fill was presumably generated) is moderately to highly plastic (Plasticity Indices ranging from 16 to 32) and should be considered to be moderately to highly expansive. Expansive soils are prone to volume changes

[45] Kennedy/Jenks Consultants, *Final Post-Construction Report, American Standard Products Site, Lazy J Ranch Operable Unit, Richmond, California,* September 30, 1996.

(shrinkage and swelling) with seasonal fluctuations in soil moisture. Such shrink/swell behavior can damage lightly loaded shallow design elements such as shallow footing foundations, curbs, and slabs-on-grade that are supported by these soils. Expansive soils also have relatively poor pavement support characteristics. Conventional mitigation measures for expansive soils include deepened footing foundations, stiff mat slab construction, drilled pier foundations (which gain support below the depth of seasonal moisture change), select fill placement (including lime treatment to create select fill from on-site materials), and/or drainage measures.

As previously noted in Section VI-a-ii, due to recent CEQA case law, CEQA generally no longer considers an impact of the environment on a project to be a significant impact. However, the City of Richmond has adopted several General Plan policies aimed at minimizing the risk of injury, loss of life, and property damage from seismically-induced and other geologic hazards. Since these policies were adopted for purposes of reducing environmental impacts, conflicts with these policies *would* constitute a significant impact under CEQA. Accordingly, the impact described below would be significant for the reasons set forth.

Absent appropriate precautions and controls, the proposed project could be exposed to unstable soils that could threaten structural stability of the warehouse building and expose its occupants to risk of injury or death. This would conflict with Richmond General Plan policies, such as Goal SN1 (Risk Management of Natural and Human-Caused Disasters), Policy SN1.1 (Geologic and Seismic Safety), and Action SN1.C (Geotechnical Review Guidelines). This would be a ***potentially significant impact.*** Implementation of the following mitigation measures would reduce the impact to a less-than-significant level:

Mitigation Measure GS-1: The proposed project shall be designed and constructed in accordance with the recommendations presented in the September 11, 2015 design-level geotechnical investigation report prepared by Alan Kropp & Associates, Inc., including recommendations for site clearing and preparation, cut and fill slope inclinations, placement of fill and compaction, foundation and slab-on-grade design, retaining walls, surface drainage, and pavement specifications. The building structure and all infrastructure for the proposed project shall also be designed in accordance with the most recent version of the California Building Code (CBC), which requires structural design that incorporates ground accelerations expected from known active faults.

Mitigation Measure GS-2: The proposed foundation design shall be reviewed by the Geotechnical Engineer of record or his/her qualified representative. A letter shall be provided to the Building Department that is stamped and signed by the Engineer that verifies the foundation design has been reviewed and found to be in conformance with the geotechnical report requirements. All structural design and construction shall be subject to final approval by the City of Richmond Building Division.

Mitigation Measure GS-3: All site preparation work shall be performed under the supervision of the Geotechnical Engineer of record or his/her qualified representative. Prior to requesting a foundation inspection from the City, the Geotechnical Engineer of record shall issue a final report in writing stating the completed pad, foundation, finished grading, drainage and associated site work

substantially conforms to the approved plans, specifications, and investigation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*	☐	☒	☐	☐

Explanation: As discussed further in the preceding section, the geotechnical investigation report determined that soils on the project site are moderately to highly expansive soils, and are prone to shrinking and swelling with seasonal fluctuations in soil moisture. For the reasons set forth above, this would be a ***potentially significant impact.*** Implementation of Mitigation Measures GS-1 through GS-3 would reduce the impact to a less-than-significant level:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*	☐	☐	☐	☒

Explanation: The project site would be served by the existing municipal sewer system, tying into a sanitary sewer line in Collins Avenue, and the proposed project would not require the use of a septic or alternative wastewater disposal system.

VII. GREENHOUSE GAS EMISSIONS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*	☐	☐	☒	☐

Explanation: For quantifying a project's GHG emissions, BAAQMD recommends that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel

combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption.

Because BAAQMD has not established separate thresholds of significance for construction-related emissions of GHG, the assessment of potential GHG impacts presented below addresses both construction and operational GHG emissions together, and applies the operational standards of significance to both emissions sources. CalEEMod was used to quantify GHG emissions associated with construction activities, as well as long-term operational emissions produced by motor vehicles, natural gas combustion for space and water heating, electricity use, and landscape maintenance equipment.

Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric utility's projected 2020 CO_2 intensity rate. This 2020 CO_2 intensity rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of CO_2 per megawatt of electricity produced, corresponding to the year 2008. The projected CO_2 intensity rate of 290 pounds of CO_2 per megawatt of electricity produced was used to represent the year (2021) in which the project would become operational.[46]

The proposed project's estimated construction and operational GHG emissions are presented in Table GHG-1. Project construction would generate GHG emissions of approximately 582 metric tons of carbon dioxide equivalent (CO_2e). There is no BAAQMD CEQA significance threshold for construction-related GHG emissions, so this analysis (similar to many other analyses prepared in the San Francisco Bay Area Air Basin) amortizes the construction emissions over the lifetime of the proposed project (30 years). The 30-year amortized annual construction-related GHG emissions would be 19 metric tons of CO_2e. The GHG construction and operational emissions would be 1,094 metric tons per year, which is below the BAAQMD bright line threshold of 1,100 metric tons per year. A majority of the GHG emissions would be associated with motor vehicles.

The proposed project would be required to meet the requirements of the Richmond Municipal Code, including the following:[47]

> **Section 7.102.050 (b)(4)(A):** Submit detailed plans demonstrating that the electricity used in the grow operation is from a renewable energy source. All cultivation operations are required to obtain their electricity from renewable energy sources.

The project would also be required to comply with State renewable energy requirements adopted in accordance with Senate Bill 94, the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA) of 2017.[48] The regulations developed by the California Department of Food and Agriculture (CDFA) and the California Department of Public Health (CDPH) are codified in the California Code of Regulations, Title 3, Division 8, Chapter 1, Sections 8000 *et. seq.* Compliance with these State and local codes would further reduce GHG emissions generated by the proposed project.

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[46] PG&E, *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*, November 2015. Accessed January 2, 2019 at http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

[47] City of Richmond, Richmond Municipal Code.

[48] California Code of Regulations, Business and Professions Code, Division 10, Chapter 1, Section 26000 *et. seq.*

Table GHG-1

Estimated Unmitigated Greenhouse Gas Emissions (metric tons)

Source	Annual CO2e Metric Tons
Construction (30-year amortized)	582 (19)
Operations	
Area Sources	0.01
Energy	396
Mobile	552
Emergency Generators	34.4
Solid Waste	45.4
Water	46.2
Total Emissions (Construction plus Operations)	**1,094**
BAAQMD Bright Line Threshold	1,100
Potentially Significant?	No

Source: CARB CalEEMod Version 2016.3.2.

Although specific uses or businesses have not yet been identified, it is anticipated that one of the two 24,000-square-foot suites would be leased to a commercial cannabis cultivator, while the other spaces would likely be leased to construction contractors, warehouse companies, and/or light industrial businesses. Therefore, the cannabis cultivator space would represent approximately 25 percent of the total facility square footage (and assumed 25 percent of the energy usage). With 42 percent of the energy usage associated with cannabis cultivation from renewable resources, the total facility energy usage GHG emissions would be reduce to 354 metric tons of CO_2e and the total GHG emissions would be 1,052 metric tons of CO_2e, which is below the BAAQMD bright line threshold of 1,100 metric tons per year. The project would have a ***less-than-significant impact*** due to its greenhouse gas emissions.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*	☐	☐	☒	☐

Explanation: In October 2016, The City of Richmond adopted a Climate Action Plan (CAP) intended to reduce GHG emissions in the City.[49] The CAP provides a roadmap for how the City will reduce energy consumption and GHG emissions to meet State GHG emissions targets established by Assembly Bill 32 (AB 32), which is the principal planning and policy document adopted for the purpose of reducing GHG emissions Statewide. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. AB 32 was extended in September 2016 by Senate Bill 32 (SB 32), establishing an expanded goal to achieve reductions in GHGs of 40 percent below 1990 levels by 2030. The new plan outlined in SB 32 involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries. The California Air Resources Board's (CARB's) *2017 Climate Change Scoping Plan Update* is designed to accomplish this goal.[50] Both AB 32 and SB 32 were passed to achieve GHG reduction goals established in 2005 by former Governor Arnold Schwarzenegger by Executive Order S-3-05, which also set a 2050 target of reducing GHG emissions to 80 percent below 1990 levels by that date.

The Richmond CAP builds on the goals and policies in the City's General Plan and the Health in All Policies Strategy (HiAP) to further the City's efforts to build health equity through the reduction of local GHG emissions, and to simultaneously ensure that the community is well prepared for the impacts of climate change. It elevates health equity priorities in the selection of climate action measures, building on the City's existing policy framework to support a healthy, vibrant, and equitable City. The CAP identifies four overarching goals in support of these objectives, which are summarized by the following titles:

- GHG Emissions Reduction
- Healthy and Resilient Community
- Prosperous Local Economy
- Engaged Community and Educated Youth

The four goals are supported by eight CAP objectives derived from the City's General Plan policies:

1. Energy Efficient Buildings and Facilities
2. Increase Use and Generation of Renewable Energy
3. Sustainable Transportation and Land Use
4. Zero Waste
5. Water Conservation

[49] City of Richmond, *Climate Action Plan*, Adopted October 2016.

[50] California Air Resource Board, *2017 Climate Change Scoping Plan*, November 2017.

6. Green Infrastructure, Urban Forestry and Local Agriculture
7. Green Business and Industry
8. Resiliency to Climate Change

These eight objectives provide an organizing framework for 40 strategies set forth in the CAP. The strategies are intended to enable the City of Richmond to achieve the goal of reducing GHG emissions by 40 percent before 2030 and thus, adhere to the AB 32 goals. The proposed project would result in a significant impact if it would be in conflict with AB 32 State goals.

The proposed project would be subject to all applicable permit and planning requirements in place or adopted by the City of Richmond, the County of Contra Costa, and the State of California at the time that building permits are issued. With adherence to California Green Building Standards Code, the proposed project would be consistent with City and County plans, policies, and regulations for reduction of GHGs, and would therefore also be consistent with AB 32 and other Statewide goals for GHG reduction. Thus, the proposed project would have a ***less-than-significant impact*** related to a conflict with a GHG reduction plan. Lastly, because the proposed project would also utilize renewable energy, the project would reduce GHG emissions, thus lessening the amount of pollution emitted overall.

VIII. HAZARDS AND HAZARDOUS MATERIALS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*	☐	☒	☐	☐

Explanation: Specific end users of the proposed project had not been identified at the time of this environmental review, so it cannot be categorically determined whether the project would or would not involve the routine transport, use, or disposal of hazardous materials. Based on the anticipated range of uses, it is assumed that there would be no use of hazardous materials other than small containerized quantities of cleaning products that are typically found in office and residential environments. Small quantities of automotive maintenance products could also be used and stored on site. Such products are found in a wide range of business and residential environments and do not constitute a significant threat to the environment.

If a manufacturing use were planned, it is likely that some use, storage, and transport of hazardous materials would be required. The potential risk from such usage would depend on the nature and quantity of hazardous materials involved, and how they would be handled.

Any storage of hazardous chemicals on the site would be overseen by the Contra Costa Health Services Hazardous Materials Programs (CCHSHMP). The CCHSHMP is the Certified Unified Program Agency (CUPA) for all businesses within Contra Costa County, certified by the California Environmental Protection Agency (Cal/EPA) to establish a unified hazardous waste and hazardous materials management regulatory program that consolidates and coordinates six different Statewide regulatory programs.

Pursuant to California Health and Safety Code Sections 25500 through 25520, the owner of any facility using or storing a hazardous material, or a mixture containing a hazardous material, at or above statutory reporting thresholds is required to prepare and submit to the local administering agency (i.e., CCHSHMP) a Hazardous Materials Business Plan (HMBP) on or before March 1st of every year. For liquid materials (diesel fuel is a commonly stored example), the reporting threshold established by California Health and Safety Code Section 25503.5 is 55 gallons stored at any time during the reporting year. For solid or gaseous hazardous materials, the reporting thresholds are 500 pounds and 200 cubic feet, respectively. The requirements apply equally to storage of hazardous materials in underground storage tanks (USTs) and above-ground storage tanks (ASTs). Additional thresholds and requirements apply to extremely hazardous materials and radioactive materials.

A business can be exempted from the HMBP requirement if the only hazardous material it stores is lubricating oil, and the volume stored does not exceed 55 gallons of each type of oil or 275 gallons of all types handled by the facility. The local administering agency may exempt other hazardous materials upon proof that the material does not pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment.

The purpose of the HMBP is to foster the prevention of release of hazardous materials into the workplace or environment, and to facilitate the mitigation of damage to the health and safety of persons and the environment in the event an accidental release occurs. The HMBP provides information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of on a site. It must include both an Emergency Response / Contingency Plan and an Employee Training Plan, among other requirements. Under State law, the HMBP must be submitted electronically to the California Environmental Reporting System (CERS) administered by the California Environmental Protection Agency (CalEPA).

Effective December 28, 2017, CalEPA replaced the previous five federal hazard categories available in CERS used for the completion of chemical inventories as part of the annual HMBP submittal with 24 new federal hazard categories adopted by the United States Environmental Protection Agency (U.S. EPA) as a result of changes to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS). HMBP submittals must now reference the 24 new federal hazard categories.

The information provided in the HMBP is intended for use by firefighters and other emergency responders, health officials, planners, public safety officers, health care providers, and regulatory agencies, as well as interested members of the public. The HMBP must be revised within 30 days of introducing a new hazardous material to a facility, increasing the quantity of an existing material by 100 percent or more, or otherwise making a substantial change in operations, including a change in business name or ownership.

Because end users of the proposed warehouse have not yet been identified, for purposes of this analysis, it is assumed that a future use of the proposed facility could entail transportation, use, and/or storage of hazardous materials that, if not properly handled, could result in accidental spills or other releases to the environment, which could pose a threat to human health and safety and the environment. This would be a ***potentially significant impact***, which would be reduced to a less-than-significant level through implementation of the following mitigation measure:

Mitigation Measure HM-1: Prior to issuance of an occupancy permit for the project, the project sponsor shall submit a list and description of businesses intending to lease space in the warehouse to the Richmond Planning and Building Services Department. Based on the nature of each business, City staff shall determine whether the use would entail

storage, use, or transport of hazardous materials above the reporting thresholds established by California Health and Safety Code Section 25503.5 or the generation of hazardous waste in any amount. If any of the reporting thresholds would be exceeded, the business owner shall prepare a Hazardous Materials Business Plan (HMBP) in accordance with Chapter 6.95, Article 1 of the California Health and Safety Code (Sections 25500 through 25520) and submit it to the Certified Unified Program Agency (CUPA) for Contra Costa County (the Contra Costa Health Services Hazardous Materials Programs) for review and approval through the California Environmental Protection Agency's online California Environmental Reporting System (CERS). Prior to the issuance of an occupancy permit for the project, the Richmond Planning and Building Services Department shall verify the CUPA's approval of the HMBP. Any time the project sponsor is prepared to lease space in the project to a new business, the project sponsor shall consult with the Richmond Planning and Building Services Department to determine whether an HMBP is required for the new business and, if so, City staff shall verify that the business has an approved HMBP.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☒	☐

Explanation: A Phase I Environmental Site Assessment (ESA) of the site was performed by ENGEO Incorporated to identify recognized environmental conditions on the site, including the presence or likely presence of any hazardous substances that could create a significant hazard to the public or the environment, whether through an existing release, past release, or threat of a release into structures, into the ground, or into surface or groundwater.[51] The results of that investigation are summarized in this section.

In the mid-1960s, the project site was part of a larger area of land used for grazing livestock known as the Lazy J Ranch (LJR). Based on a review of historic aerial photographs of the site dating to 1946 and a review of approximately 20 historic topographical maps of the area spanning the period from 1895 to 2015, there is no evidence of prior development on the site.

In the early 1980s, a livestock building was constructed along the northern edge of the site. Between 1958 and 1963, the U.S. Army Corps of Engineers realigned Rheem Creek along the southern the edge of property boundary; it had previously run across the middle of the site. Buildings on the property were associated with a horse boarding operation that ended in approximately 2000. The project site has subsequently remained vacant, and currently consists of a partially fenced undeveloped open field.

[51] ENGEO Incorporated, *Phase I Environmental Site Assessment, Parkway Commerce Center, Collins Avenue, Richmond, California*, Project No. 15402.000.000, October 18, 2018.

APN 408-060-028 of the property is located within the former American Standard Products manufacturing facility, which operated from 1913 until 1976, and is divided by the Department of Toxic Substances Control (DTSC) into three operable units. The former waste disposal area (FWDA) and the former manufacturing facility (FMF) have been defined as operable units (OU)-I and OU-II, respectively. The portion of the site that was part of the 35-acre LJR is identified as OU-III. LJR was used as pasture land for horses. American Standard does not own LJR and no activities by American Standard were conducted on this property. In the early 1960's, it is suspected that material from the FMF and/or FWDA was used to fill the former channels of Rheem Creek at LJR and adjacent low-lying areas by the U.S. Corps of Engineers when they constructed the present channel. This fill material contained lead and zinc, which most likely emanated from glazes used at the FMF.

Investigations activities including soil and groundwater sampling have been intermittently conducted at the LJR since 1989. The remedial action at LJR consisted of soil excavation, consolidation, grading, and capping of the approximately 5-acre portion in the northwest (outside the project site). The remaining 29 acres (including the project property) was remediated. Soil at APN 408-060-028 of the property was excavated to depths ranging between 1 to 5 feet. After completion of the final remediation in 1995, confirmation sampling was conducted to ensure concentrations of lead and zinc are below the cleanup goals of 235 milligrams per kilograms (mg/kg) and 285 mg/kg, respectively for lead and zinc. The cleanup goals were established based on human health and environmental risks at the site. All excavated areas were filled with clean borrow material from the northwest corner of the LJR or with clean import material. A deed restriction was recorded for the capped area of LJR. The project site is located outside the limits of the capped area, and is not subject to the deed restriction.

Phase I ESA included a review of local, State, tribal, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources. A reconnaissance of the site was conducted by ENGEO to review site use and current conditions to check for the storage, use, production or disposal of hazardous or potentially hazardous materials. The investigation included interviews with persons knowledgeable about current and past site use.

The review of standard environmental databases identified 39 properties within the applicable search distances recommended by the American Society of Testing Materials (ASTM), with an additional 52 properties listed on other environmental record sources. The project site was not listed on the databases searched. Based on the status of the identified properties, their distance from the project site, and/or the topographic gradient between the property and the project site, the Phase I ESA concluded that none of the listed properties are likely to pose an environmental risk to the project site.

Although the site reconnaissance and records review found no documentation or physical evidence of soil or groundwater impairments associated with the past use of the property, and concluded that there are no Recognized Environmental Conditions (RECs) were identified for the property, based on the historic REC (elevated lead and zinc concentrations) that was previously remediated, ENGEO inferred that contaminated fill material from the land adjacent to American Standard Products facility was used to fill in Rheem Creek, which originally traversed the project site, as well as in the construction of the channelized course that the U.S. Army Corps of Engineers constructed in the early 1960s. Since no analytical data was available for the placed fill material, ENGEO recommended a limited program of soil sampling from the fill material, with laboratory analysis to identify potential contaminants.

Accordingly, on February 22, 2019, ENGEO excavated eight test pits at locations throughout the project site. The test pit locations are shown on Figure HM-1. The test pits were excavated to depths up to 48 inches below the ground surface (bgs), with samples collected at intervals of 0 to

6 inches, 12 to 24 inches, and 36 to 48 inches. Following the collection of soil samples, all test pits were backfilled by an excavator.

