1396 5th Street
CEQA ANALYSIS

City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, CA 94612

June 2022

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GENERAL PROJECT INFORMATION

1. **Project Title:** 1396 5th Street Mixed Use Project

2. **Lead Agency Name and Address:**
   City of Oakland
   Bureau of Planning
   250 Frank H. Ogawa Plaza, Suite 2114
   Oakland, CA 94612

3. **Contact Person and Phone Number:**
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   Major Projects Development, Bureau of Planning
   250 Frank H. Ogawa Plaza, Suite 2114
   Oakland, CA 94612
   (510) 238-6167
   pvollmann@oaklandca.gov

4. **Project Location:**
   1396 5th Street
   Assessor's Parcel Number 004 006900400

5. **Project Sponsor's Name and Information**
   The Michaels Organization
   Scott D. Cooper
   (310) 709-1887
   scooper@tmo.com

6. **General Plan Designation:**
   Community Commercial and West Oakland Specific Plan (WOSP)

7. **Zoning:**
   S-15W Transit Oriented Development Zone

8. **Requested Planning Permits:**
   See Project Approvals in Chapter II, Project Description, below

I. INTRODUCTION

The purpose of this California Environmental Quality Act (CEQA) document is to analyze the development proposed at 1396 5th Street (project), (Assessor's Parcel Number 004 006900400), to determine if it is covered by a previously prepared program environmental impact report (EIR), qualifies for an Addendum, and/or meets the criteria as an Eligible Infill Exemption, such that no additional environmental review is required.

The project site is within the 7th Street Opportunity Area of the West Oakland Specific Plan[1] (WOSP) Area. The WOSP EIR [2] is a program EIR that analyzed the environmental impacts of implementation of the WOSP, including development of the project site. The number of units proposed by the project is within the reasonably foreseeable maximum development program analyzed by the WOSP EIR, potentially allowing a determination that the project may utilize any or of the following CEQA provisions: (1) no new environmental document would be required (CEQA Guidelines Section 15168), (2) an Addendum (Public Resources Code Section 21166 and State CEQA Guidelines Section 15164), (3) an Eligible Infill Exemption under Streamlining for Infill Projects (Public Resources Code Section 21094.5 and CEQA Guidelines Section 15183.3), and/or an Exemption based on consistency with a Specific Plan (CEQA Guidelines Section 15182).

In Attachment A, a Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCAMMRP) is provided. Attachment B, Criteria for Use of an Addendum, demonstrates how the project meets the conditions for an Addendum to the WOSP EIR pursuant to CEQA Guidelines Section 15162, 15164, 15168, and 15182. Attachment C, Project Consistency with Community Plans or Zoning, demonstrates the project's consistency with the development anticipated under the WOSP. Finally, in Attachment D, Infill Exemption Performance Standards, a matrix demonstrates the project's consistency with Appendix M of the CEQA Guidelines, thus determining the project's eligibility for an Infill Exemption pursuant to CEQA Guidelines Section 15183.3. The following is discussed further in Attachment D: the project is located in an urban area that is on a site that was previously developed for industrial uses, and the site adjoins existing qualified urban uses; the project satisfies the performance standards related to soil and water remediation, residential units near high-volume roadways and stationary sources, and the project achieves below average regional per capital vehicle miles traveled and is located within ½ mile of an existing major transit stop; and the project is consistent with the Plan Bay Area which serves as the sustainable communities strategy for the Bay Area.

[1] The West Oakland Specific Plan and EIR can be found here: https://www.oaklandca.gov/topics/west-oakland-specific-plan

[2] City of Oakland, 2014. West Oakland Specific Plan, Final Environmental Impact Report. SCH 2012102047, May.

DOCUMENT ORGANIZATION

This CEQA Analysis is organized into the following chapters:

Chapter II, Project Description: This chapter describes the project site, the site development history, the proposed development, and the required approval process.

Chapter III, Project Consistency Assessment: This chapter summarizes the previous environmental document prepared for the West Oakland Specific Plan and assesses the project's consistency with the West Oakland Specific Plan.

Chapter IV, Summary of Findings: This chapter describes why the project qualifies for an Exemption/Addendum under applicable CEQA provisions and describes several CEQA streamlining and/or tiering provisions and CEQA exemptions under which the project qualifies.

Chapter V, CEQA Checklist: This chapter provides analysis for each environmental technical topic as it relates to its relationship to the WOSP EIR findings and whether the project would result in equal or less severity, or substantially increase the severity, and standard conditions of approval relied upon to ensure that significant impacts would not occur.

Appendices: The appendices include all the applicable SCAs, consistency with applicable CEQA streamlining and exemption provisions, and the technical analyses and data for geology and soils, hazardous materials, greenhouse gas emissions, and transportation and circulation.

II. PROJECT DESCRIPTION

This chapter describes the 1396 5th Street project that is considered in this CEQA document. It includes a description of the project site, the existing site conditions, characteristics of the project, and the required project approvals.

A. PROJECT SITE

1. Project Location

As shown in Figure II-1, the project site is in the West Oakland neighborhood at 1396 5th Street. The property is bordered by the Bay Area Rapid Transit (BART) tracks to the north, Mandela Parkway to the west, 5th Street to the south, and Kirkham Street to the east. The project site is approximately 38,000 square feet (0.88 acres) and takes up the entirety of Assessor Parcel Number (APN) 004-0069-004. It is adjacent to the entrance of the West Oakland BART Station, one block north of Interstate I-880, and 0.5 miles west of 1-980. An alleyway and the elevated BART rail line form the site's northern boundary. The West Oakland BART station is located less than 500 feet to the west of the site. AC Transit service near the project site is frequent including the 14, 29, 62, 314, 36 and 800 bus lines that all stop at the West Oakland BART station[3].

[3]AC Transit, West Oakland Station Bus Stops. Availabe at: https://www.actransit.org/sites/default/files/2020-12/hsp_woak-stops.pdf, accessed February 18, 2021.