The 24 soil samples were laboratory analyzed on a discrete basis for the following analytes:

- Total Petroleum Hydrocarbons as gasoline (TPHg - EPA 8260)
- TPH as diesel and motor oil (TPHd & mo - EPA 8015 w/silica gel cleanup)
- Volatile Organic Compounds (VOCs – EPA 8260)
- Semi-volatile Organic Compounds (SVOCs – EPA 8270 SIM)

In addition, six four-point composite samples were analyzed for the following:

- CAM-17 Metals (EPA 6010, 7471)
- Organochlorine Pesticides (OCPs – EPA 8081)
- Polychlorinated Biphenyls (PCBs – EPA 8081)

Sample results were compared to the following regulatory screening levels:

- Department of Toxic Substances Control (DTSC) HERO HHRA Note 3 Screening Levels (June 2018)
- San Francisco Regional Water Quality Control Board Environmental Screening Levels (SFRWQCB ESLs) (Jan 2019)
- USEPA Regional Screening Levels (November 2018)

For the 24 discrete samples, concentrations for TPH gas and diesel/motor oil were either non-detected, or reported below the applicable residential screening levels issued by CalEPA and U.S. EPA. No VOCs or SVOCs were reported for the samples. For the six composite samples, OCPs were either non-detected or reported below applicable residential screening levels. No PCBs were detected for the samples. Several metals were reported; however, all concentrations were either below the applicable residential screening levels, or within the expected range of background concentrations.

The results of the Phase I and Phase II ESAs demonstrated that no residual soil contamination remains at the site. Based on the ESA results and the proposed use of the project site, ENGEO concluded that no further investigation of the site is warranted. The proposed project is not expected to have the potential to create new impacts related to hazardous materials. The project would have a ***less-than-significant impact*** related to the creation of a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

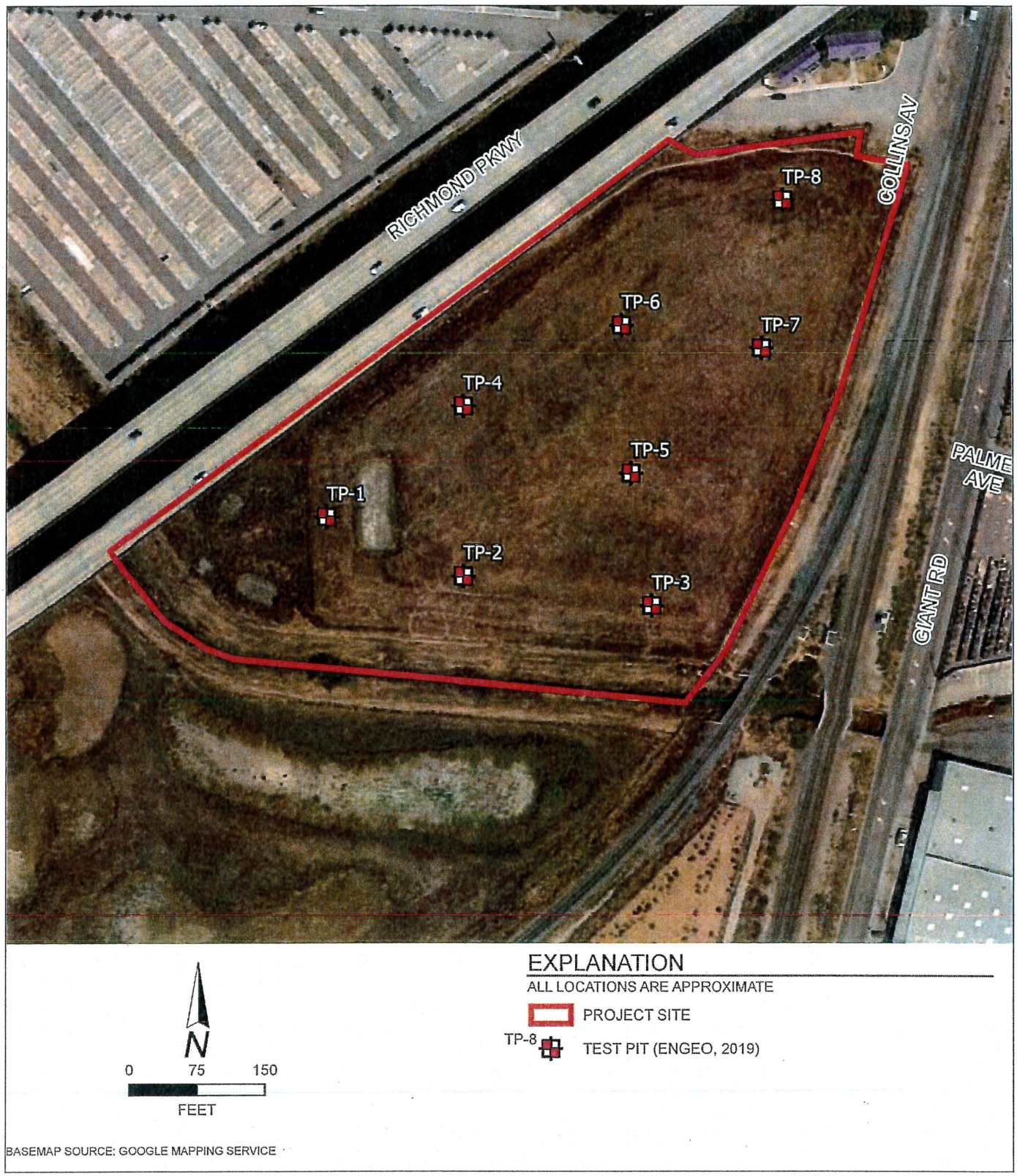

Figure HM-1

Soil Sampling Test Pit Locations

Source: ENGEO

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*	☐	☐	☐	☒

Explanation: There are no schools within one-quarter mile of the project site. The nearest school to the project site is Bayview Elementary School, located at 3001 16th Street in the City of San Pablo, approximately 1,730 feet (0.33-mile) southeast of the project site. However, based on information available at the time of this environmental review, the proposed project would not emit hazardous emissions, handle hazardous materials, or generate hazardous waste. There would be no project impact on schools related to hazardous materials.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*	☐	☐	☒	☐

Explanation: The list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 actually consists of several lists, including:

- A list of hazardous waste sites compiled by the California Department of Toxic Substances Control (DTSC);
- A list of contaminated water wells compiled by the California Department of Health Services (DHS) (subsequently reorganized into the California Department of Health Care Services and the California Department of Public Health);
- A list of leaking underground storage tank sites and solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the State Water Resources Control Board (SWRCB); and
- A list of solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the Local Enforcement Agency (LEA). These lists are consolidated by the Department of Resources Recycling and Recovery (CalRecycle).

Each of these lists must be updated at least annually, and must be submitted to the Secretary for Environmental Protection, the head of the California Environmental Protection Agency (CalEPA). DTSC maintains the EnviroStor database for purposes of complying with Section 65962.5, while the SWRCB maintains the GeoTracker database. Both of these databases were consulted during this environmental review. The American Standard Products site discussed in Section VIII-b,

above, is listed on both the EnviroStor[52] and GeoTracker[53] databases. The EnviroStor listing indicates that there is a deed restriction related to the prior lead and zinc contamination. However, the restriction only applies to the 5 acres of the former Lazy J Ranch, which did not encompass the project site. The listing on the GeoTracker database states that cleanup of the site was completed, and it has a Case Closed status. See Section VIII-b for additional information about the prior contamination. Based on these results and the investigations summarized in Section VIII-b, there would be a ***less-than-significant impact*** related to the inclusion of the site on hazardous materials sites compiled pursuant to Government Code Section 65962.5.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project 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 for people residing or working in the project area?	☐	☐	☐	☒

Explanation: There are no airports within 2 miles of the project site; the nearest public airport is Buchanan Field Airport, located approximately 16 miles east of the site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

Explanation: There are no private airstrips in the vicinity of the project site. The nearest private airstrip is San Rafael Airport, formerly Smith Ranch Airport, located about 9.25 miles west of the project site.

[52] California Department of Toxic Substances Control, EnviroStor Site/Facility Search, Accessed March 19, 2019 at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=APN+408-060-0028,+Contra+Costa+County,+CA.

[53] State Water Resources Control Board, GeoTracker Database, Accessed March 19, 2019 at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=3445+Collins+Avenue,+Richmond,+CA.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*	☐	☐	☐	☒

Explanation: In the event of a large-scale disaster, emergency response to the site would be coordinated by City responders with other response in the City. The project site would provide adequate emergency access and egress via Collins Avenue, Giant Road, and the Richmond Parkway. Implementation of the project would not alter existing streets or otherwise interfere with emergency evacuation routes. There is therefore no potential for the project to impair implementation of emergency evacuation or emergency response plans

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) *Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*	☐	☐	☐	☒

Explanation: The project is located in an urbanized, largely built-out area with commercial, residential, and light industrial development in the vicinity of the site. The area to the west of the site includes wetlands and grasslands, but no forest land. The California Department of Forestry and Fire Protection (CAL FIRE) produces a series of countywide maps identifying fire hazard severity zones within each county. The map for Contra Costa County shows that the project site is not within a Moderate, High, or Very High Fire Hazard Severity Zone.[54] Given the development in the project area, there is no potential for wildfire at the project site.

[54] California Department of Forestry and Fire Protection (CAL FIRE), Contra Costa County Fire Hazard Severity Zones in SRA [map], adopted by CAL FIRE November 7, 2007.

IX. HYDROLOGY AND WATER QUALITY — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐

Explanation:

Pollution Potential

Light industrial facilities in urban areas have high potential to contribute pollutants to stormwater runoff and adversely affect water quality. The proposed project would increase impervious surfaces within the sub-watershed, including new roads, parking areas, and rooftops. As a light industrial facility, semi-truck and trailer traffic is expected along with other vehicular traffic. Pollution from driveways, roads, parking lots, and loading docks may contribute petroleum products and heavy metals to storm runoff and degrade water quality downstream. Pesticides and fertilizers applied to industrial and public space landscaping may be mobilized by rainfall and degrade water quality downstream. The project site is adjacent to the elevated Richmond Parkway thoroughfare, so vehicle exhaust could increase the concentration of particulate pollution that deposits onto the rooftop and surrounding ground surfaces. Untreated, the above contaminant sources could adversely impact water quality in Rheem Creek, and negatively affect aquatic and terrestrial wildlife species that use the creek, creek banks and bed via erosion and/or sedimentation. Polluted stormwater runoff could also adversely affect adjacent riparian habitat zones and identified beneficial uses that include warm freshwater habitat, wildlife habitat, and contact and non-contact water recreation.

San Pablo Bay and its tidal marshes are the receiving waters for Rheem Creek. Pollutants discharging from the project could also adversely impact water quality in San Pablo Bay, and negatively affect tidal marsh species and habitat, and identified beneficial uses that include commercial and sport fishing, estuarine habitat, cold and warm freshwater habitat (via connections to freshwater streams), freshwater replenishment, fish migration, preservation of rare and endangered species, wildlife habitat, contact and non-contact water recreation, and navigation.

There are no specific water quality impairments identified for Rheem Creek by the San Francisco Bay Water Quality Control Board (SFBRWQCB). However, all urban creeks within SFBRWQCB jurisdiction, including Rheem Creek, are required to take actions to reduce diazinon and pesticide-related toxicity as stipulated through the adoption of an urban creek total maximum daily load (TMDL) regulation in 2007.

The cornerstone of the Urban Creek TMDL diazinon and pesticide-related toxicity reduction strategy is twofold: 1) pollution prevention that reduces and eliminates the potential for pesticides to run off into waterways, and 2) minimizing or eliminating the use of pesticides that threaten water quality. This qualitative strategy can be accomplished through application of integrated pest management techniques and use of less toxic pest control methods. The term "integrated pest management" refers to a process that includes setting action thresholds, monitoring and identifying pests, preventing pests, and controlling pests when necessary. The

TMDL states that there shall be no acute toxicity in ambient waters. Acute toxicity is defined as a median of less than 90 percent survival, or less than 70 percent survival 10 percent of the time, of test organisms in a 96-hour static or continuous flow test.

The toxicity targets are expressed in terms of acute toxic units (TUa) and chronic toxic units (TUc). The targets are as follows: pesticide-related acute and chronic toxicity in urban creek water and sediment, as determined through standard toxicity tests, shall not exceed 1.0 TUa or 1.0 TUc, where TUa = 100/NOAEC and TUc = 100/NOAEC. "NOAEC" refers to the "no observed adverse effect concentration." NPDES permits issued or reissued for industrial, construction, and California Department of Transportation facilities must implement the general requirements, education and outreach requirements, and monitoring requirements as appropriate, as listed in SFBRWQCB Resolution R2-2005-0063.

The TMDL is allocated to all urban runoff, including that associated with municipal separate storm sewer systems, Caltrans facilities, and industrial, construction, and institutional sites. San Pablo Bay has numerous water quality impairments, including chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, polychlorinated biphenyls (PCBs), and selenium. These impairments are a result of historic and current urban runoff and drainage patterns, direct discharges from industry, dumping from boats, atmospheric deposition, municipal discharges, agriculture and natural sources, and resource extraction practices. The SFBRWQBC adopted TMDLs for the greater San Francisco Bay for methylmercury and inorganic mercury in 2010, PCBs in 2010, and selenium in 2016.

Regulatory Framework

The Clean Water Act (CWA) authorizes the U.S. Environmental Protection Agency (USEPA) to regulate water quality in California by controlling the discharge of pollutants to water bodies from point and non-point sources through the National Pollution Discharge Elimination System (NPDES). The California State Water Resources Control Board (SWRCB or State Board) and nine Regional Water Quality Control Boards (RWQCBs or Regional Boards) have the authority in California to protect and enhance water quality through their designation as lead agencies in implementing the Section 319 nonpoint source program of the CWA, and through California's primary water-pollution control legislation, the Porter-Cologne Act, which requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State (any surface water or groundwater, including saline waters) to file a report of discharge" with the local RWQCB by submitting an application for waste discharge. The RWQCB determines if a project should be regulated pursuant to this act based on the likelihood that it would pose any "threat" to water quality. The San Francisco Bay RWQCB office provides guidance and regulates all aspects of water quality in streams and aquifers of the nine-county Bay Area, through designation of beneficial uses, establishment of water-quality objectives, and administration of the NPDES permit program for stormwater and construction site runoff.

Under the NPDES program, the California Municipal Storm Water Permitting Program regulates stormwater discharges that issue from municipal separate storm sewer systems (MS4s). MS4s are defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned or operated by a public body (e.g. city, county) designed or used to collect or convey stormwater, not a combined sewer, and not part of a publicly owned treatment works. The Phase 1 MS4 permit program covers discharges from construction sites larger than 5 acres and discharges in areas serving populations of more than 100,000 people. Development regulation within most San Francisco Bay counties, including Contra Costa County, falls under Municipal Regional Stormwater NPDES Permit: Permit No. CAS612008, SFBRWQCB Order R2-2015-0049 issued in 2015 by the SFBRWQCB, commonly referred to as the "Municipal Regional Permit").

The Municipal Regional Permit (MRP) recognizes impairments to receiving waters and prescribes compliance requirements for municipalities to avoid violations of water quality standards.

The State Board administers the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity, Order 2009-009-DWQ ("General Construction Permit"). In order to cover a construction project disturbing 1 acre or more of land under the General Construction Permit (this project encompasses 10.2 acres), a facility must submit a Notice of Intent to the State Board prior to the beginning of construction. Regulations and requirements must be met during the construction phase of all new development projects, primarily through control of discharges of pollutants into storm drains or creek channels. Avoidance of such discharges can be attained by the use of seasonal- and phase-appropriate effective best management practices (BMPs), including erosion control, run-on and runoff control, sediment control, active treatment systems, good site management, and non-stormwater management through all phases of construction until the site is fully stabilized by landscaping or the installation of permanent erosion control measures. These criteria are required to be established in a stormwater pollution prevention plan (SWPPP) conforming to the prevailing California Stormwater Quality Association (CASQA) (2015) BMP construction handbook, Caltrans stormwater quality construction site BMP handbook (2017), and/or any other or newer BMPs available since the release of the handbooks, as required given project needs.

Construction Impacts

During construction, clearing, grading, and other activities would increase the potential for on-site erosion, potentially leading to increased turbidity and sedimentation in Rheem Creek on the project site and in downstream reaches, including San Pablo Bay. Sedimentation may degrade in-stream habitat and reduce flow capacity at downstream culverts and open channels, potentially inducing or exacerbating flooding. Other pollutants that might impact surface water quality during project construction include petroleum products (gasoline, diesel, kerosene, oil and grease), hydrocarbons from asphalt paving, paints, solvents, and litter.

To obtain clearances under the General Construction Permit, the applicant must electronically file permit-related compliance documents (Permit Registration Documents [PRDs]), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), Notice of Termination (NOT), Numeric Action Level (NAL) exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application Report Tracking System (SMARTS). Once filed, these documents become immediately available to the public for review and comment.

The required SWPPP would address potential erosion and sedimentation issues through a project-specific erosion control plan, as well as other BMPs to reduce the potential for spills and other contamination from on-site construction activities. Appropriate measures for control of sediment and other pollutants from construction sites are included in the *Construction Handbook of Best Management Practices* (CASQA 2015). The project's SWPPP is likely to include, but is not limited to, BMPs related to construction water-quality impacts, including the following:

- If the entire site is not graded in a single operation, leave existing vegetated areas undisturbed until construction of improvements on each portion of the development site is ready to begin;
- Immediately re-vegetate or otherwise protect all disturbed areas from both wind and water erosion upon completion of grading;

- Collect stormwater runoff into stable drainage channels and/or small drainage basins to prevent the buildup of large, potentially erosive stormwater flows;
- Direct runoff away from all areas disturbed by construction;
- Use sediment ponds or siltation basins to trap eroded soils before runoff is discharged into on-site or off-site drainage culverts and channels;
- Install straw rolls, hay bales, or other approved materials below all disturbed areas adjacent to Rheem Creek to prevent eroded soils from entering the stream channel. Maintain these facilities until all disturbed upslope areas are fully stabilized, in the opinion of the City Engineer;
- To the extent possible, schedule major site development work involving excavation and earthmoving for construction during the dry season;
- Develop and implement a program for the handling, storage, use, and disposal of fuels and hazardous materials. The program shall also include a contingency plan covering accidental hazardous material spills;
- Avoid cleaning, fueling, or maintaining vehicles on-site, except in an area designated to contain and treat runoff; and
- After construction is completed, inspect all drainage facilities immediately downstream of the grading site for accumulated sediment, and clear these facilities of debris and sediment as necessary.

Proper implementation of a project-specific SWPPP would reduce the potential construction-related water quality impacts to a less than significant level. However, because a project-specific SWPPP has not been prepared at this time, the potential remains for project construction runoff to adversely affect water quality, which would be a ***potentially significant impact.*** Implementation of Mitigation Measures WQ-1 and WQ-2 would ensure that construction impacts on water quality remain less than significant.

Mitigation Measure WQ-1: Prior to issuance of grading permits for the proposed project, the City of Richmond shall verify that the applicant has prepared a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements of the Statewide General Construction Permit administered by the San Francisco Bay Water Quality Control Board (SFBRWQCB). The SWPPP shall be designed to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a SFBRWQCB permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site best management practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization BMPs are installed to reduce or eliminate pollutants after construction is completed. The SWPPP shall be prepared by a qualified SWPPP developer. The SWPPP shall include the minimum BMPs required for the identified Risk Level. BMP implementation shall be consistent with the BMP requirements in

in the 2015-2016 school year to 24,893 students in the 2025-2026 school year.[76] A drop of nearly 600 students is projected between the 2017-2018 school year and the 2018-2019 school year. Furthermore, the WCCUSD's Long-Range Facilities Master Plan indicates that its elementary schools are projected to be only 79 percent utilized in the 2019/2020 school year.[77] Projected utilization rates for middle schools and high schools for this school year are 72 percent and 74 percent, respectively. In these conditions, the addition of up to 28 new students to the District would not adversely affect school capacity and would not require the construction of new school facilities.

Furthermore, pursuant to Senate Bill 50, which became effective in 1998, payment of the School Facilities Mitigation Fee has been deemed by the State legislature to be full and complete mitigation for the impacts of a development project on the provision of adequate school facilities. The proposed project would be required to pay the applicable School Facilities Mitigation Fee, which is based on the number of new housing units developed and/or the square footage of new commercial development. The current fee for new commercial development is $0.61 per square foot.[78] With payment of these fees, the project would have a ***less-than-significant impact*** on schools.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Parks?	☐	☐	☒	☐

Explanation: According to the General Plan EIR, the City of Richmond owns and operates 74 public parks, play lots, and other recreational facilities. Parks range from small pocket parks to large community parks, encompassing a total of 245.37 acres, with an additional 32 acres of joint-use parks. There are also 4,029 acres of regional and State parks in the City of Richmond, including Point Pinole Regional Shoreline, a 610-acre park located about 1 mile north of the project site. The City's recreational facilities include eight community centers, two senior centers, a swim center, an indoor recreation complex, and a municipal natatorium, the Plunge.

Similar to the preceding discussion on schools, any increase in demand for parks that could result from implementation of the proposed project would be dispersed among the City's various parks and other recreational facilities, depending on where new residents located to. It is not expected that any single park in the City would be disproportionately affected by the project.

As noted in Section IX(c), above, the project could increase the population of Richmond by up to 186 people, though it would likely be a smaller increase. Given the large number of parks available in the City, any incremental increase in demand that would be indirectly generated by the project would have a negligible effect on park utilization and capacity. There is no potential for this potential incremental increase in demand for park services to require the construction or expansion of park facilities, and therefore, there would be no adverse physical effects associated

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[76] Jack Schreder & Associates, *Demographic Analysis, Student Projections, & Facility Capacity Study for the 2015-16 School Year*, Table 16: District-wide 10-Year Most Likely Enrollment Projection, July 18, 2016.

[77] West Contra Costa Unified School District (WCCUSD), *Long Range Facilities Master* Plan, Section 4: Facility Utilization Report, July 2016.

[78] Sylvia Garfield, Administrative Assistant in Operations, West Contra Costa Unified School District, personal communication, December 11, 2018.

with such construction. Furthermore, the project is consistent with the General Plan and its effects on parks were therefore previously addressed in the General Plan EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Other public facilities?	☐	☐	☒	☐

Explanation: The project could increase the population of Richmond by up to 186 people, which would have a minor effect on the demand for other public facilities, such as libraries. In fiscal year 2007-2008 there were 208,962 unique visits to Richmond's main library and two branches.[79] Periodic visits by new residents who could be generated by the project would represent a small fraction of 1 percent of total annual visitors, which would not require expansion of existing facilities. The General Plan EIR found that implementation of the General Plan would have a less-than-significant impact on libraries, and compliance with General Plan policies calling for regular assessment of needs for improvement to library facilities and services and for maintenance of high-quality facilities and infrastructure would further reduce the impact on libraries. There is no potential for the project-related incremental increase in demand for libraries or other public facilities to require the construction of new facilities or expansion of existing facilities, and therefore, there would be no adverse physical effects associated with such construction.

XV. RECREATION —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Explanation: As discussed in Section IX(d), above, the project would have a minor effect on the population of Richmond, and negligible effect on the demand for existing parks or other recreational facilities.

[79] Richmond Public Library, *2008 Annual Report*, 2008.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?*	☐	☐	☐	☒

Explanation: The proposed project does not include construction of any recreational facilities.

XVI. TRANSPORTATION/TRAFFIC — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?*	☐	☒	☐	☐

Explanation: The traffic impact analysis presented in this section was performed by Fehr & Peers Transportation Consultants.[80]

Study Intersections

The study area for this assessment includes the area immediately adjacent to the project site, along with roadways that provide primary access to the regional transportation network. Project impacts to study area roadway facilities were determined by measuring the effect project traffic would have on intersection operations during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak commute periods.

The study intersections were selected in accordance to the *Technical Procedures* (January 2013) published by the Contra Costa Transportation Authority (CCTA) and in consultation with City of Richmond staff based on a review of the project location and the amount of traffic that could be added to the intersections in the site vicinity. Based on guidance provided in the *Technical Procedures*, a transportation impact assessment should be prepared for any project that is expected to generate more than 100 peak hour vehicle trips, and the assessment should include signalized intersections to which at least 50 net new peak hour vehicle trips could be added by a project. Guidelines for unsignalized intersections are not specified.

[80] Fehr & Peers, *Richmond Parkway Commerce Center Transportation Impact Assessment*, January 2019.

Although the project is not expected to generate more than 100 peak hour trips, a focused transportation impact assessment was prepared given the industrial nature of the project and the potential to increase vehicle traffic on residential streets. For this study, unsignalized intersection where the project could add at least 50 peak hour vehicle trips to a controlled movement were included as study intersections, in addition to signalized intersections in the immediate project vicinity.

Based on this criterion, the following study intersections were selected for inclusion in the assessment, with the two unsignalized intersections that meet the threshold listed in bold. The existing traffic control device and jurisdiction of the intersection are noted for each study location.

1. Collins Avenue/Giant Highway at Griffin Drive/Giant Road (unsignalized, City of Richmond)
2. **Collins Avenue at John Avenue** (unsignalized, City of San Pablo)
3. Giant Road at Richmond Parkway Ramps (signalized, City of Richmond)
4. **Giant Road at John Avenue** (unsignalized, City of San Pablo)
5. Richmond Parkway Eastbound Ramps at Richmond Parkway Westbound Ramps (unsignalized, City of Richmond)
6. Richmond Parkway at Hilltop Drive (signalized, City of Richmond)

Although intersections 1, 3 5 and 6 do not meet the CCTA threshold requiring analysis, they were selected to capture the effects of all vehicle trips generated by the project. The study intersections locations are shown on Figure TRA-1.

Traffic Scenarios

The intersection analysis was performed for the following scenarios:

Existing Conditions. Existing conditions obtained from intersection turning movement counts collected on Thursday, December 6th, 2018 and field reconnaissance.

Existing Plus Project Conditions. Existing Plus Project conditions were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing Plus Project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Cumulative (Year 2040) (without Project) Conditions. Existing volumes plus traffic generated from regional growth anticipated to occur by Year 2040 per *Plan Bay Area* projections.

Cumulative (Year 2040) Plus Project Conditions. Cumulative volumes plus traffic generated by the proposed project.

Analysis Methodology

The operations of roadway facilities are described with the term "level of service" (LOS). LOS is a qualitative description of traffic flow from a vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (free-flow conditions) to LOS F (over capacity conditions). LOS E corresponds to

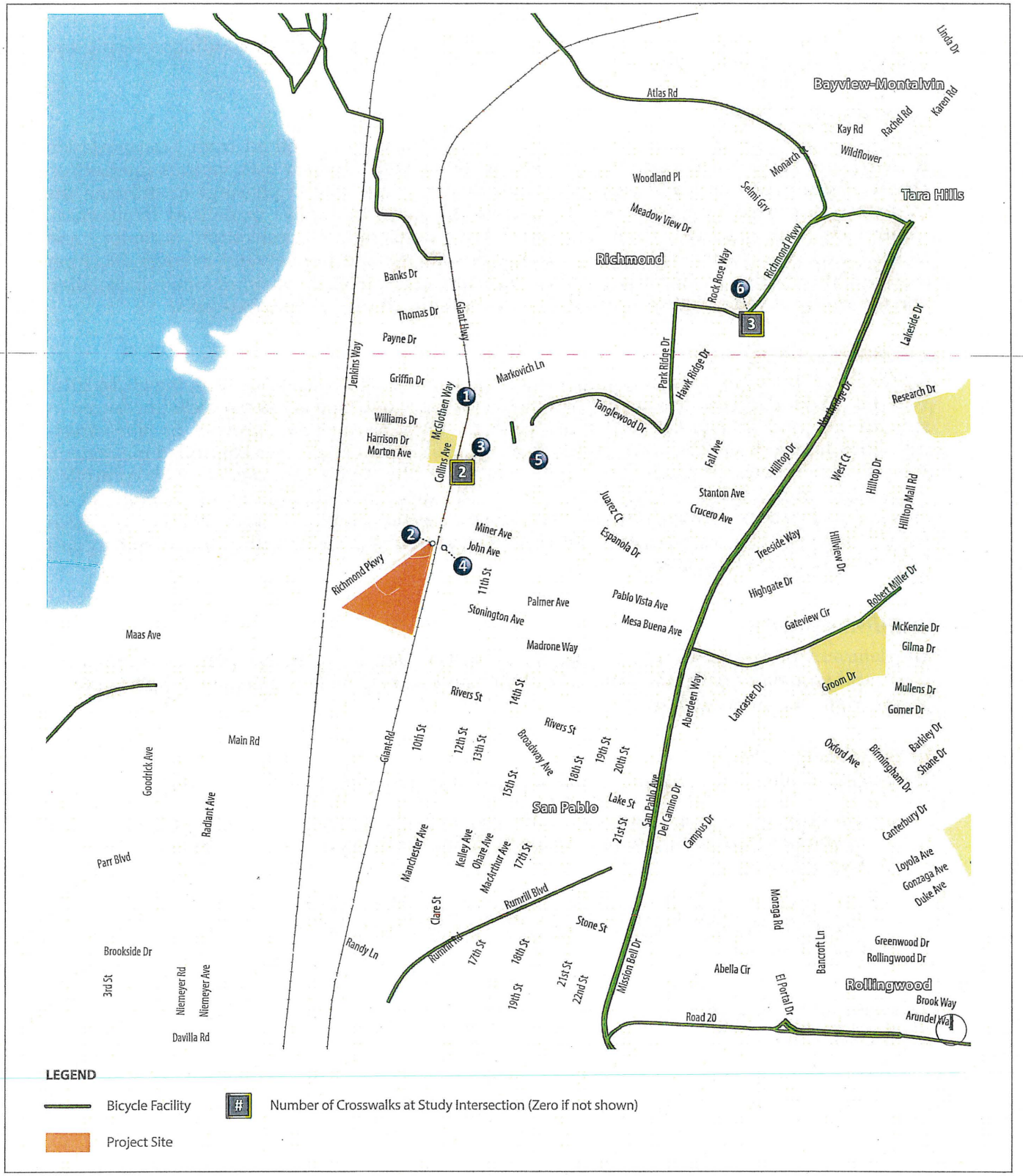

Figure TRA-1

Traffic Study Intersections

Source: Fehr-Peers

operations "at capacity." When volumes exceed capacity, stop-and-go conditions result and operations are designated LOS F.

Signalized Intersections

Operations of signalized intersections were evaluated using the method from Transportation Research Board's 2010 *Highway Capacity Manual* (HCM 2010), which uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay experienced by motorists traveling through a signalized intersection. Control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table TRA-1 summarizes the relationship between average delay per vehicle and LOS for signalized intersections. This method evaluates each intersection in isolation and the effects of vehicle queue spillback are not considered in the analysis results.

Unsignalized Intersections

Operations at unsignalized intersections were evaluated using the methods from the HCM 2010. With this method, operations are defined by the average control delay per vehicle (measured in seconds) for each movement that must yield the right-of-way. At two-way or side street-controlled intersections, the control delay (and LOS) is calculated for each controlled movement, the left-turn movement from the major street, and the entire intersection. For controlled approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The delays for the entire intersection and for the movement or approach with the highest delay are reported. Table TRA-2 summarizes the relationship between delay and LOS for unsignalized intersections.

Significance Criteria

The determination of significance for project impacts is based on applicable policies, regulations, goals, and guidelines defined by the City of Richmond and CCTA. The detailed impact criteria for this study are presented below.

Signalized Intersections

The project would cause a significant impact if one of the two following criteria are met:

- The addition of project traffic to an intersection results in the degradation of intersection operations from acceptable operations (LOS D or better) to unacceptable operations (LOS E or LOS F); or
- The addition of project traffic to an intersection results in the exacerbation of unacceptable operations (LOS E or F) by increasing the average control delay at the intersection by more than 5.0 seconds.

Unsignalized Intersections

The project would cause a significant impact if the following two criteria are met:

- The addition of project traffic to an intersection results in the degradation of controlled movement operations from acceptable operations (LOS D or better) to unacceptable operations (LOS E or LOS F), and
- The Peak Hour Signal Warrant (Warrant 3) is met.

Table TRA–1
Signalized Intersection LOS Criteria

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity (V/C) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: Transportation Research Board, *Highway Capacity Manual*, 2010

Table TRA–2

Unsignalized Intersection LOS Criteria

Level of Service	Description	Delay in Seconds
A	Little or no delays	< 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Transportation Research Board, *Highway Capacity Manual*, 2010

Vehicle Miles of Travel

In response to Senate Bill 743 (SB 743), the Office of Planning and Research (OPR) updated the *CEQA Guidelines* to include new transportation-related evaluation metrics. Draft guidelines were developed in August 2014, with final guidelines published in November 2017 incorporating public comments from the August 2014 and January 2016 guidelines. In December 2018, the California Natural Resources Agency certified and adopted the *CEQA Guidelines* update package along with an updated Technical Advisory related to Evaluating Transportation Impacts in CEQA (December 2018). Full compliance with the guidelines is expected by July 2020. Because the City of Richmond has not yet adopted significance thresholds related to VMT and VMT analyses are not yet required, no assessment of the VMT generated by the proposed project was conducted.

Transit System

The project would create a significant impact related to transit service if either of the following criteria are met:

- The project generates a substantial increase in transit riders that cannot be adequately served by existing transit services; or,
- The project is inaccessible to transit riders; or
- The project conflicts with existing or planned transit facilities.

Pedestrian System

The project would create a significant impact related to the pedestrian system if any of the following criteria are met:

- The project design would not provide or would eliminate pedestrian facilities that connect to the area circulation system; or
- The project design would create hazardous conditions for pedestrians; or

- The project conflicts with existing or planned pedestrian facilities.

Bicycle System

The project would create a significant impact related to the bicycle system if any of the following criteria are met:

- The project design would not provide or would eliminate bicycle facilities that connect to the area circulation system; or
- The project conflicts with existing or planned bicycle facilities; or
- The project design would create hazardous conditions for bicyclists.

Existing Conditions

Roadway System

Regional access to the project site is provided by Interstate 80 (I-80) and I-580. Local access to the site is provided by Richmond Parkway, Giant Road, and Collins Avenue.

Interstate 80 (I-80) is an east-west freeway that connects San Francisco to the Nevada state line and beyond via Oakland, Richmond, and Sacramento. I-80 is located east of the project site; project traffic would access I-80 through the Richmond Parkway/I-80 interchange. Near the project site, I-80 is an eight-lane freeway. The speed limit on the facility is 65 miles-per-hour (mph).

Interstate 580 (I-580) is an east-west freeway that connects US 101 in the west (via the Richmond-San Rafael Bridge) to Interstate 5 in the east. The Richmond-San Rafael Bridge recently opened the eastbound shoulder as a third lane during the evening rush hour. I-580 is located south of the project site; project traffic would access I-580 through the Canal Boulevard/I-580 interchange and the Castro Street/I-580 interchange. Near the project site, the facility is a six-lane freeway. The speed limit on the facility is 65 mph.

Richmond Parkway is the main north-south roadway in the study area and is also a designated Route of Regional Significance, meaning that it connects regions and carries a significant amount of through traffic. Richmond Parkway runs from I-80 in the northeast to I-580 in the southwest (via Canal Boulevard). Richmond Parkway is designated as the advised route between I-80 north of Richmond and I-580/the Richmond-San Rafael Bridge. Richmond Parkway is a four-lane expressway in the vicinity of the project site, with signalized intersections at access points and a posted speed limit of 50 miles-per-hour. Richmond Parkway is a designated truck route.

Giant Road is a north-south roadway that connects Giant Highway in the north to Brookside Drive in the south. The roadway provides a connection (via Collins Avenue) between the project site, the City of San Pablo, and the unincorporated residential community of North Richmond. In the project vicinity, one travel lane in each direction is provided with turn-pockets at intersections. On-street parking is permitted on the east side of the roadway adjacent to active uses. Sidewalks are provided on the east side of the roadway from south of Miner Avenue. No bicycle facilities are provided along Giant Road, which is also a designated Truck Route. The posted speed limit is 35 mph.

Collins Avenue forms the northern boundary of the project site. Across from the project site, parking is provided on the north side of the street with an adjacent sidewalk. The travel way is approximately 24 feet wide although there are no marked travel lanes. Collins Avenue extends north from John Avenue, where it continues as Giant Highway north of Griffin Drive. Uses along

Collins Avenue are primarily industrial, although it does provide access to a residential neighborhood that is located west of Collins, north of Morton Avenue. The posted speed limit is 35 mph.

John Avenue is an east-west street that connects Giant Road to Collins Avenue. East of Giant Road, John Avenue is a residential street, with sidewalks, on-street parking and direct residential access. Traffic calming devices have been installed along the roadway. Through a series of connections through other residential streets, San Pablo Avenue can be accessed. West of Giant Road, there are no pedestrian facilities.

Transit Service

North Richmond is primarily served by two major transit providers, Bay Area Rapid Transit (BART) and AC Transit. BART provides rail service and AC Transit provides local and regional bus service. Transit service and facilities in the project area, including bus routes, major bus stops, BART lines, and the Richmond BART station, are shown on Figure TRA-2.

BART operates rail service throughout the East Bay, San Francisco, and northern San Mateo County. The City of Richmond is served by the Richmond-Warm Springs line and the Richmond-Millbrae line. The project site is located approximately 3.4 miles north of the Richmond BART station.

AC Transit operates several local bus lines from the Richmond BART station, with Routes 71 and 376 operating closest to the project site. Routes 71 and 376 have a stop on westbound Stanton Avenue at Giant Road, an approximately 500-foot walk from the project site. Route 71 has a stop on eastbound John Avenue, approximately 375-feet from the site.

Table TRA-3 summarizes hours of operation and service frequencies for the routes near the project site.

Pedestrian Facilities

Pedestrian facilities in the study area include crosswalks, sidewalks, and controlled crossings. None of the unsignalized study intersections have marked pedestrian crossings. The two signalized study intersections have marked crosswalks and pedestrian push-buttons on most approaches.

There is no sidewalk on the Collins Avenue frontage of the project site or on John Avenue connecting Collins Avenue to Giant Road. Figure TRA-1 shows crosswalk locations at the study intersections.