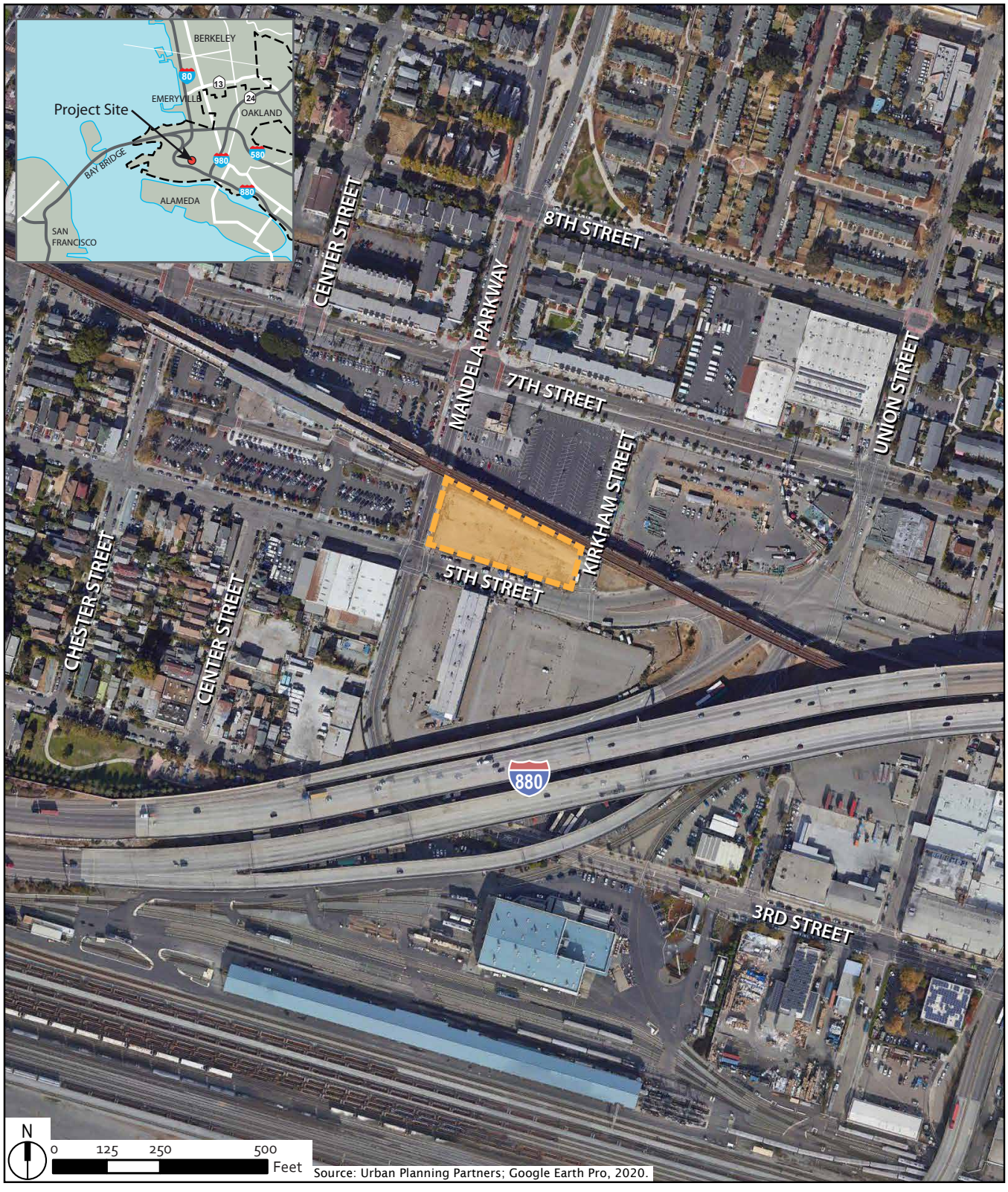


Figure II-1
Project Location and Vicinity Map

2. Existing Site Conditions

The project site is currently vacant and undeveloped, although a concrete surface covers much of the lot. The site is predominately flat topographically and is not near any creeks or natural landmarks.

Sidewalks are present along Mandela Parkway and existing landscaping includes sparse vegetation and two mature trees along Mandela Parkway near the BART elevated tracks. Sidewalks are missing from the west side of Kirkham Street, and the north side of 5th Street, Shared-bike lanes run along 7th Street and Mandela Parkway. The site is surrounded by a chain-link fence.

The property was formerly the site of the Red Star Yeast Factory, which closed in 2003. In addition, there was a prior development on the project site known as Red Star Senior Apartments (Red Star), which was a senior housing project consisting of 112 units. The Red Star project was subject to arson in June 2012. Subsequently, the site was graded following demolition of the damaged structures. The Red Star project's prior development had removed unsuitable soils to depths of 10 to 12 feet and replaced it with Engineered Fill.

The project site is not included on the list of hazardous materials release site compiled pursuant to Government Code Section 65962.5 (the Cortese List). However, the site is identified as a Cleanup Program Site on the State Water Resources Control Board GeoTracker database due to previous potential groundwater contamination. Further discussion of existing conditions related to hazards materials is provided below.

Existing uses in the project vicinity include commercial, residential, and industrial uses, as further described below.

- **North.** The BART tracks are immediately north of the project site. Uses north of the BART tracks include surface parking lots, a gas station and food mart, 7th Street—the area's primary commercial artery—and a mix of primarily multi-family residential and light industrial uses.
- **East.** Immediately east of the project site is a vacant parcel which is currently an approved mixed-use development, 500 Kirkham, which will provide 1,032 residential units. Beyond 500 Kirkham, two blocks east from the project site lies Full Out Studios dance studio and Zentrum Motors auto-body shop, as well as a 110-unit mixed-use building at 532 Union Street that is 7 stories in height and nearing completion.
- **West.** The West Oakland BART Station, and associated parking lot, lie to the west of the project site, as well as the approved mixed-use project 1451 7th Street to the west.
- **South.** Existing uses to the south include surface parking lots, elevated highway structures, and industrial uses. Southwest of the project site there is a mix of single and multi-family uses, Civic corps Job Training Center and some light industry.

3. General Plan, Specific Plan, and Zoning

The City of Oakland General Plan[4] land use classification for the site, as established by the LUTE, is Community Commercial. The Community Commercial designation is intended to encourage neighborhood center uses and large-scale retail and commercial uses and can be complemented by the addition of urban residential development and compatible mixed-use development.
The zoning designation for the site is S-15W Transit-Oriented Development Commercial Zone. The S-15W zone is intended to create, preserve, and enhance areas devoted primarily to serve multiple nodes of transportation and to feature high-density residential, commercial, and mixed-use developments to encourage a balance of pedestrian-oriented activities near transit stations by allowing a mixture of Residential, Civic, Commercial, and Light Industrial Activities, allowing for amenities such as benches, kiosks, lighting, and outdoor cafes; and by limiting conflicts between vehicles and pedestrians, and is typically appropriate around transit centers such as BART stations, AC Transit centers, and other transportation nodes. The maximum residential density (without bonuses) allowed for the project site is 225 square feet of lot area per dwelling unit with a maximum height of 160 feet.