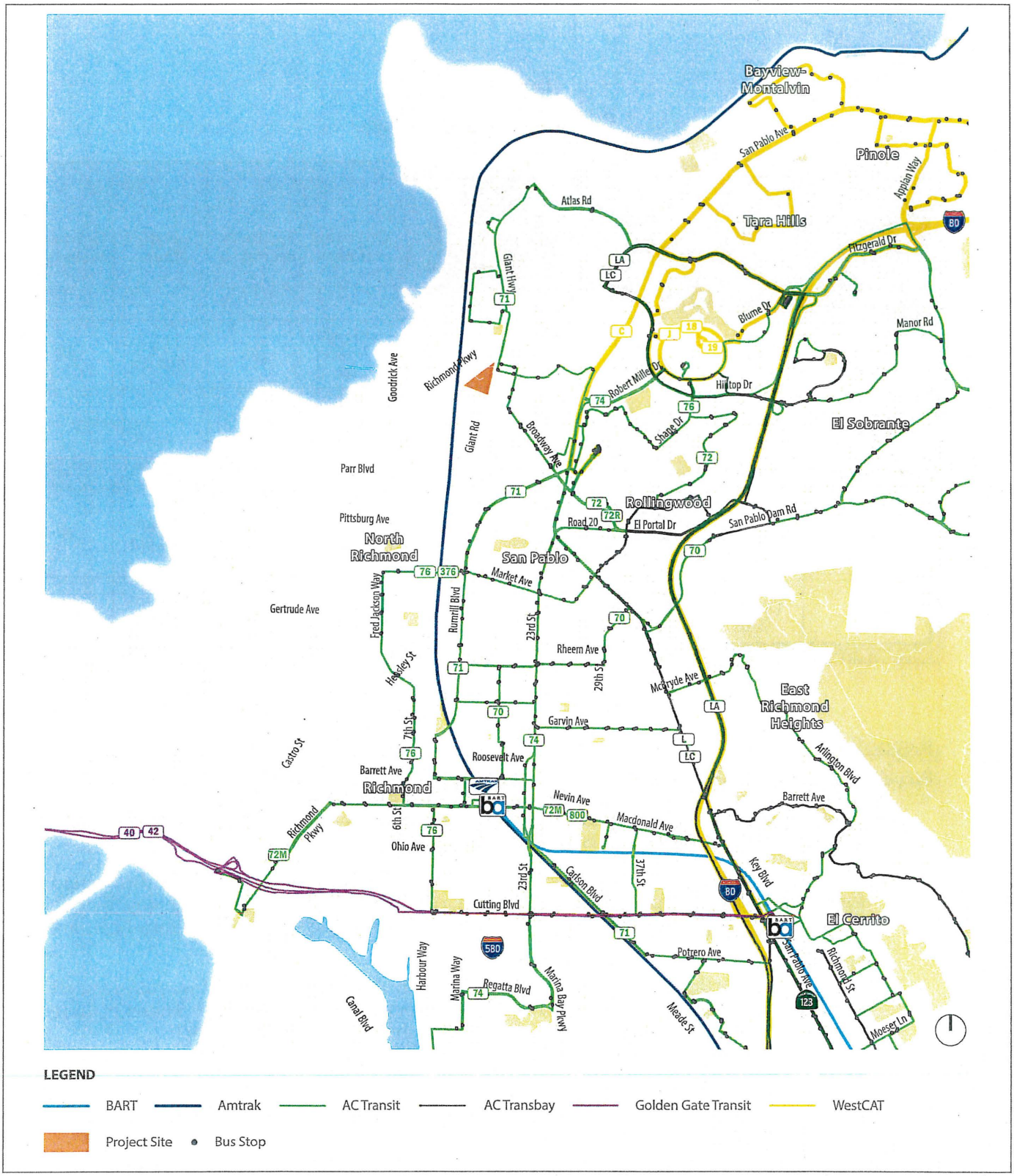

Figure TRA-2

Local and Regional Transit Service

Source: Fehr-Peers

Table TRA–3
Existing Transit Services

Route	From	To	Weekdays		Saturdays		Sundays	
			Operating Hours	Peak Headway (minutes)	Operating Hours	Headway (minutes)	Operating Hours	Headway (minutes)
Bay Area Rapid Transit (BART)								
Richmond-Warm Springs	Richmond	Warm Springs	3:57 am – 1:04 am	15	5:48 am – 1:04 am	20	7:48 am – 1:04 am	20
Richmond-Millbrae	Richmond	Daly City / Millbrae	4:12 am – 8:51 pm	15	8:46 am – 6:40 pm	20	No Service	
AC Transit								
71	El Cerrito Plaza BART	Richmond Parkway Transit Center	5:00 am – 8:43 pm	30	6:21 am – 9:35 pm	60	6:21 am – 9:35 pm	60
376	El Cerrito Del Norte BART	El Cerrito Del Norte BART	7:51 pm – 4:03 am	30	7:51 pm – 4:03 am	30	7:51 pm – 4:03 am	30

Source: BART, AC Transit, January 2019

Bicycle Facilities

Bicycle facilities are classified into one of the following four categories:

- Class I: Shared Use Path – These facilities are designated for the exclusive use of bicycles and pedestrians with vehicle cross-flow minimized.
- Class II: Bicycle Lane – Bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of 5 feet wide. Vehicle/pedestrian cross-flow are permitted.
- Class III: Bicycle Route with Sharrows – These bikeways provide right-of-way designated by signs or pavement markings for shared use with motor vehicles. These include sharrows or "shared-lane markings" to highlight the presence of bicyclists.
- Class IV: Buffered Bicycle Lanes – Bicycle lanes that include a physically separated lane for increased comfort and protection of cyclists. Class IV lanes can be physically separated by a barrier, such as planters or on-street parking, grade-separated from the roadway, or within a painted buffer area.

A Class I shared-use path runs adjacent to Richmond Parkway south of Goodrick Avenue and north of Hilltop Drive. There are also a few Class II bikeways on local neighborhood streets, such as Wood Glen Drive, that connect to the shared-use path on the Richmond Parkway. No other

designated bicycle facilities are provided in the project vicinity. Giant Road is designated as a proposed Class III bicycle facility in the City's Bicycle Master Plan.

Existing bicycle facilities in the project area are shown on Figure TRA-1.

Rail Crossings

In the immediate study area, there are two at-grade railroad crossings:

1. **John Avenue, between Collins Avenue and Giant Road** – The John Avenue crossing of the Burlington Northern Santa Fe (BNSF) railroad tracks is a two-lane at-grade crossing (Crossing 029845D) located 150 feet north of the project site. There are typically up to 26 trains per day with speeds of up to 45 miles per hour. Gate arms, pavement markings, and mast mounted flashing lights are provided. Since 1976, there have been four reported incidents, two of which have resulted in fatalities.

2. **Giant Road, east of Collins Avenue/Giant Highway** – The Giant Road crossing of the Burlington Northern Santa Fe (BNSF) railroad tracks is a two-lane at-grade crossing (Crossing 029843P) located 2,000 feet north of the project site. There are typically 26 trains per day with speeds of up to 45 miles per hour. Gate arms, pavement markings, and mast mounted flashing lights are provided. Since 1985, there have been eight reported incidents, none of which have resulted in fatalities.

Railroad crossing inventory and accident reports are provided in Appendix E.

Existing Intersection Levels of Service

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak-period intersection turning movement counts were collected at the six study intersections on Thursday, December 6, 2018. The turning movement counts included a separate count of vehicles, trucks, pedestrians, and bicyclists. Detailed traffic count worksheets are provided in Appendix C. Low levels of pedestrian and bicycle activities were observed at the study intersections. Along Giant Road at John Avenue, trucks account for approximately 2 to 3 percent of the total traffic flow through the intersection. On Richmond Parkway, trucks account for approximately 4 percent of the traffic flow along the corridor.

For each study intersection, the 60-minute period with the highest traffic volumes during both the AM and PM two-hour count periods were identified as the AM and PM peak hours of traffic. The analysis considers the observed peak-hour factors,[81] and truck, pedestrian and bicycle activity at the study intersections. The peak-hour volumes are shown on Figure TRA-3, along with the existing lane configuration and traffic control.

Existing intersection operations were evaluated using the HCM 2010 methodology described above and the results are summarized in Table TRA-4. All the study intersections currently operate at an overall LOS B or better, with the side-street movement at the Giant Road at John Avenue intersection operating at LOS C.

Detailed intersection LOS calculation worksheets are provided in Appendix D.

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[81] The relationship between the peak 15-minute flow rate and the full hourly volume is given by the peak-hour factor (PHF) based on the following equation: PHF=Hourly volume/(4* volume during the peak 15 minutes of flow). The analysis of level of service is based on peak rates of flow occurring within the peak hour because substantial short-term fluctuations typically occur during an hour.

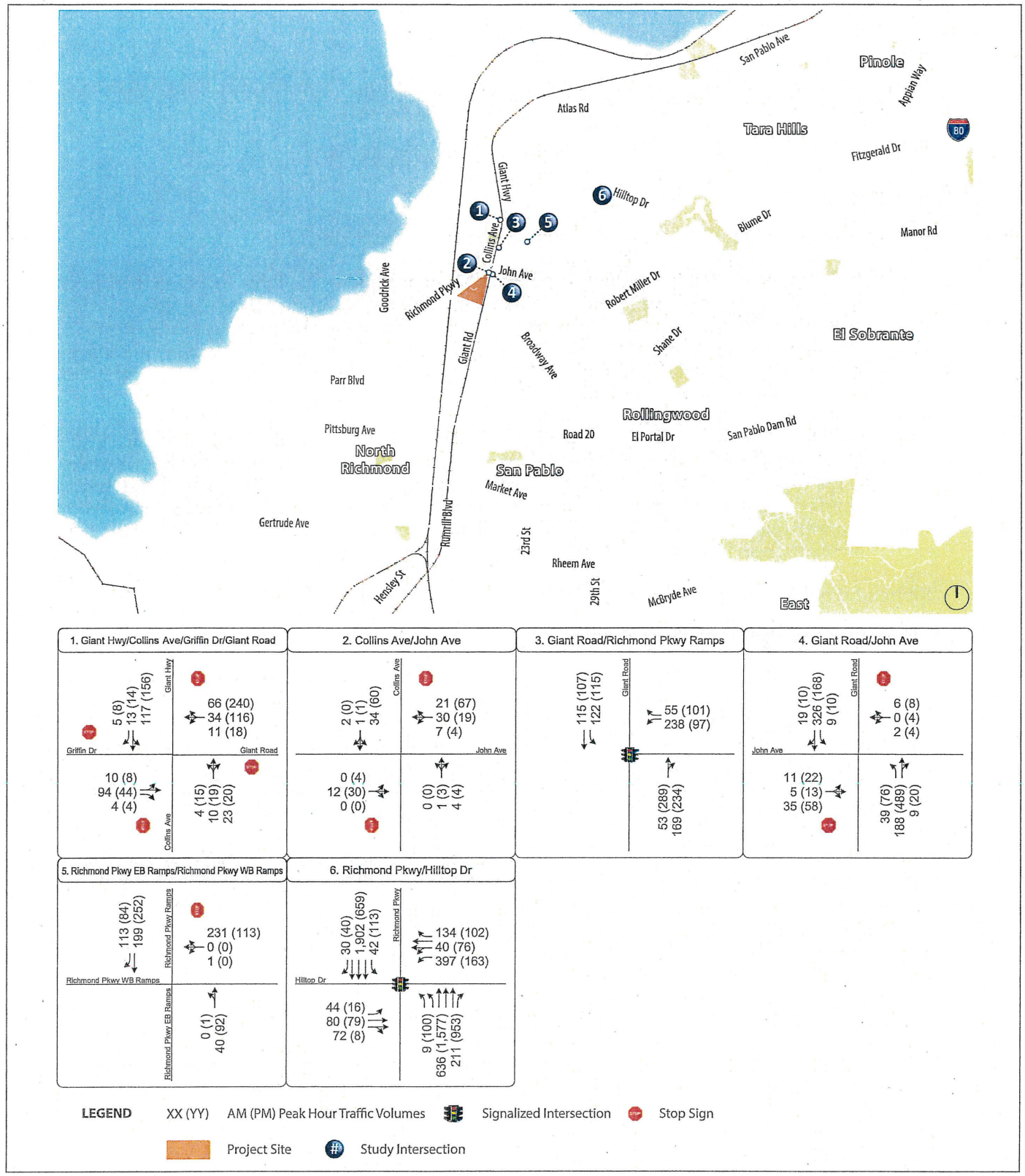

Figure TRA-3

Existing Peak-Hour Intersection Traffic Volumes, Lane Configuration, and Traffic Control

Source: Fehr-Peers

Table TRA–4
Existing Peak-Hour Intersection Level of Service

	Intersection	Control	Peak Hour	Existing Conditions	
				Delay[1]	LOS[2]
1	Collins Avenue/Giant Highway at Griffin Drive/Giant Road	AWSC	AM PM	10 13	A B
2	Collins Avenue at John Avenue	SSSC	AM PM	8 (11) 8 (11)	A (B) A (B)
3	Giant Road at Richmond Parkway Ramps	Signalized	AM PM	11 11	B B
4	Giant Road at John Avenue	SSSC	AM PM	2 (14) 3 (17)	A (B) A (C)
5	Richmond Parkway EB Ramps at Richmond Parkway WB Ramps	SSSC	AM PM	4 (10) 2 (9)	A (A) A (A)
6	Richmond Parkway at Hilltop Drive	Signalized	AM PM	20 19	B B

Source: Fehr & Peers, 2019

Notes: **Bold** indicates unacceptable intersection operations; AWSC = All-way Stop Control; SSSC = Side-street Stop Control
1. For side-street stop-controlled intersections, delay is presented for intersection average (worst movement).
2. LOS = Level of Service per 2010 HCM methodologies

Project Impacts

Project Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project might add to the local roadway network. Project trip generation estimates were prepared for the one-hour peak period during the weekday morning and evening commute when traffic volumes on the adjacent streets are typically the highest. At the time this analysis was prepared, information related to the number of employees, projected staffing, number of deliveries per day, and other operational characteristics was not available to form the basis of initial vehicle and truck trip generation estimates. Therefore, project trip generation was estimated using trip rates for General Light Industrial land-uses from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition). It should be noted that the project proposes more parking than required by City Code, as well as more loading bays than required. As additional project details are developed, the expected level of site vehicle activity should be reviewed as the impact assessment

based on standard ITE rates could under- or over-estimate the potential vehicle and truck trip generation of the site.

Due to the uncertainly of the proposed project's overall operation and its unique use (a similar type facility is not likely to have been included in the trip generation surveys that form the basis of the *Trip Generation Manual*), the project's trip generation was conservatively estimated using the average rate as opposed to the fitted curve equation because the average rate yields a higher trip generation estimate than the regression equation. The resulting vehicle trip generation estimates are presented in Table TRA-5.

Table TRA–5

Project Trip Generation

Use	Size	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
General Light Industrial	96,000 sq. ft.	59	8	67	8	53	61	480

Source: Institute of Transportation Engineers (ITE), *Trip General* Manual (10th Edition); Fehr & Peers, 2019

Notes: ITE land use category 110 – General Light Industrial (Adj. Streets, 7-9A, 4-6P):
Weekday Daily: T = 4.96 (X)
Weekday AM Peak Hour: T = 0.70 (X); Enter = 88%; Exit = 12%
Weekday PM Peak Hour: T = 0.63 (X); Enter = 13%; Exit = 87%

Project Trip Distribution and Assignment

Trip distribution refers to the directions of approach and departure that vehicles would take to access and leave the site. Estimates of the project trip distribution were developed based on existing travel patterns in the area, a select zone analysis using the Contra Costa Transportation Authority (CCTA) travel demand model, and the location of complementary land uses. The resulting preliminary trip distribution percentages are shown on Figure TRA-4, which reflect trip distribution patterns similar to other recently completed TIAs for industrial-related uses in the North Richmond industrial area.

Trip assignment refers to the routes that vehicles would use to travel to and from the project site. Using the trip distribution percentages on Figure TRA-4, project trips were then assigned to the roadway network as presented on Figure TRA-5.

Existing Plus Project Intersection Level of Service

Project-only traffic volumes **Error! Reference source not found.**were added to the existing peak hour traffic to estimate Existing Plus Project peak-hour intersection turning movement volumes. The resulting volumes are shown on Figure TRA-6.

Traffic signal timings, peak-hour factors, and pedestrian and bicycle activity at the study intersections were left unchanged from existing conditions. Heavy vehicle percentages were increased for intersection movements where the project is expected to increase the percentage of overall truck traffic to reflect the additional truck traffic generated by the project. No

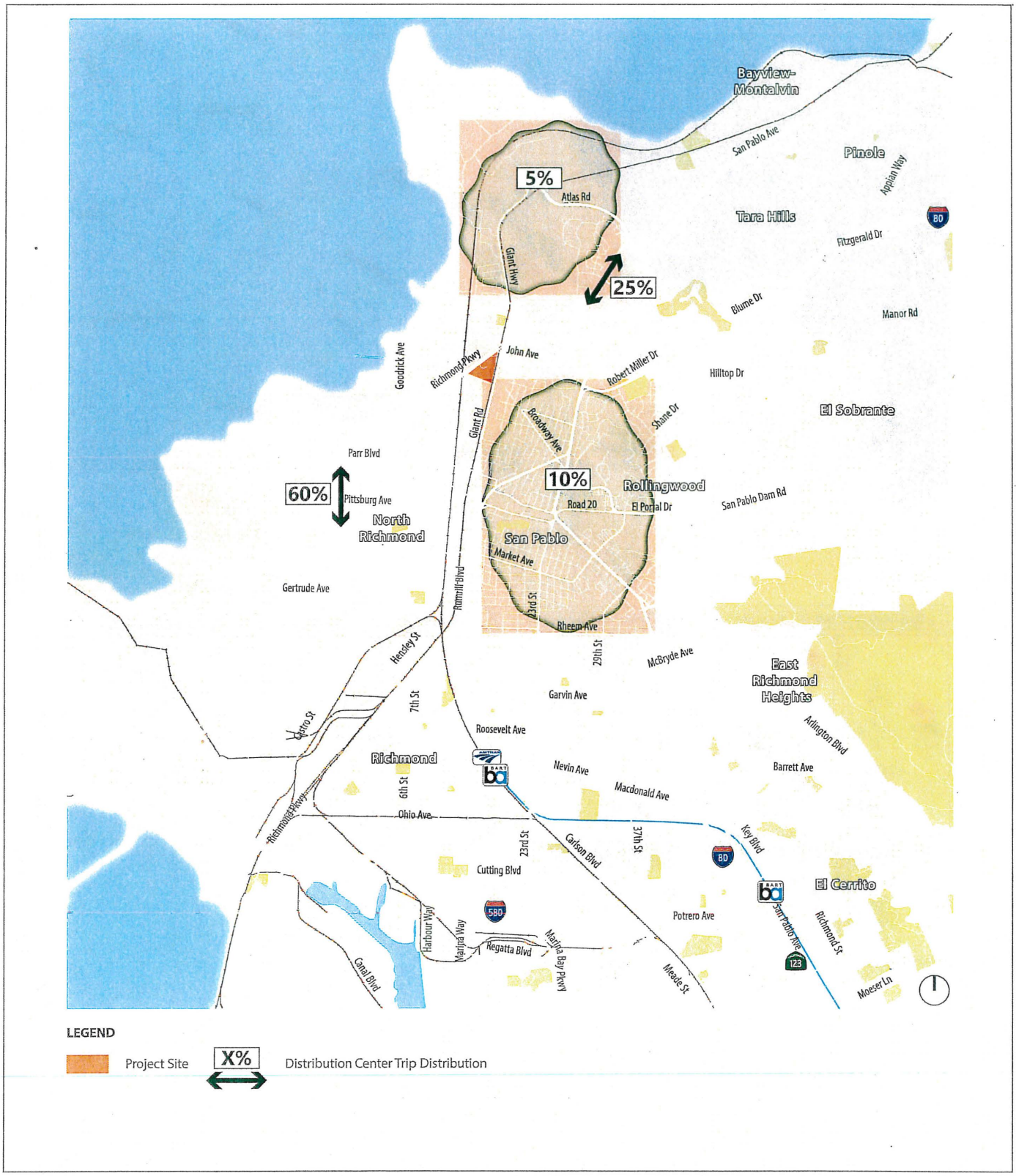

Figure TRA-4

Project Trip Distribution

Source: Fehr-Peers

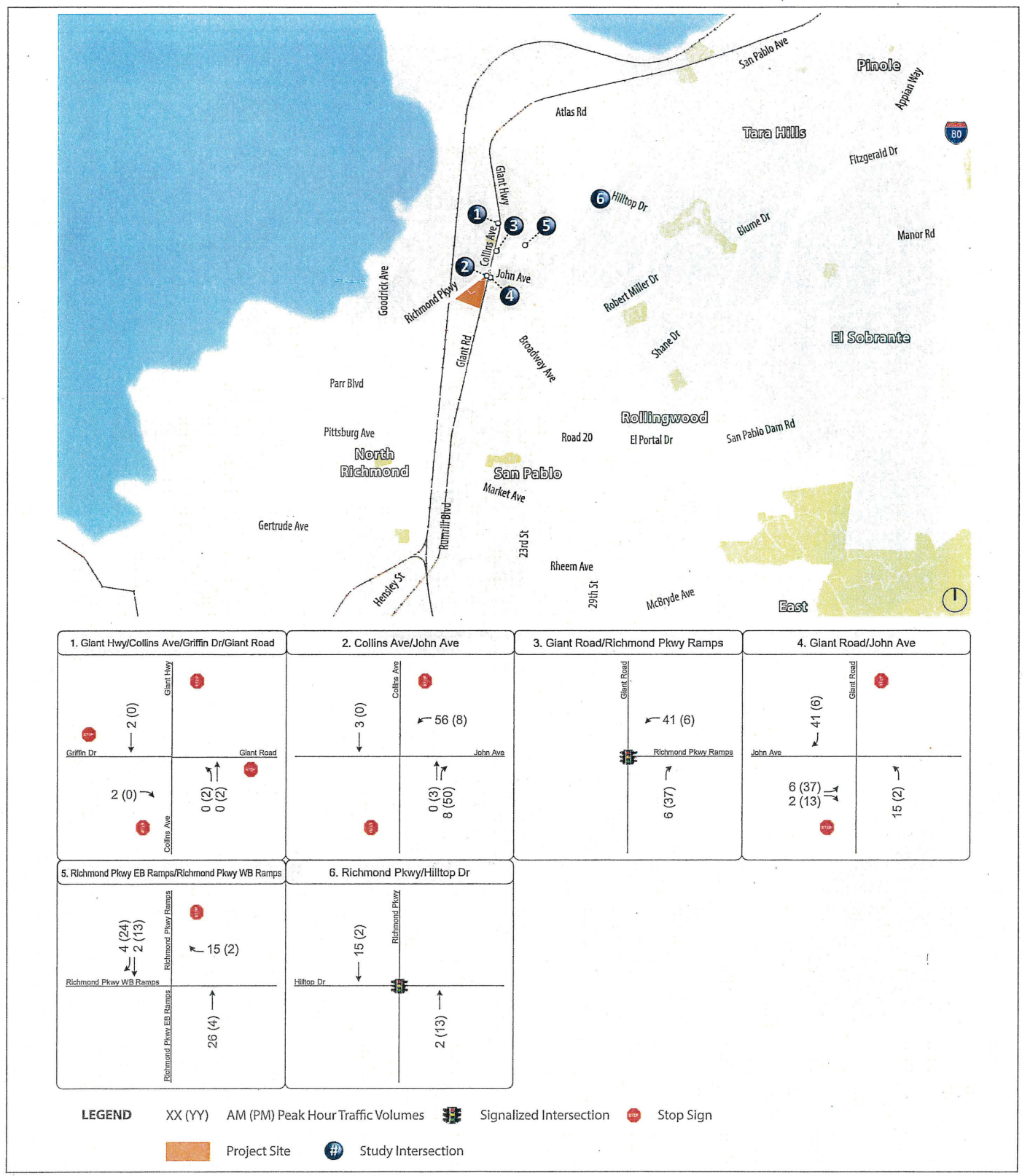

Figure TRA-5

Project Trip Assignment

Source: Fehr-Peers

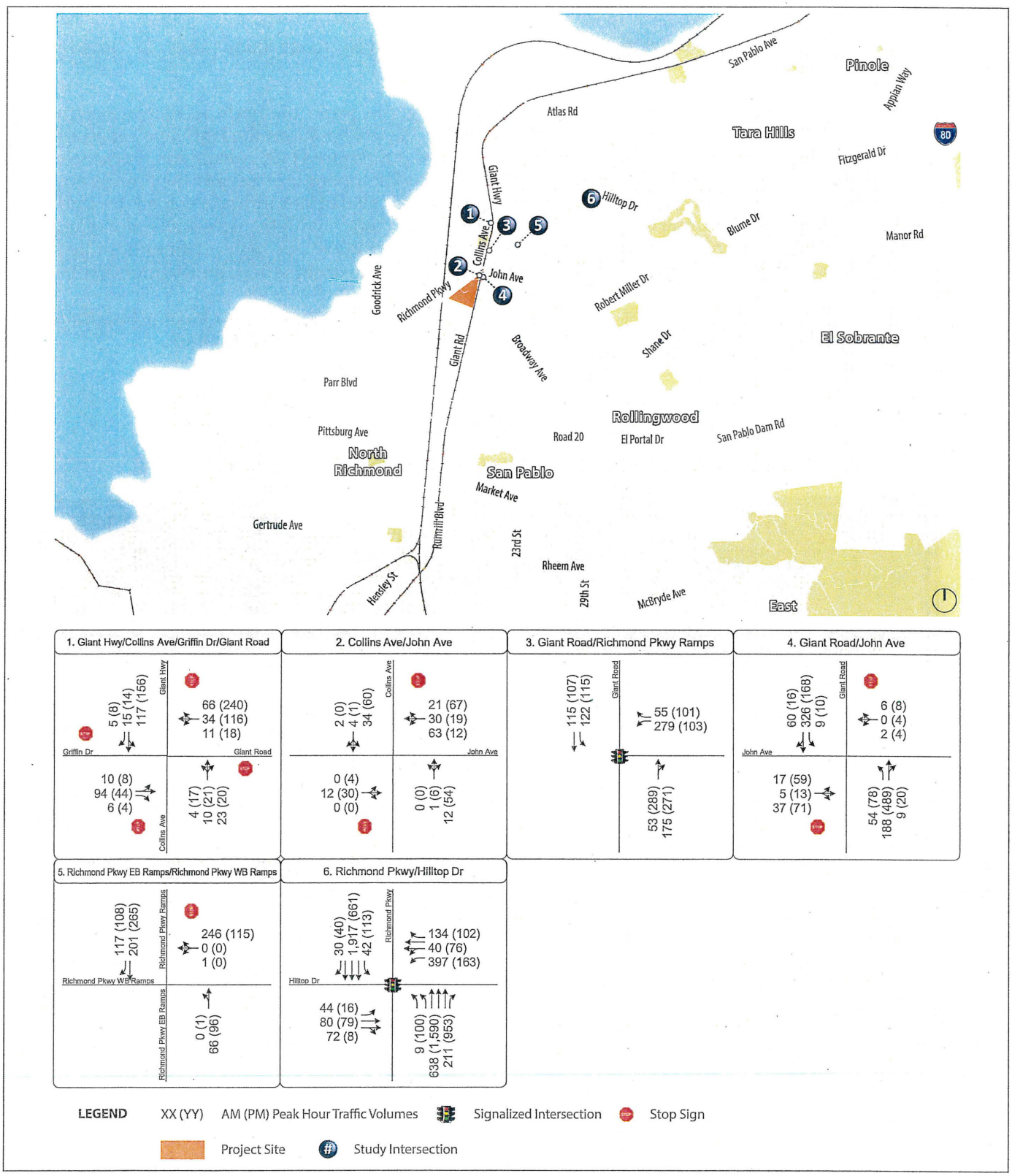

Figure TRA-6

Existing Plus Project Peak-Hour Intersection Traffic Volumes, Lane Configuration, and Traffic Control

Source: Fehr-Peers

intersection improvements were assumed at any of the study intersections over the existing conditions.

Existing Plus Project conditions were evaluated using the same methods used for existing conditions. The analysis results are presented in Table TRA-6, based on the traffic volumes and lane configurations presented on Figure TRA-6. Detailed intersection LOS calculation worksheets are provided in Appendix D. Table TRA-6 also includes the operations results for the Existing conditions for comparison purposes. The results of the LOS calculations indicate that all the study intersections would continue to operate at overall LOS B or better, with the side-street movement at the Giant Road at John Avenue intersection remaining at LOS C or better during both peak hours. Peak-hour signal warrants would not be met at any of the unsignalized study intersections.

Based on the analysis results and the significance criteria, the project would have a ***less-than-significant impact*** at the study intersections under Existing Plus Project conditions.

Table TRA–6

Existing Plus Project Peak-Hour Intersection Level of Service

	Intersection	Control	Peak Hour	Existing Conditions		Existing Plus Project Conditions	
				Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Collins Avenue/Giant Highway at Griffin Drive/Giant Road	AWSC	AM PM	10 13	A B	10 13	A B
2	Collins Avenue at John Avenue	SSSC	AM PM	8 (11) 8 (11)	A (B) A (B)	9 (11) 7 (11)	A (B) A (B)
3	Giant Road at Richmond Parkway Ramps	Signalized	AM PM	11 11	B B	12 11	B B
4	Giant Road at John Avenue	SSSC	AM PM	2 (14) 3 (17)	A (B) A (C)	2 (16) 5 (25)	A (C) A (D)
5	Richmond Parkway EB Ramps at Richmond Parkway WB Ramps	SSSC	AM PM	4 (10) 2 (9)	A (A) A (A)	4 (11) 2 (10)	A (B) A (A)
6	Richmond Parkway at Hilltop Drive	Signalized	AM PM	20 19	B B	20 19	B B

Source: Fehr & Peers, 2019

Notes: **Bold** indicates unacceptable intersection operations; AWSC = All-way Stop Control; SSSC = Side-street Stop Control

1. For side-street stop-controlled intersections, delay is presented for intersection average (worst movement).
2. LOS = Level of Service per 2010 HCM methodologies

Transit Impacts

The Circulation Element of the *Richmond General Plan 2030* supports an expanded, affordable, and accessible public transit network. Under Policy CR 1.4, all housing and employment centers should have access to a safe route to a local and regional public transit stop.

Fixed-route bus service operates near the site with stops located within walking distance of the proposed development. The project could generate new demand for the transit services and facilities that serve the area. Although transit vehicle capacities are not expected to be exceeded, the current project site is inaccessible by transit as there is not an existing sidewalk connection to the transit stop from the proposed project site. Based on the significance criteria, this is considered a ***significant adverse impact***. Implementation of the following mitigation would reduce the impact to a less-than-significant level:

Mitigation Measure TRA-1: The project applicant shall contribute fair-share funding towards the construction of an ADA-accessible pedestrian path from the edge of the project site to the bus stop on the Giant Road at Stanton Avenue. This shall include sidewalk and curb ramps along Collins Avenue along the site frontage and adjacent to the railroad tracks, pedestrian improvements at the existing at-grade railroad crossing on John Avenue, and a high visibility crosswalk across Giant Road at John Avenue.

Pedestrian and Bicycle Impacts

The Circulation Element of the Richmond General Plan 2030 supports safe and convenient walking and bicycling. Under Policy CR 1.5, new developments are required to provide pedestrian and bicycle amenities, streetscape improvements, and linkages to planned and completed City and regional multi-use trails. The proposed project does not include sidewalks along the project frontage on Collins Avenue. Based on the significance criteria, this would be a ***significant adverse impact*** on pedestrian circulation. Implementation of Mitigation Measure TRA-1 would reduce the impact to a less-than-significant level.

The project design would not eliminate bicycle facilities that connect to the area circulation system and would not conflict with existing or planned bicycle facilities. Bicycle facilities are proposed by the City of Richmond on Giant Road in the project vicinity, and construction of the proposed project would not preclude or interfere with the provision of these bicycle facilities. The project would be required to pay the North Richmond Area of Benefit (AOB) fees that would contribute to planned bicycle facilities in the region. Therefore, the project's impacts to bicyclists would be ***less than significant*** under Existing Plus Project conditions. However, the traffic study included the following recommendation for consideration by City decision makers:

> **Recommendation:** To promote bicycle commuting to the proposed building, as encouraged by the City's General Plan, consider providing short-term bicycle parking, long-term bicycle parking, and other bicycle amenities (showers, changing rooms, bike repair tools/station, etc.) in the final site plan.

Neighborhood Cut-Through Traffic

Similar to other light industrial projects, it was estimated that up to 30 percent of the total trips generated by the project would be truck trips, resulting in an additional 150 daily truck trips in the project area. While countermeasures have been proposed to prevent truck trips traveling through the neighborhood, some trucks may use local streets rather than the designated truck routes, which include Richmond Parkway, Giant Road, and Parr Boulevard in the project area. Although travel on designated truck routes is faster at most times of day, there are time periods when there is a perception of decreased travel time by travel through neighborhoods.

In 2017, the Contra Costa County Public Works Department updated the North Richmond Area of Benefit (AOB) traffic mitigation fee program to require new developments within North Richmond to contribute towards traffic calming strategies in North Richmond to reduce cut-

through truck traffic on residential streets. These improvements also have a parallel benefit of improving neighborhood aesthetics and promoting pedestrian and bicyclist safety. A project's contribution is calculated formulaically based on the type and size of the development.

Based on the entitlements process for other projects in the North Richmond area, the project would generally be required to pay the AOB fee. This payment would go towards the completion of eleven proposed projects, most of which include improvements to pedestrian and bicycle facilities or traffic calming measures to discourage truck traffic from using neighborhood streets. With its contribution to the AOB traffic mitigation fee program, the project would have a ***less-than-significant impact*** due to truck cut-through traffic.

Cumulative Project Impacts

Cumulative Conditions are defined as existing volumes plus traffic generated by regional growth planned to occur by 2040 that would affect the transportation system in the study area. The basis for the growth projections are the Year 2040 employment and housing projections from *Plan Bay Area*. Cumulative Plus Project Conditions are defined as Cumulative Conditions plus traffic generated by the proposed project.

Cumulative traffic volumes were calculated based on data extracted from the Contra Costa Transportation Authority travel demand model. An annual linear growth rate was calculated for the AM and PM peak hours based on a comparison between the 2018 and 2040 CCTA travel demand models. The study area roadway network was segmented based on regional roadway termini, and annual linear growth rates were estimated for each of the following segments for the AM and PM peak hours:

1. Richmond Parkway between San Pablo Avenue and Castro Street (1.0%/2.0% per year [AM/PM])
2. Local Streets near the Project Site (1.0%/1.0% per year [AM/PM])

The cumulative forecasts are an estimate of conditions in 2040 and the resulting intersection turning movement forecasts are shown on Figure TRA-7 for Cumulative Conditions. Project-generated traffic volumes were added to the Cumulative peak hour intersection turning movement volumes to estimate Cumulative Plus Project Conditions peak-hour intersection turning movement volumes, which are shown on Figure TRA-8.

Existing pedestrian and bicycle activity at the study intersections are assumed to remain consistent in the Cumulative and Cumulative Plus Project scenarios. Heavy vehicle percentages were for movements where the project is expected to increase the overall truck percentage to reflect the additional truck traffic generated by the project in the Cumulative Plus Project scenario. Consistent with previous studies in the North Richmond area, traffic signal timings were optimized at intersections where the Cumulative Conditions analysis indicated LOS E or LOS F operations. Signal timings are routinely monitored and adjusted along regional routes to better accommodate actual travel demand. Table TRA-7 presents the Cumulative and Cumulative Plus Project intersection level of service results. Detailed intersection LOS calculation worksheets are provided in Appendix D.

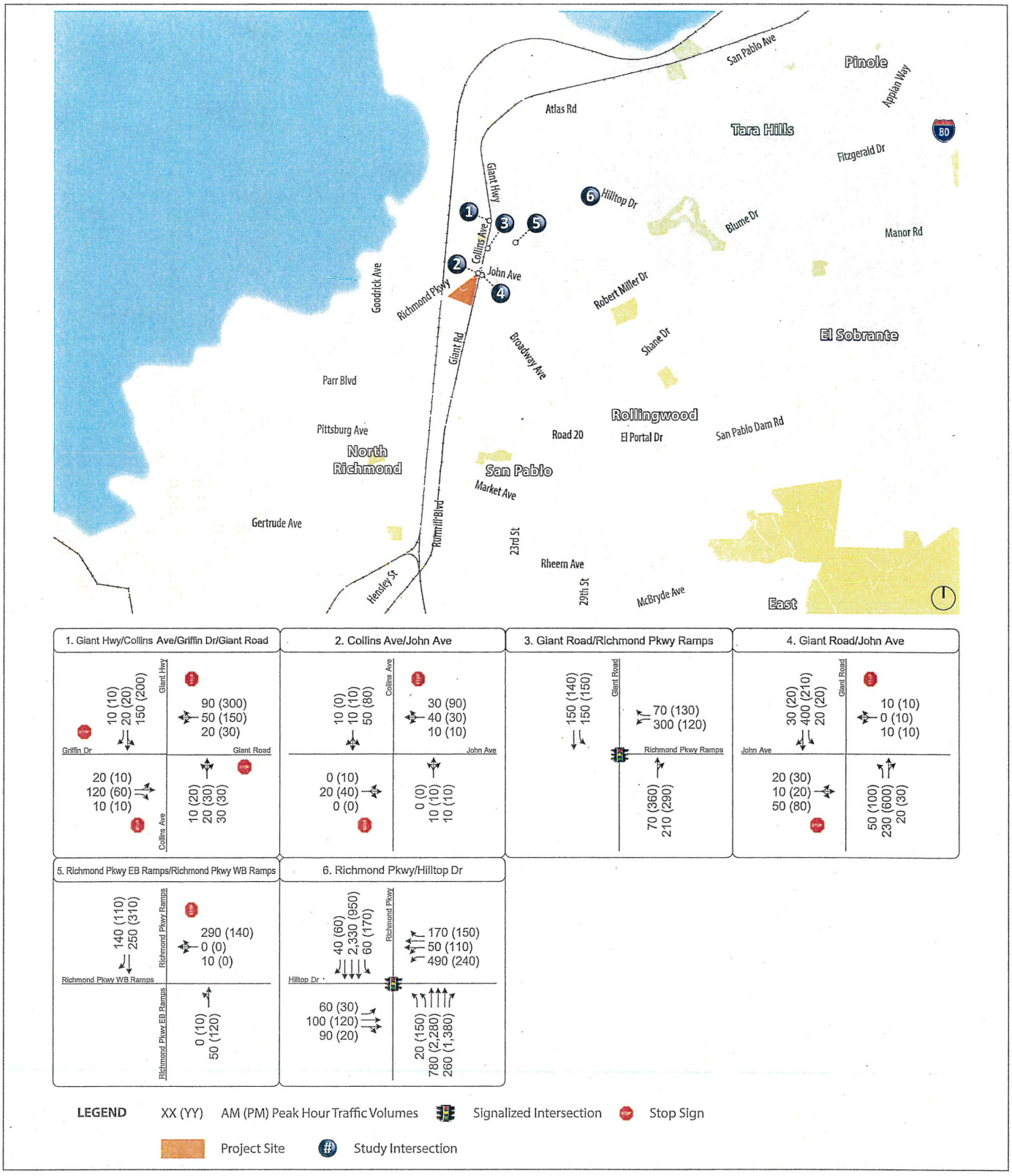

Figure TRA-7

Cumulative Peak-Hour Intersection Traffic Volumes, Lane Configuration,and Traffic Control