The project site is identified (opportunity) site #23 (along with many other parcels totaling 9.44 acres) in subarea 2A of the 7th Street Opportunity Area (West Oakland BART Station Area) in the WOSP, which was approved by the City in 2014. Subarea 2A includes the properties immediately surrounding the West Oakland BART station, many of which are vacant parcels used as a surface parking lots, though in the years since the WOSP was adopted, several of these parcels have been entitled with specific development projects and have started construction. Redeveloping the subarea as a "transit village" or a Transit-Oriented Development (TOD) has been a long-standing City goal. The WOSP vision for the 7th Street Opportunity Area includes higher-density housing, commercial and government/institutional office space around the core of the BART Station, and neighborhood-serving retail as well as ground-floor custom manufacturing/industrial arts/artist exhibition space.

B. PROJECT CHARACTERISTICS

The project characteristics are described below and an overview is provided in Table 1, and the project plans are shown on Figures II-2 to II-8. The project proposes development of 222 units in an eight-story podium style building. The ground level will include residential amenities, a leasing office, and parking. The residential units will rise above the podium in a seven-story tower with two-podium-level courtyards, providing separation in the tower, and a roof deck on the eighth level.

[4] City of Oakland, 1998. General Plan, Land Use and Transportation Element, March.

The building is approximately 216,666 square feet, which includes approximately 183,366 square feet of residential including residential amenities on the ground floor and 8th floor. Residential amenities include a, a recreation room, a maker space, a co-working space, a fitness room, a yoga/spin room, a "bicycle kitchen", a dog run, and a dog spa. The building also includes a 33,300 square foot ground level garage with 41 parking spaces (1 accessible space and 1 accessible van space). The remaining square footage will be utilized for open space, and a leasing office.

Group Usable Open space includes a 2nd floor podium courtyard and 8th floor rooftop deck (for a total of 7,402 square feet. Group Open Space shall be accessible to all the living units on the lot, and the space may be located anywhere on the lot within 20 feet of the living units served, and is a Planning Code requirement for residential units.[5] The podium (second floor) includes two distinct courtyard areas, both of them on the southern side of the building, one closer to the western corner, and one closer to the eastern corner of the building. The courtyards would include wooden benches, fire table lounges, planters, and an outdoor area for yoga and gaming. One of the courtyards would include a reservable communal dining area, BBQ area, and dining area with string lights, as well as accent pavers. In addition, the project includes a rooftop deck which would be located along the southwest corner of the building.

The project also provides private open space on the 2nd floor and 3rd floor for a total of 1,268 square feet. According to Oakland's Municipal Code Section 17.126.020, each square foot of private usable open space conforming to Section 17.126.040, shall be considered equivalent to two square feet of required Group Usable Open Space, totaling 2,536 square feet, and may be so substituted. [6]

The vehicle access point is proposed along the west side of Kirkham Street which allows entry into the site's 41 parking stalls. The bicycle storage room is accessed from Mandela Parkway and includes both long term and short-term bicycle parking spaces. The project includes 56 long-term bicycle parking spaces and 12 short-term bicycle parking spaces.

Pedestrians would access the site from the sidewalks surrounding the project (5th Street, Kirkham Street, and Mandela Parkway). The residential units include a mix of studios, one-bedroom, and two-bedroom units, with one-bedrooms making up most units (59 percent). Of the 222 residential units, 16 units will be very low-income restricted (up to 50 percent area median income).

The project would be constructed in one phase that would last approximately 24 months.