Source: Fehr-Peers

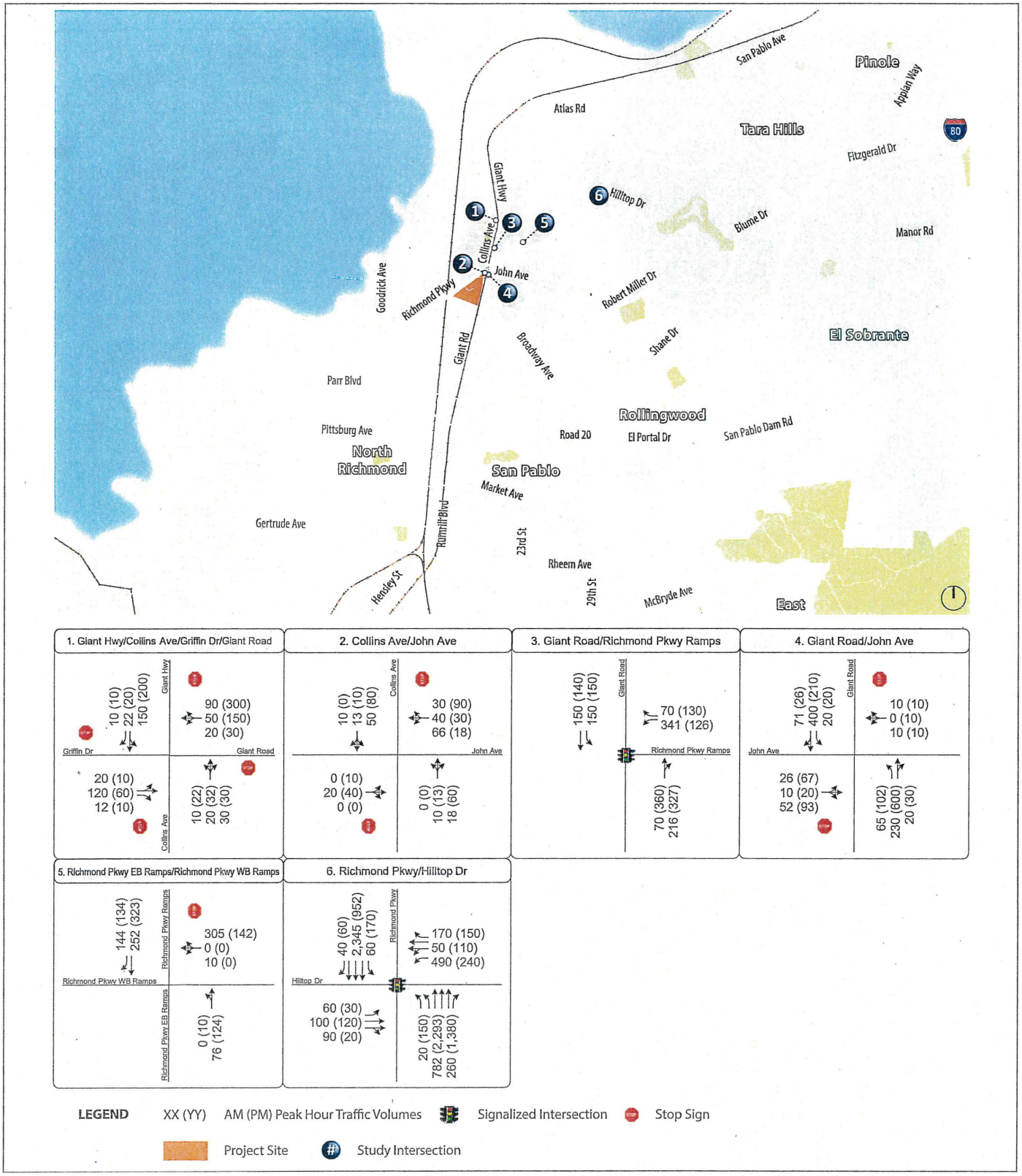

Figure TRA-8

Cumulative Plus Project Peak-Hour Intersection Traffic Volumes, Lane Configuration, and Traffic Control

Source: Fehr-Peers

Table TRA–7

Cumulative Plus Project Peak-Hour Intersection Level of Service

	Intersection	Control	Peak Hour	Cumulative Conditions		Cumulative Plus Project Conditions	
				Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Collins Avenue/Giant Highway at Griffin Drive/Giant Road	AWSC	AM PM	11 21	B C	11 21	B C
2	Collins Avenue at John Avenue	SSSC	AM PM	7 (11) 8 (11)	A (B) A (B)	8 (11) 8 (12)	A (B) A (B)
3	Giant Road at Richmond Parkway Ramps	Signalized	AM PM	12 13	B B	13 16	B B
4	Giant Road at John Avenue	SSSC	AM PM	3 (19) 5 (30)	A (C) A (D)	3 (22) 13 (75)	A (C) B (F)
5	Richmond Parkway EB Ramps at Richmond Parkway WB Ramps	SSSC	AM PM	4 (11) 2 (10)	A (B) A (A)	5 (11) 2 (10)	A (B) A (A)
6	Richmond Parkway at Hilltop Drive	Signalized	AM PM	27 51	C D	27 51	C D

Source: Fehr & Peers, 2019

Notes: **Bold** indicates unacceptable intersection operations; AWSC = All-way Stop Control; SSSC = Side-street Stop Control

1. For side-street stop-controlled intersections, delay is presented for intersection average (worst movement).
2. LOS = Level of Service per 2010 HCM methodologies

The results of the LOS calculations indicate that all the study intersections will operate at an overall acceptable LOS D or better during both peak hours during Cumulative Plus Project conditions. At the Giant Road at John Avenue intersection (#4), the side-street movement is projected to operate at a LOS D without the project and degrade to a LOS F with the addition of project traffic during the PM peak period.

The peak-hour signal warrant (Warrant 3) from the Caltrans *Manual on Uniform Traffic Control* Devices (CA MUTCD) was used to evaluate unsignalized intersections with at least one movement that operates unacceptably under Cumulative Plus Project Conditions to determine if signalization or other additional traffic control would be warranted. Signal warrant worksheets are provided in Appendix F.

Peak hour signal warrants are not met at the Giant Road at John Avenue intersection (#4) in the Cumulative with Project scenario. Therefore, based on the significance criteria, the intersection level of service results, and the signal warrant assessment, the project's cumulative intersection impacts would be ***less than significant*** and no project-specific mitigation measures would be required.

Cumulative Transit, Pedestrian, and Bicycle Impacts

The project's impacts to pedestrian, bicycle, and transit facilities previously discussed for Existing Plus Project Conditions would also apply to future Cumulative Plus Project Conditions. With implementation of Mitigation Measure TRA-1, the cumulative impacts would be ***less than significant.***

Site Access and Circulation

The discussions below analyze site access and internal circulation for vehicles, pedestrians, and bicycles. Although potential deficiencies in the on-site transportation network presented in the preliminary site plan are identified and recommendations to address the deficiencies are presented, the deficiencies do not represent significant impacts under CEQA. This discussion is provided for informational purposes and to guide development of the proposed project in an optimal manner. The final site plan should be reviewed to identify and improve potential deficiencies before the project is constructed.

Vehicular Access and Circulation

Vehicular access to the project site would be provided by three driveways on Collins Avenue. The eastern-most driveway would provide direct access to the loading docks on the southeast side of the proposed building. Trucks would use this driveway to access and circulate to and from the loading docks. Collins Avenue bends at the intersection of the eastern-most driveway, which may cause vehicle conflicts if the driveway is not stop controlled. Due to the potential for increased vehicle conflicts at this intersection, this is considered a ***significant impact.*** Implementation of the following mitigation would reduce the impact to a less-than-significant level:

Mitigation Measure TRA-2: The final site plan shall include a stop sign and stop bar for vehicles exiting the eastern-most driveway.

The middle driveway would provide access to the on-site parking surrounding the proposed building. As the middle driveway would provide access to two drive aisles, the alignment of the middle driveway would create a skewed four-legged intersection. Drivers exiting the site would have reduced visibility due to the geometry of the intersection and the proposed vegetation in the landscape plan.

Mitigation Measure TRA-3: The final site plan shall redesign the middle driveway to provide access to only one drive aisle as opposed to two. In addition, elimination of access to the parking lot adjacent to Collins Avenue from the middle driveway should be considered.

The western-most driveway would correspond to an existing driveway located directly beneath the elevated Richmond Parkway viaduct. The driveway currently provides access to a dirt road; the site plan does not depict what this driveway would provide access to once the project is constructed.

Circulation within the project site is limited to drive aisles around the building and to the additional parking adjacent to Collins Avenue. The drive aisles range between 25 to 30 feet in width.

Parking Requirements

Parking and loading requirements are dependent of the size of the project and are outlined in Article 15.04.850 of the City of Richmond's Municipal Code. The proposed project would consist

of 96,000 square-feet of light industrial uses. In the City of Richmond, light industrial developments are required to provide 1 space per 1,500 square feet of floor area, which would result in a minimum parking requirement of 64 parking spaces for the proposed project. The project currently proposes to provide a total of 91 vehicular parking (not including the truck parking spaces) spaces. Based on a supply of 76 to 100 spaces, 4 accessible spaces would be required. Four accessible spaces are identified on the site plan, including two van-accessible spaces. Therefore, the project would provide 27 parking spaces than required and would meet ADA parking requirements.

Loading Requirements

Industrial developments between 40,001 and 100,000 square feet are required to provide a minimum of two loading berths. The project currently proposes to provide 14 loading docks and 10 truck parking spaces intended for trailer drops across from the loading docks. The project would exceed the loading requirements by 12 spaces.

Pedestrian Access and Circulation

Pedestrian access to the project site would be provided by the project driveway and local streets surrounding the project site. From the closet bus stop, located less than 0.1 mile from the project site, pedestrians would walk from the Giant Road/Stanton Avenue intersection to John Avenue, then across the railroad tracks to Collins Avenue, and finally south to the project site. There are no sidewalks or crosswalks past Giant Road along this route.

Pedestrian circulation within the project site includes sidewalks around the proposed building adjacent to where parking is provided. Crosswalks and curb ramps would be provided to create an accessible path to the designated ADA accessible parking spaces. The current site plan does not show sidewalks along the project frontage.

> **Recommendation**: Implement Mitigation Measure TRA-1, which requires a fair share contribution to improvements to provide a pedestrian connection between the site and existing transit stops, and the construction of sidewalks along the project frontage.

Bicycle Access and Parking

Bicycle facilities are proposed by the City of Richmond on Giant Road in the project vicinity. Construction of the proposed project would not preclude or interfere with the provision of bicycle facilities along Giant Road. To access the site, bicyclists would travel on local streets, most of which do not have bicycle facilities, to the project site. Bicyclists would enter the project site through the middle driveway on Collins Avenue, closest to the buildings entrance.

> **Recommendation:** To promote bicycle commuting to the proposed building, as encouraged by the City's General Plan, consider providing short-term bicycle parking, long-term bicycle parking, and other bicycle amenities (showers, changing rooms, bike repair tools/station, etc.) in the final site plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*	☐	☐	☐	☒

Explanation: A study of Congestion Management Program (CMP) roadways and freeway segments overseen by the Contra Costa County Transportation Authority (CCTA), the applicable congestion management agency, was not required for the project because it would generate fewer than 100 peak-hour trips, the CCTA threshold for CMP analysis. Thus, although the project would cause an incremental increase in traffic on I-80, which is a CMP roadway, the project would not conflict with the Contra Costa County CMP.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*	☐	☐	☐	☒

Explanation: The proposed project would have no effect on air traffic patterns.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*	☐	☐	☒	☐

Explanation: The proposed project would be located adjacent to active railroad tracks and vehicles going to or from the site would need to cross an at-grade railroad crossing. The project's easternmost driveway would be located on Collins Avenue, about 150 feet south of the at-grade crossing on John Avenue and about 2,000 feet south of the at-grade crossing on Giant Road. Both at-grade crossings provide gates and flashing warning devices.

The project is estimated to add about 64 AM and 58 PM peak-hour vehicles to the at-grade crossing on John Avenue, as shown on Figure TRA-5. Most of the AM peak-hour vehicles would be in the westbound direction heading to the project site and most of the PM peak-hour vehicles would be in the eastbound direction leaving the site.

There are typically 26 trains per day on the tracks adjacent to the site, averaging one train an hour. However, as the tracks are used by freight trains, there are typically not set train schedules and train arrivals can be variable throughout the day.

When a train arrives to the crossing on John Avenue, vehicles making a southbound right turn from Giant Road onto John Avenue could impede through traffic as there is only storage for one to two vehicles to queue on John Avenue between the gate arms and Giant Road. There is approximately 115-feet of lane storage for vehicles turning left from Giant Road to John Avenue, which can accommodate four to six vehicles before impeding on the southbound left-turn pocket from Giant Road to Stanton Avenue, or impeding through traffic on Giant Road. Furthermore, vehicular delays at the eastbound approach of the Giant Road/John Avenue intersection would worsen following implementation of the proposed project. Should the operations at the Giant Road/John Avenue intersection cause significant delays to the eastbound approach, some vehicles are expected to re-route to the alternative at-grade crossing at Giant Road.

The addition of traffic from the project would worsen the potential for vehicle queues to form on Giant Road, and increase the time it would take for vehicle queues to clear once a train has traversed the crossing. Potential geometric improvements were considered, including construction of a southbound right-turn pocket or extending the length of the northbound left-turn pocket. However, neither improvement appears feasible given right-of-way constraints. While train traffic may increase delays on Giant Road and John Avenue, this effect would not substantially increase traffic safety hazards. This would therefore be a ***less-than-significant impact***. However, the traffic study included the following recommendation for consideration by City decision makers:

> **Recommendation**: Work with the City of Richmond to identify of there are planned safety or capacity improvements at the John Avenue railroad crossing and if so, contribute a fair share to their construction.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?	☐	☒	☐	☐

Explanation: Factors such as the number of access points, roadway width, and proximity to fire stations determine whether a project provides enough emergency access. Emergency vehicle access would be provided by the project driveways and the internal roadways surrounding all sides of the proposed building.

The International Fire Code requires buildings over 30 feet in height to have at least two means of fire apparatus access (i.e., fire truck access to at least two sides of a building) for each building structure. The proposed project would be approximately 42 feet and 6 inches in height and the internal roadways would surround all sides of the proposed building, providing adequate fire apparatus access. The project would comply with this Fire Code requirement.

The International Fire Code also requires buildings between 62,000 and 124,000 square feet to either provide two fire access roads (i.e., drive aisles or roadways accessible by fire trucks) placed a distance apart equal to not less than one-half the length of the maximum overall diagonal dimension of the project site, or to provide a single access road if approved automatic sprinkler systems are installed throughout the building. The internal roadways surrounding the building

would all be wide enough for emergency vehicles to circulate within the project site, thereby satisfying this requirement.

The fire station most likely to serve the site is Richmond Fire Station No. 68, located on the corner of the Hilltop Drive/Robert Miller Driver intersection, about 1.6 miles east of the project site. Emergency vehicles could travel northbound on Hilltop Driveway and westbound on Richmond Parkway to access the project site or westbound on Robert Miller Drive and through the neighborhoods of San Pablo. Emergency access to the project site would be temporarily blocked during train movements on the adjacent railroad tracks. Though the probability of an emergency incident occurring at the same time as a train crossing is low, emergency vehicle response time would increase during rail crossing events, resulting in a ***potentially significant impact.*** Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

Mitigation Measure TRA-4: The project sponsor shall develop an Emergency Response Plan for the proposed facility that identifies procedures to be followed in the event that an emergency occurs and site access is impeded by a train crossing event. The Emergency Response Plan shall be reviewed and approved by the City of Richmond Fire Department.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety to such facilities?	☐	☐	☐	☒

Explanation: A detailed analysis of the project's consistency with the General Plan, *City of Richmond Bicycle Master Plan*, and *San Francisco Bay Trail Plan*, including all applicable policies pertaining to public transit, bicycle, and pedestrian facilities, is provided in Section X, Land Use and Planning. As concluded therein, the proposed project would not conflict with any policies or plans pertaining to these alternative modes of transportation.

XVII. TRIBAL CULTURAL RESOURCES — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 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)?	☐	☒	☐	☐

Explanation: Pursuant to Assembly Bill (AB) 52, passed by the California Legislature in September 2014, Pacific Legacy sent a Tribal Consultation List Request to the Native American Heritage Commission (NAHC) on behalf of the City of Richmond on February 26, 2019 in order to identify Native American tribal groups who may be traditionally and culturally affiliated with the geographic area of the proposed project site.[82] A response letter from the NAHC identified seven tribal groups affiliated with the project area, including the following groups:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- The Ohlone Indian Tribe
- Wilton Rancheria

The NAHC provided names and addresses of the chairperson or other representative of each of these groups. In accordance with AB 52, Pacific Legacy mailed letters to each of the representatives on February 28, 2019, offering them the opportunity to provide input regarding any concerns their tribes may have about the potential impacts implementation of the proposed project could have on tribal cultural resources. Pacific Legacy made follow-up telephone calls on March 21, 2019 to the tribal representatives identified by the NAHC and to whom letters of inquiry were sent. Of these, Chairperson Valentin Lopez of the Amah Mutsun Tribal Band had no comments because the project is not located within the Amah Mutsun Tribal Band territory, and Chairperson Ann Marie Sayers of the Indian Canyon Mutsun Band of Costanoan agreed with

[82] Pacific Legacy, *Results of Archaeological Survey for Collins Avenue, Richmond, Contra Costa County, California,* PL No. 3508-01, March 22, 2019.

the Pacific Legacy findings and recommendations, summarized in this Initial Study. On March 22, 2019 Mr. Andrew Galvan of the Ohlone Indian Tribe emailed Pacific Legacy to state that he has knowledge of multiple midden sites in the area, and he requested a copy of the Pacific Legacy report, which was subsequently forwarded. As of the time of publication of this Initial Study, neither Pacific Legacy nor the City had received any additional responses from the tribal groups.

As discussed further in Section V, the possible presence of buried prehistoric cultural materials, including tribal cultural resources, at the project site cannot be ruled out, and any disturbance to such resources, were they to exist, could result in a ***significant, adverse impact*** on tribal cultural resources. Implementation of Mitigation Measures CR-1 and CR-2, set forth in Section V, would reduce the potential impact to a less-than-significant level:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.*	☐	☐	☒	☐

Explanation: Public Resources Code Section 5024.1 establishes the California Register of Historical Resources and defines the criteria for inclusion on the California Register. This information was previously summarized in Section V-a. As discussed in Section V-a, no historic resources are known or suspected to be present on the site, but their potential presence cannot be completely ruled out. Implementation of Mitigation Measure CR-1 (Section V) would ensure that any potential impact to historic cultural resources would be less than significant.

XVIII. UTILITIES AND SERVICE SYSTEMS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*	☐	☐	☒	☐

Explanation: Wastewater from the project would be treated at the West County Wastewater District's (WCWD) Wastewater Treatment Plant (WWTP) located at 2377 Garden Tract Road, approximately 1.3 miles southwest of the project site. The WCWD provides wastewater collection service to the northern and part of the unincorporated areas of the City of Richmond, as well as all of the City of San Pablo, and the unincorporated communities of Tara Hills, El Sobrante, and

an area north of El Cerrito. The WCWD's service area has a population of approximately 100,000 people, and includes approximately 34,000 residences and 2,450 commercial and industrial businesses.[83]

The WCWD treatment plant has a dry-weather design capacity of 12.5 million gallons per day (mgd). During periods when wet weather flows exceed the plant's secondary treatment capacity, influent wastewater is diverted to and stored in three flow equalization basins located adjacent to the treatment plant. After peak flows have sufficiently subsided, stored wastewater is returned to the plant headworks to receive full secondary treatment. The wastewater treatment processes at WCWD plant consists of the headworks with coarse and fine bar screens, aerated grit tanks, primary settling basins, roughing trickling filter, fine bubble secondary aeration tanks, secondary sedimentation tanks, and chlorine contact chambers.

The treated wastewater from WCWD plant is transported to the wastewater treatment plant owned by the Richmond Municipal Sewer District (RMSD) for dechlorination and discharge into San Francisco Bay. Veolia Water West Operating Services, Inc., an independent company, operates, maintains, and manages the WWTP for the RMSD as well as the wastewater and stormwater collections systems for a significant portion of the City of Richmond. The wastewater treatment plant is permitted by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and effluent from the plant is regularly monitored to ensure that water quality standards are not violated.

Both the WCWD's and the RMSD's treatment plants are operated under the RWQCB's National Pollutant Discharge Elimination System (NPDES) permit system established by the federal Clean Water Act. The NPDES permit system regulates both non-point sources of water pollution, such as diffuse runoff into municipal stormwater collection systems, as well as point sources, such as discharge pipes from wastewater treatment plants. The NPDES permits that regulate treated wastewater discharges establish pollutant limits and require regular monitoring of discharge water quality to ensure that water quality standards are not violated.

In May 2017 the RMSD adopted an updated *Sewer System Management Plan* (SSMP) to comply with RWQCB sanitary sewer overflow (SSO) reporting requirements and also to ensure the WWTP meets the General Waste Discharge Requirements (Statewide WDRs) established by the State Water Resources Control Board (SWRCB).[84] The SSMP lays out a detailed operation, maintenance, and training program for complying with the Statewide WDRs. It also includes an Overflow Emergency Response Plan and plans for ensuring adequate collection and treatment capacity and for monitoring needs for system upgrades. Other goals of the SSMP are to minimize the frequency and severity of SSOs and to mitigate the impacts of SSOs.

Based on a search of violation reports over the past five years, the San Francisco Bay RWQCB shows five NPDES permit violations for the WCWD WWTP in the past five years and one violation at the RMSD WWTP for the same period.[85] The oldest violation at the WCWD plant, logged on July 1, 2016, was related to a late certification report, but there was no exceedance of WDRs. Another SSO occurred on September 13, 2016 when there was a structural failure in a sewage pipe that resulted in spillage of 107,580 gallons of sewage. The database of the California Integrated Water Quality System (CIWQS) did not specify where the spill occurred, but noted

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[83] West County Wastewater District (WCWD), About Us, accessed December 12, 2018 at: www.wcwd.org.

[84] Richmond Municipal Sewer District, *Sewer System Management Plan*, Updated May 2017.

[85] California Environmental Protection Agency, State Water Resources Control Board, California Integrated Water Quality System project (CIWQS), Violation Reports, accessed December 14, 2018 at: https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?vioReportType=Violation&reportID=90009843&inCommand=drilldown&reportName=PublicVioFacilityReport&group=Contra Costa.

that the spill was contained and a portion of it was returned to the sanitary sewer system, indicating it was not discharged to San Francisco Bay untreated. The notes for this incident state that the effects of the spill were mitigated.

On December 29, 2016 there was a violation due to a failure to submit a SSMP on schedule. As noted above, the RMSD adopted an updated SSMP in May 2017. The next logged SSO occurred on April 6, 2017 and caused spillage of 60,823 gallons of sewage due to a pipe failure. The spillage was cleaned up, and the effects of the spill were mitigated. The fifth and most recent violation at the WCWD WWTP occurred on July 8, 2017 when there was an overflow of sewage caused by a deposition of grease, resulting in spillage of 81,360 gallons of sewage. This spillage was also cleaned up, with the effects mitigated.

At the Richmond plant, a Category 1 violation was logged on March 31, 2016 for an elevated biochemical oxygen demand (BOD). With a monthly average limit of 30 milligrams per liter (mg/L), a BOD value of 40.3 mg/L was logged at the effluent outfall, which extends about 4,700 feet offshore of Point Richmond. A corrective action of increased monitoring and consultation with experts was implemented to address this violation of effluent limitations for regulated pollutants. No other violations were reported at this WWTP over the past five years.

Although specific end users of the proposed warehouse project have not yet been identified, given the light industrial nature of the facility, it is assumed that none of the future tenants would have industrial processes requiring permitting under an industrial discharger permit. Consequently, wastewater generated by the project would be discharged into the sanitary sewer system and treated at the facilities described above. The WWTP plant operators are responsible for complying with the applicable wastewater treatment requirements. As indicated by the search results, both the WCWD and RMSD treatment plants are generally in compliance with these requirements, as confirmed by the San Francisco Bay RWQCB. Therefore, there is no potential for the project to cause the WWTPs serving the project to exceed wastewater treatment requirements. Any potential violations would occur in offsite municipal facilities. The project would have a ***less-than-significant impact*** due to exceeding wastewater treatment requirements.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☒	☐	☐

Explanation:

Wastewater Facilities

The two wastewater treatment plants that would serve the proposed project are discussed in the preceding section. The RMSD WWTP has a dry-weather treatment capacity of 24 mgd and wet-weather capacities for primary/secondary treatment and primary treatment of 24 mgd and 40 mgd, respectively.[86] Dry-weather influent flows average 7 mgd, well below capacity. However, wet-weather flows peak as high as 56 mgd, due to infiltration and inflow. To address this,

[86] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report*, Section 3.13, Public Utilities, February 2011.

modifications to the facilities were implemented in 1988 to provide primary treatment and disinfection for wet weather flows in excess of the plant's secondary treatment capacity. The plant can store up to 3.6 million gallons of primary treated effluent during peak flows. After peak flows subside, the stored wastewater is returned to the headworks for full secondary treatment.

The WCWD WWTP has treatment capacity of 12.5 mgd average dry-weather flow. The District projects buildout of its service area, with an ultimate population of 113,000 people, to result in average dry-weather flow of 9.6 mgd, with peak wet-weather flow of to 68.2 mgd.[87]

The *Richmond General Plan 2030 Draft Environmental Impact Report* (EIR) estimated future wastewater treatment demand in the City based on future water demand projected by the East Bay Municipal Utility District (EBMUD), the City's water supplier. Wastewater generation is typically 70 to 90 percent of water consumption, with the variance being largely attributable to landscape application. The EIR conservatively assumed that wastewater generation would be 90 percent of the City's water consumption. The EIR concluded that development allowed under the General Plan would create additional demand for wastewater treatment that could exceed the capacity of the existing treatment facilities. Because new development is required to pay sewer service fees that would be used to fund any required improvements to wastewater treatment facilities, the EIR concluded that impact on treatment capacity (Impact 3.13-4) would be less than significant. This conclusion was also based on the fact that any request for service resulting from new development would be subject to a site-specific evaluation of the existing wastewater system's capacity to service the development. If improvements to the existing wastewater system are required or additional facilities are needed, the property developer would be required to pay its fair share of the cost of the needed improvements.

The General Plan EIR also concluded in Impact 3.13-3 that uncertain future construction or expansion of wastewater treatment facilities or collection systems could cause significant environmental impacts that, absent project-specific mitigation measures, could result in a significant and unavoidable impact. The City adopted Mitigation Measure 3.13-3 to reduce the magnitude of the impact; this measure requires future projects to incorporate project-specific mitigation measures to reduce impacts from the construction of new wastewater collection and treatment facilities.

Because the proposed project would be consistent with the Richmond General Plan, and the impact of General Plan development on wastewater treatment and collection facilities was previously addressed, the proposed project would not cause a new impact. However, Mitigation Measure 3.13-3 would continue to apply. Therefore, in order to incorporate this mitigation requirement into the proposed project, the project is considered to have a ***potentially significant impact*** on wastewater treatment and collection capacity. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

Mitigation Measure US-1: In consultation with the City of Richmond Department of Public Works, the project engineer shall verify that existing wastewater treatment and collection facilities are available to accommodate the wastewater that would be generated by the proposed project. If existing capacity is not adequate, the applicant shall pay a fair share of the cost of needed improvements. If on-site or immediately downstream improvements are necessary, the City shall identify any additional project-specific mitigation measures necessary to reduce impacts from the construction of new wastewater collection and treatment facilities to a less-than-significant level, and the measures shall be implemented by the

[87] West County Wastewater District, *Final District-Wide Master Plan*, Volume 1: Executive Summary, November 2014.

project applicant prior construction of the proposed warehouse building.

Water Facilities

Water service is currently provided to the project site by the East Bay Municipal Utility District (EBMUD), which serves approximately 1.4 million people in Contra Costa and Alameda counties, encompassing a service area of 332 square miles. The District operates six water treatment plants within its service area. The project area is served primarily by the Orinda Water Treatment Plan (WTP), the District's largest treatment plant with a capacity of 200 mgd. As needed, the area is also served by the Sobrante WTP, a seasonal plant. Systemwide, the EBMUD has permitted water treatment capacity of 495 mgd, but an actual capacity of 375 mgd.[88]

The Orinda WTP provides flocculation, filtration, chloramine disinfection, fluoridation, and corrosion control. EBMUD regularly tests for more than 100 contaminants, and in 2017 met or surpassed every public health requirement set by the State Water Resources Control Board (SWRCB) and the U.S. Environmental Protection Agency (USEPA).[89] The plant was shut down between November 2016 and April 2017 for facility upgrades that did not include an expansion of treatment capacity. During this closure, alternative treatment was provided primarily by the District's El Sobrante and Walnut Creek treatment plants.[90] With District-wide annual water demand of 190 mgd, projected to reach 230 mgd by 2040, the treatment capacity of 375 mgd is more than adequate to meet existing and projected demand.[91] Because EBMUD's future demand projections are based on the adopted general plans of the cities and counties in the EBMUD service area, and the proposed project is consistent with the Richmond General Plan, the water demand from the project can be presumed to be included in EBMUD's future water demand projections. Since the total projected demand in 2040 would be well below the available treatment capacity, no expansion of water treatment facilities would be required. Therefore, the proposed project would have a ***less-than-significant impact*** on water treatment capacity.

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[88] East Bay Municipal Utility District, Water Treatment, accessed December 17, 2018 at: http://www.ebmud.com/water-and-drought/about-your-water/water-quality/water-treatment/.

[89] East Bay Municipal Utility District, *2017 Annual Water Quality Report*, [undated].

[90] Kathryn Horn, Community Affairs Representative, East Bay Municipal Utility District, personal communication, April 11, 2017.

[91] East Bay Municipal Utility District (EBMUD), *2015 Urban Water Management Plan*, Table 4-1: Mid-Cycle Demand Projections, July 2016.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☐	☒	☐

Explanation: According to a hydrological analysis conducted for the proposed project by Balance Hydrologics, Inc., there are no existing City of Richmond storm drain lines within a reasonable distance upstream of, downstream of, or within the project area that could be utilized by the project.[92] The closest City of Richmond storm drain lines are upstream at San Pablo Avenue.

The project proposes to collect and detain storm runoff from the site, including from the portion of the elevated Richmond Parkway that passes over the site, in two subsurface gravel storage areas that would be located at the southwestern end of the project building an in the truck parking and maneuvering area. Discharge flow from the storage basins would first flow into an existing surface detention pond located in the southwest corner of the site, and from here would be metered into an existing 12-inch diameter concrete pipe that discharges into Rheem Creek with a headwall, flap gate, and rip-rap rock energy dissipater. Water in Rheem Creek continues flowing westward, and discharges into the southern reaches of San Pablo Bay approximately one-half mile west of the project site.

The on-site storage basins have been sized and designed so as to maintain post-development peak flow rates at or below existing conditions. This capacity will be independently verified prior to project implementation, as required by Mitigation Measure WQ-3 (see Section IX, Hydrology and Water Quality). The proposed project would not require the construction of any offsite stormwater drainage facilities, and the impacts associated with construction of the proposed onsite facilities are addressed, where applicable, throughout this Initial Study. Other than construction-related impacts addressed in other sections, the project would have a ***less-than-significant impact*** on stormwater drainage facilities or from construction of new facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*	☐	☐	☒	☐

Explanation: As noted in Section XVII(b), above, water is supplied to the City of Richmond by EBMUD. More than 90 percent of the water delivered to EBMUD's customers originates from the Mokelumne River watershed in the Sierra Nevada, with the remainder collected from protected watershed lands in the East Bay area.[93] The District has water rights to a maximum of 325 million

[92] Balance Hydrologics, Inc., Draft Hydrology/Water Quality Technical Study for Parkway Commerce Center EIR, October 22, 2018.

[93] EBMUD (July 2016), *op. cit.*, Section 1.4: Mokelumne Watershed and Hydrology, July 2016.

gallons per day (mgd) of Mokelumne River water, subject to availability of Mokelumne River runoff, senior water rights of other users, and downstream fishery flow requirements.[94] Local runoff provides 15 to 25 mgd of EBMUD's water supply during normal rainfall years, but it provides a negligible amount during drought years. Although the water supply is currently adequate to meet demand within the EBMUD, in the long term, the Mokelumne River supply cannot meet projected customer demand, even with mandatory water use restrictions.

EBMUD's planning to ensure an adequate water supply during both wet and dry years is based on future growth projections through 2040, determined by a *2040 Demand Study* completed in 2009, based on land use projections from local planning agencies. The District-wide land use analysis was conducted prior to the 2007-2009 economic recession, when there was an expectation that the economic expansion occurring prior to the recession would continue. Therefore, increased water demand associated with economic and population growth is likely to occur more slowly than projected in EBMUD's *2040 Demand Study*. The adjusted planning-level demand is 217 mgd in 2020 and 230 mgd in 2040, which does not reflect projected reductions as a result of conservation and recycling programs.[95]

EBMUD's *Urban Water Management Plan 2015* (UWMP), prepared in compliance with the California Urban Water Management Planning Act of 1983, documents the District's planning activities to ensure adequate water supplies to meet existing and future demands for water. Its drought planning is based on modeling of rainfall runoff that occurred in 1976 and 1977, the driest recorded two-year period, and also factors in the runoff from the 2014-2015 drought. EBMUD typically uses a three-year drought planning sequence (DPS) to assess the adequacy of its water supply. The first and second years of the DPS are modeled on the actual runoff that occurred in 1976 and 1977, respectively, and the third year is the average runoff from those two years, or 185 thousand acre-feet (TAF).[96]

The UWMP determined that EBMUD would have sufficient water supplies to meet customer demand through 2040 during normal years and up to two dry years of a multi-year drought, but would need supplemental water supplies to meet projected demand during a third dry year after 2020 (supplies would be adequate through 2020). During a third year of drought there would be shortfalls of 2 TAF, 13 TAF, 24 TAF, and 48 TAF in 2025, 2030, 2035, and 2040, respectively.[97] There would be sufficient excess supply during normal years for the District to recharge groundwater, either locally or at the off-site Semitropic Groundwater Bank, for later use during dry years.

During multi-year droughts when demand could exceed supply by up to 10 percent, EBMUD would rely on local and off-site groundwater storage to make up the shortfall. If there were insufficient local groundwater storage or the District was unable to recover its full contractual amount from the Semitropic Groundwater Banking Program, the District would look to secure additional supplies through a California Department of Water Resources (DWR) drought water bank or similar water purchase/transfer program.

Water shortages during prolonged droughts or due to short-term emergencies would also be addressed through implementation of EBMUD's Water Shortage Contingency Plan (WSCP), required by Section 10632 of the California Water Code. EBMUD adopted its first WSCP in 1992 and it has continued to evolve since then. It was last updated in the 2010 UWMP to reflect the

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[94] EBMUD (July 2016), *op. cit.*, page 8.

[95] EBMUD (July 2016), *op. cit.*, pages 51-52.

[96] An acre-foot is the amount of water necessary to cover 1 acre of land to a depth of 1 foot, and is equivalent to 325,851.43 gallons, or 43,560 cubic feet

[97] EBMUD (July 2016), *op. cit.*, Table 4-5.

2007-2010 drought, the completion of the Freeport Regional Water Facility (discussed below), and numerous other changes, and is updated again in the current UWMP.

In order to meet projected demand during future drought years, in 2006 the EBMUD modified a prior contract executed in 2000 with U.S. Bureau of Reclamation (USBR) for delivery of Central Valley Project (CVP) water from the American River. The Long Term Renewal Contract (LTRC) that EBMUD executed with the USBR allows EBMUD to take delivery of CVP water during dry periods from an intake in the Sacramento River rather than the American River. Pursuant to the original contract, the Freeport Regional Water Authority (FRWA), a joint powers agency created by EBMUD and the Sacramento County Water Agency (SCWA) in 2002, developed the Freeport Regional Water Project (FRWP), bringing it online in 2011. Among other facilities, the FRWP includes a 185-mgd water intake (with fish screens) and pumping plant on the Sacramento River near Freeport, approximately 20 miles of 72-inch-diameter pipeline, and two 100-mgd inline pumping plants to transport Sacramento River water to EBMUD's Mokelumne Aqueducts.

The LTRC provides for delivery of up to 133,000 AF in a single qualifying year, not to exceed a total of 165,000 AF in three consecutive qualifying years. Qualifying years are those in which EBMUD's total stored water supply is forecast as of March 1 to be below 500 TAF on September 30 of that year. EBMUD exercised its LTRC for the first time during the 2014-2015 drought and delivered CVP water to its customers. The District received 18,641 acre-feet of CVP supply in 2014 and another 33,250 acre-feet of CVP water in 2015.[98]

In addition to these water supply sources, since 2010 EBMUD has been operating the Bayside Groundwater Facility to provide an additional water supply source during droughts. During normal rainfall years, potable water is injected into the South East Bay Plain Groundwater Basin (SEBPGB) in the vicinity of the City of Hayward. The District can draw on this stored water during dry years via extraction wells that can produce 2 mgd over a 6-month period. This supplemental supply can produce about 1,120 AF/year (AFY), which the District plans to expand in the future. Although the injection of surplus water into the SEBPGB is expected to exceed the quantity of water extracted during dry years, as of preparation of the current UWMP, EBMUD had not yet made groundwater injections due to the five-year drought that was ongoing at that time.[99]

The District also continues to explore a variety of other long-term supplemental water supplies, including expansion of surface water storage in the Contra Costa Water District's Los Vaqueros Reservoir, partnerships with other water agencies, and the possibility of a jointly-owned regional desalination facility to produce potable water from ocean, Bay, and/or brackish water.

Pursuant to EBMUD's Water Supply Availability and Deficiency Policy 9.03, by March 1st of each year the District presents to the EBMUD Board of Directors a preliminary assessment evaluating the adequacy of that year's water supply. Following this preliminary assessment, the Board of Directors adopts a final Water Supply Availability and Deficiency Report before May 1st that updates the water supply projections based on the April 1st snow survey by DWR. Based on these reports, the Board of Directors decides whether to declare a water shortage emergency and implement a drought management program, institute mandatory water use reductions, and/or obtain/pursue supplemental supplies. The preliminary report can also be used as the basis for requesting CVP water that year if EBMUD's water supply is projected to be deficient. EBMUD continues to monitor the water supply throughout the year and assess the effects on demand of any voluntary or mandatory rationing policy.

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[98] EBMUD (July 2016), *op. cit.*, Sections 1.4 and 1.5.

[99] EBMUD (July 2016), *op. cit.*, page 63.

The WSCP contains a variety of other provisions for addressing water supply shortfalls, including demand reduction strategies and agreements obtaining emergency water supplies from neighboring agencies, including the Contra Costa Water District (CCWD), San Francisco Public Utilities Commission (SFPUC), Dublin San Ramon Services District (DSRSD), and City of Hayward (Hayward).

The proposed project is well under the water demand threshold established by Senate Bill 610 (2001), requiring preparation of a Water Supply Assessment (WSA) during environmental review of projects over a certain size. Among other thresholds, a project is required to prepare a WSA if it would: (1) be a business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space, or (2) would demand an amount of water equal to, or greater than, the amount of water needed to serve a 500-dwelling unit project.[100] The proposed project, which is well under the thresholds requiring a WSA, would create a relatively small incremental increase in water demand that would not cause a substantial effect on the availability of regional water supplies. The *2040 Demand Study* on which EBMUD's UWMP is based factors in growth in the region, based on general plan projections of the cities and counties in the EBMUD service area. Because the proposed project would be consistent with the Richmond General Plan, water demand from the project can be assumed to be factored into EBMUD's long-range water supply planning.

The latest Urban Water Management Plan (UWMP) prepared by EBMUD in 2016 indicates that the District would have sufficient supplies through the planning horizon year of 2040 during average rainfall years, during a single severe drought year (modeled on 1977, the driest year on record), and during a second year of severe drought. During a third drought year (modeled on the 2013-2015 drought years), supplies would be sufficient through 2020, but by 2025 demand would exceed supply beginning in the third year of drought in every modeled three-year period from 2025 through 2040.

As required by State law, EBMUD must update its UWMP every five years. The District is continually working on developing new water supplies and managing demand through conservation and water recycling programs, and each updated UWMP revises the District's drought planning based on changing conditions and evolving methodologies. As stated in the current UWMP, the District is committed to ensuring the appropriate level of water service reliability to meet water demands during normal, dry, and multiple dry years. The incremental demand that would be generated by the proposed project was included in future water demand projections. The project would not result in the need for new water supplies or infrastructure that was not already planned. Therefore, the project's impact on water supply and water treatment and distribution facilities would be ***less than significant.***

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100 California Code of Regulations, Title 14, Chapter 3, Article 10, Section 15155.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater 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?	☐	☐	☒	☐

Explanation: See Section XVII(b), above.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

Explanation: Solid waste generated in the City of Richmond is currently disposed of at the Potrero Hills Landfill in Solano County. As of early 2011, the landfill had an approved capacity that would add 35 years to the remaining capacity of 10 years that was estimated at that time.[101] In addition, the City has access to numerous other regional waste disposal facilities used by the West Contra Costa Integrated Waste Management Authority (WCCIWMA), of which the City of Richmond is a member. Given the collective capacities of these facilities, there is more than sufficient landfill capacity to accommodate the City's landfill disposal needs through buildout of the General Plan in 2030. The proposed project would be consistent with development envisioned in the Richmond General Plan EIR, which concluded that implementation of the General Plan would not require or result in construction or expansion of landfill disposal capacity. Therefore, the project would have a ***less-than-significant impact*** on landfill disposal capacity.

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101 City of Richmond, *Richmond General Plan Update Draft Environmental Impact Report*, Section 3.13, Public Utilities, February 2011.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) *Does the project have the potential to 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, 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?*	☐	☒	☐	☐

Explanation: Although project construction would have the potential to adversely affect special-status bats, raptors, and/or passerine birds, mitigation measures have been identified to ensure that potential impacts would be less than significant. There is a possibility for prehistoric cultural resources to be buried under the site, and they could be damaged during subsurface disturbance of the site during project construction. Similarly, if paleontological resources are present, they could also be damaged or destroyed during construction. However, mitigation measures have been identified to ensure that these potential impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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.)*	☐	☐	☒	☐

Explanation: No significant cumulative impacts were identified for the proposed project. The less-than-significant cumulative impacts of the project are discussed in the sections on air quality, greenhouse gases, and traffic.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) *Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?*	☐	☐	☒	☐

Explanation: No environmental effects of the project were identified that could cause substantial adverse effects on human beings, either directly or indirectly.

REPORT PREPARATION

This Initial Study/Mitigated Negative Declaration was prepared under the direction of Douglas Herring & Associates, with assistance from the City of Richmond and the Port of Richmond. In addition, the technical consultants listed below contributed to preparation of the Initial Study or produced separate technical reports.

CEQA Consultant:	Douglas Herring & Associates 1331 Linda Vista Drive El Cerrito, CA 94530 Doug Herring, Principal
City of Richmond:	Hector Lopez, Senior Planner
Visual Simulations:	Square One Productions 1736 Stockton Street, Studio 7 San Francisco, CA 94133 Angela Lin, Principal
Air Quality, Greenhouse Gases, and Noise:	RCH Group 11060 White Rock Road, Suite 150-A Rancho Cordova, CA 95670 Michael Ratte, Senior Air Quality Scientist Dan Jones, Associate
Biological Resources:	Olberding Environmental, Inc. 3170 Crow Canyon Place, Suite 260 San Ramon, CA 94583 Jeff Olberding, Wetland Regulatory Scientist

Cultural Resources:	Pacific Legacy, Inc. 900 Modoc Street Berkeley, CA 94707 Elena Reese, Senior Archaeologist
Hazardous Materials:	ENGEO, Inc. 2010 Crow Canyon Place, Suite 250 San Ramon, CA 94583 Ingrid Verastegui, Staff Engineer
Hydrology/Water Quality:	Balance Hydrologics, Inc. 800 Bancroft Way, Suite 101 Berkeley, CA 94710 Anne Senter, PhD, Geomorphologist/Hydrologist
Transportation/Traffic:	Fehr & Peers, Inc. 100 Pringle Avenue, Suite 600 Walnut Creek, CA 94596 Diwu Zhou, Transportation Engineer

MITIGATION MEASURES

Aesthetics

Mitigation Measure AES–1: A dense row of trees and shrubs shall be planted along the eastern edge of the project site adjacent to Giant Road. This row of vegetation shall be wrapped around the southern corner of the site and shall extend westward for a distance of at least 300 feet. Drought-tolerant species shall be selected that can provide substantial screening of the site. A revised planting plan depicting the additional trees and shrubs shall be submitted to the Richmond Planning Department for review and approval of proposed species, sizes, and location. Along with the planning plan, the applicant also shall prepare and submit a Landscape Maintenance Plan, also subject to review and approval by the Richmond Planning Department, that details a plan for maintaining the vegetation and ensuring its survival.

Air Quality

Mitigation Measure AQ–1: The property owner/applicant shall require the construction contractor to reduce the severity of construction-related dust and other air pollutant emissions by implementing BAAQMD's basic fugitive dust control and exhaust emissions reductions measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's

specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ-2: *BAAQMD Enhanced Exhaust Emissions Reduction Measures.* The applicant shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

3. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
4. All off-road equipment shall have:
    c) Engines that meet or exceed either USEPA or CARB Tier 3 off-road emission standards, and
    d) Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

Mitigation Measure AQ-3: The project sponsor shall submit an Odor Control Plan to the City prior to building occupancy of the cannabis cultivation facility. The Odor Control Plan shall contain detailed information about the proposed ventilation system of the building and the planned odor control technology (such as carbon filters). The Odor Control Plan shall demonstrate how the proposed ventilation system and odor control technology will ensure odor generated inside the property is not detected outside the property or in other units within the warehouse building, in accordance with Richmond Municipal Code Section 7.102.060(d).

As an example, the odor control may utilize a mixture of natural and biodegradable ingredients injected into a high-pressure fog system that eliminates the molecules that contain odor rather than simply masking. An exhaust air filtration system with odor control that prevents internal odors from being emitted externally may be utilized. An air system that creates negative air pressure between the commercial cannabis business's interior and exterior, so that the odors generated inside the commercial cannabis business are not detectable on the outside of the commercial cannabis business may also be utilized.

Biological Resources

Mitigation Measure BIO-1: If project construction-related activities would take place during the nesting season (February through August), preconstruction surveys for nesting passerine birds and raptors (birds of prey) within the project property and the large trees within the adjacent riparian area and light industrial area north of the site (near Collins Avenue) shall be conducted by a qualified wildlife biologist 14 days prior to the commencement of the tree removal or site grading activities. If any bird listed under the Migratory Bird Treaty Act is found to be nesting within the project site or within the area of influence, an adequate protective buffer zone shall be established by a qualified biologist to protect the nesting site. This buffer shall be a minimum of 75 feet from the project activities for passerine birds, and a minimum of 200 feet for raptors. The distance shall be determined by the biologist based on the site conditions (e.g., topography, if the nest is in a line of sight to the construction activity), and shall factor in the sensitivity of the birds nesting. The nest site(s) shall be monitored by a qualified biologist periodically to see if the birds are stressed by the construction activities and if the protective buffer needs to be increased. Once the young have fledged and are flying well enough to avoid project construction zones (typically by August), the project can proceed without further regard to the nest site(s).

Mitigation Measure BIO-2: To avoid "take" of special-status bats, the following mitigation measures shall be implemented prior to the removal of any existing trees or structures on the project site:

a) A bat habitat assessment shall be conducted by a qualified bat biologist during seasonal periods of bat activity (mid–February through mid–October – ca. Feb. 15 – Apr. 15, and Aug. 15 – October 30), to determine suitability of each existing structure as bat roost habitat.

b) Structures found to have no suitable openings can be considered clear for project activities as long as they are maintained so that new openings do not occur.

c) Structures found to provide suitable roosting habitat, but without evidence of use by bats, may be sealed until project activities occur, as recommended by the bat biologist. Structures with openings and exhibiting evidence of use by bats shall be scheduled for humane bat exclusion and eviction, conducted during appropriate seasons, and under supervision of a qualified bat biologist.

d) Bat exclusion and eviction shall only occur between February 15 and April 15, and from August 15 through October 30, in order to avoid take of non–volant (non–flying or inactive, either young, or seasonally torpid) individuals.

OR

A qualified wildlife biologist experienced in surveying for and identifying bat species shall survey the large trees and abandoned structures on and in proximity to the project site. If tree removal is proposed, the survey shall determine if any special-status bats reside in the trees. Any special-status bats identified shall be removed without harm. Bat houses sufficient to shelter the number of bats removed shall be erected in open space areas that would not be disturbed by project development.

Cultural Resources

Mitigation Measure CR–1: If any cultural artifacts are encountered during site grading or other project construction activities, all ground disturbance within 100 feet of the find shall be halted until the City of Richmond is notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). (Construction personnel shall not collect any cultural resources.) The results of any additional archaeological effort required through the implementation of Mitigation Measures CR–1 or CR–2 shall be presented in a professional-quality report, to be submitted to the project sponsor, the City of Richmond Planning and Building Services Department, and the Northwest Information Center at Sonoma State University in Rohnert Park. The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)-(f) of the *CEQA Guidelines* and Public Resources Code Section 21083.2.

Mitigation Measure CR–2: In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the project sponsor, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

Mitigation Measure CR–3: Prior to issuance of a grading permit for the project, a qualified paleontologist shall evaluate the potential for significant paleontological resources to be present at the project site and recommend appropriate measures to protect, recover, and evaluate such resources. Should paleontological resources be encountered during construction or site preparation activities,

such works shall be halted in the vicinity of the find, and a qualified paleontologist shall be contacted to evaluate the nature of the find and determine if mitigation is necessary. All feasible recommendations of the paleontologist shall be implemented.

Geology and Soils

Mitigation Measure GS-1: The proposed project shall be designed and constructed in accordance with the recommendations presented in the September 11, 2015 design-level geotechnical investigation report prepared by Alan Kropp & Associates, Inc., including recommendations for site clearing and preparation, cut and fill slope inclinations, placement of fill and compaction, foundation and slab-on-grade design, retaining walls, surface drainage, and pavement specifications. The building structure and all infrastructure for the proposed project shall also be designed in accordance with the most recent version of the California Building Code (CBC), which requires structural design that incorporates ground accelerations expected from known active faults.

Mitigation Measure GS-2: The proposed foundation design shall be reviewed by the Geotechnical Engineer of record or his/her qualified representative. A letter shall be provided to the Building Department that is stamped and signed by the Engineer that verifies the foundation design has been reviewed and found to be in conformance with the geotechnical report requirements. All structural design and construction shall be subject to final approval by the City of Richmond Building Division.

Mitigation Measure GS-3: All site preparation work shall be performed under the supervision of the Geotechnical Engineer of record or his/her qualified representative. Prior to requesting a foundation inspection from the City, the Geotechnical Engineer of record shall issue a final report in writing stating the completed pad, foundation, finished grading, drainage and associated site work substantially conforms to the approved plans, specifications, and investigation.

Hazards and Hazardous Materials

Mitigation Measure HM-1: Prior to issuance of an occupancy permit for the project, the project sponsor shall submit a list and description of businesses intending to lease space in the warehouse to the Richmond Planning and Building Services Department. Based on the nature of each business, City staff shall determine whether the use would entail storage, use, or transport of hazardous materials above the reporting thresholds established by California Health and Safety Code Section 25503.5 or the generation of hazardous waste in any amount. If any of the reporting thresholds would be exceeded, the business owner shall prepare a Hazardous Materials Business Plan (HMBP) in accordance with Chapter 6.95, Article 1 of the

California Health and Safety Code (Sections 25500 through 25520) and submit it to the Certified Unified Program Agency (CUPA) for Contra Costa County (the Contra Costa Health Services Hazardous Materials Programs) for review and approval through the California Environmental Protection Agency's online California Environmental Reporting System (CERS). Prior to the issuance of an occupancy permit for the project, the Richmond Planning and Building Services Department shall verify the CUPA's approval of the HMBP. Any time the project sponsor is prepared to lease space in the project to a new business, the project sponsor shall consult with the Richmond Planning and Building Services Department to determine whether an HMBP is required for the new business and, if so, City staff shall verify that the business has an approved HMBP.

Hydrology and Water Quality

Mitigation Measure WQ-1: Prior to issuance of grading permits for the proposed project, the City of Richmond shall verify that the applicant has prepared a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements of the Statewide General Construction Permit administered by the San Francisco Bay Water Quality Control Board (SFBRWQCB). The SWPPP shall be designed to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a SFBRWQCB permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site best management practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization BMPs are installed to reduce or eliminate pollutants after construction is completed. The SWPPP shall be prepared by a qualified SWPPP developer. The SWPPP shall include the minimum BMPs required for the identified Risk Level. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association (CASQA) BMP construction handbook, Caltrans stormwater quality construction site BMP handbook, and/or any other or newer BMPs available since the release of the handbooks, as required given project needs.

Mitigation Measure WQ-2: In areas within stream buffer zones or adjacent to sensitive riparian areas, facilities, construction, and associated staging should avoid, to the extent feasible, disturbance of riparian vegetation, including trees and their root systems. The SWPPP shall specifically address special considerations for controlling sediment and other pollutants within these areas, through additional erosion control measures, timing of construction during the dry season, staged grading to reduce the area of exposed soil

at any one period of time, and/or other measures specifically tailored to riparian and sensitive areas.

Mitigation Measure WQ-3: The project sponsor shall implement appropriate post-construction stormwater treatment measures to meet Contra Costa County standards to reduce water quality and hydromodification impacts to downstream surface waters. Prior to final approval, the applicant shall provide documentation of stormwater treatment designs, appropriate controls, and management measures to ensure compliance with the Municipal Regional Permit administered by the San Francisco Bay Water Quality Control Board (SFBRWQCB). The final Stormwater Control Plan (SWCP) shall include appropriate stormwater quality treatment in compliance with the volumetric or flow-based treatment criteria as described in the Municipal Regional Permit. The final SWCP shall also include design calculations that show that post-project runoff meets the appropriate hydromodification (HM) management requirement. If pervious pavement gravel storage basins remain in the design, the final construction plans shall include design calculations that show these facilities could function within required ranges for anticipated semi-trailer traffic. Documentation shall be submitted to the City for approval of final design elements prior to the commencement of construction.

Mitigation Measure WQ-4: Total detention volume in final designs may vary from the volume projected in the preliminary hydrologic analysis. Prior to final approval, the applicant shall submit final stormwater detention designs that show appropriate controls have been included to ensure that the post-project 25- and 100-year peak flows will not exceed pre-project peaks to meet Contra Costa County Flood Control District (CCCFC) standards.

Mitigation Measure WQ-5: In coordination with the City Engineer, the applicant shall prepare and execute a binding agreement that ensures that maintenance of all detention facilities will be performed as necessary to continuously provide the required volume storage in a 25-year storm and in a 100-year storm throughout the life of the project. The agreement shall include a financing mechanism acceptable to the City Engineer to ensure that the required maintenance will be performed.

Mitigation Measure WQ-6: The proposed un-lined underground storage basins shall be designed and constructed to maintain a minimum of 10 vertical feet between the invert of each basin and the seasonally high groundwater elevation, as required by the Municipal Regional Permit. Upon completion of the final project design, the applicant shall provide documentation to the City Engineer that shows compliance with this requirement.

Noise

Mitigation Measure N-1: To reduce noise impacts due to construction at nearby sensitive receptors, the applicant shall employ the following mitigation measures:

a) Construction activities shall only take place during the hours between 7:00 a.m. and 7:00 p.m.

b) Construction equipment shall be properly equipped with standard mufflers, properly maintained and in good working order.

c) If stationary construction equipment would cause a substantial noise impact, it shall be located as far away from sensitive residences as necessary to reduce noise to acceptable levels and/or be equipped with engine-housing enclosures.

d) The construction contractor shall designate a "Construction Noise Coordinator" who would be responsible for responding to local complaints about construction noise. The Noise Coordinator shall determine the cause of the complaint and shall require that reasonable measures warranted to the correct the problem be implemented. The telephone number for the Noise Coordinator shall be conspicuously posted at the construction site.

Mitigation Measure N-2: To reduce noise impacts from the three 600-horsepower emergency generators, the applicant shall employ the following mitigation measures:

1. Design the three 600-horsepower emergency generators to have a constant running noise level (when all three are operating) that would be less than 50 dBA at the property line of the nearest residences.
2. Once fully installed, test the emergency generators to verify that when they are all operating, the noise they generate is less than 50 dBA at the property line of the nearest residences.
3. If noise levels exceed 50 dBA, modify the emergency generator systems through the addition of attenuation shielding until the 50-dBA standard is met.

Transportation/Traffic

Mitigation Measure TRA-1: The project applicant shall contribute fair-share funding towards the construction of an ADA-accessible pedestrian path from the edge of the project site to the bus stop on the Giant Road at Stanton Avenue. This shall include sidewalk and curb ramps along Collins Avenue along the site frontage and adjacent to the railroad tracks, pedestrian improvements at the existing at-grade railroad crossing on John Avenue, and a high visibility crosswalk across Giant Road at John Avenue.

Mitigation Measure TRA-2: The final site plan shall include a stop sign and stop bar for vehicles exiting the eastern-most driveway.

Mitigation Measure TRA-3: The final site plan shall redesign the middle driveway to provide access to only one drive aisle as opposed to two. In addition, elimination of access to the parking lot adjacent to Collins Avenue from the middle driveway should be considered.

Mitigation Measure TRA-4: The project sponsor shall develop an Emergency Response Plan for the proposed facility that identifies procedures to be followed in the event that an emergency occurs and site access is impeded by a train crossing event. The Emergency Response Plan shall be reviewed and approved by the City of Richmond Fire Department.

Utilities and Service Systems

Mitigation Measure US–1: In consultation with the City of Richmond Department of Public Works, the project engineer shall verify that existing wastewater treatment and collection facilities are available to accommodate the wastewater that would be generated by the proposed project. If existing capacity is not adequate, the applicant shall pay a fair share of the cost of needed improvements. If on-site or immediately downstream improvements are necessary, the City shall identify any additional project-specific mitigation measures necessary to reduce impacts from the construction of new wastewater collection and treatment facilities to a less-than-significant level, and the measures shall be implemented by the project applicant prior construction of the proposed warehouse building.

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