[5] Oakland Planning Code 17.126.030

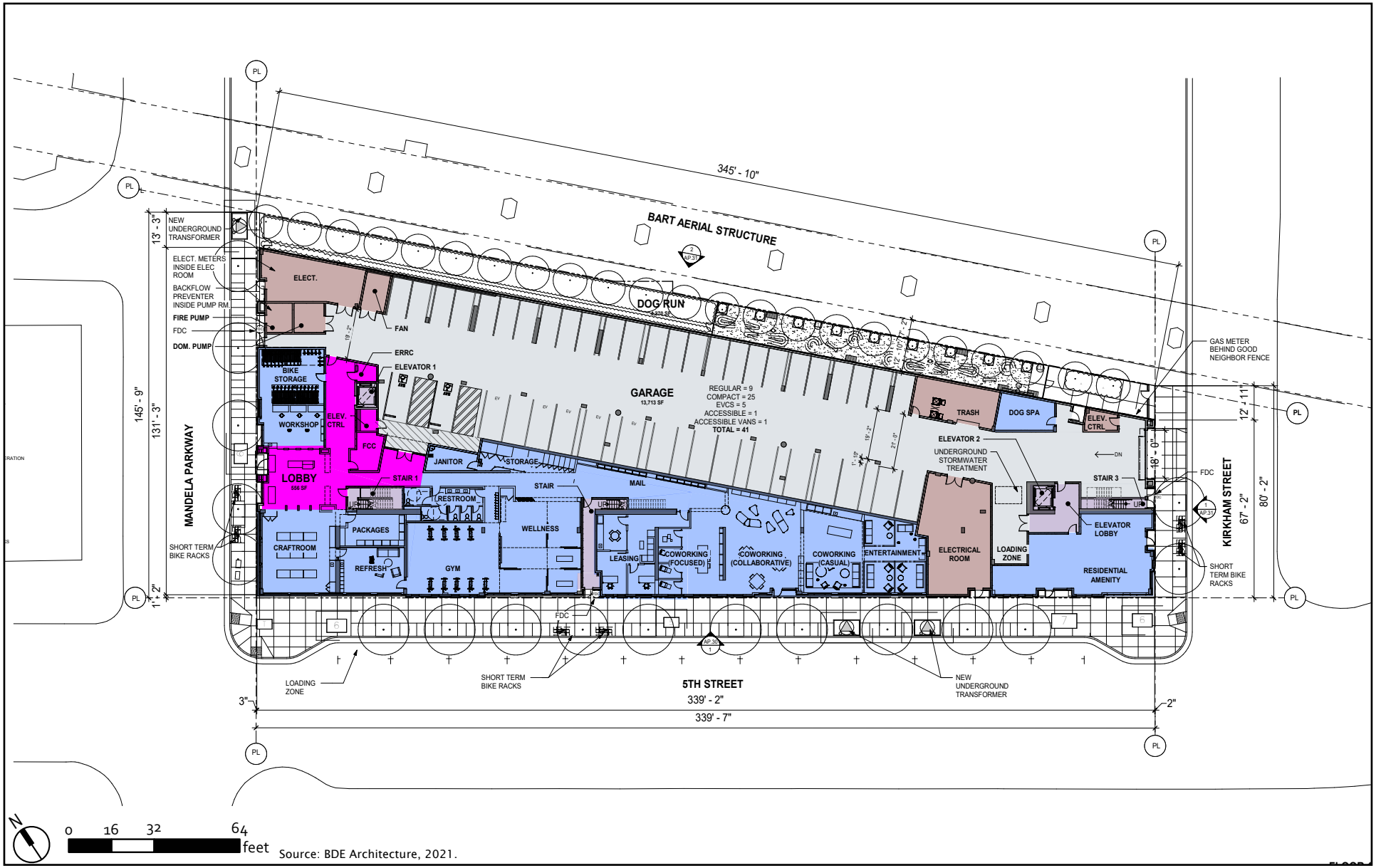
[6] Oakland Planning Code 17.126.040: Private usable open space shall be accessible to only one living unit by a doorway to a habitable room or hallway, and may be located anywhere on the lot, except that ground-level space shall not be located in a required minimum front yard and except that above-ground-level space shall not be located within five (5) feet of an interior side lot line.

TABLE 1 PROJECT SUMMARY

Project	Amount
Total lot area	38,394 SF
Total gross floor area	216,666 SF
Gross residential area, including amenities	183,366 SF
Gross garage (Including Bikes, MEP, Trash, Termination)	33,300 SF
Gross open space	9,938[7]
Residential Units	222
Bicycle Parking Spaces	68 (56 Long Term, 12 Short Term)
Vehicle Parking spaces	41
Building height	85 ft

SF= square feet
Source: BDE Architecture, 2021

[7] Per OMC 17.126.020 (Substitution of private space for group space), private usable open space can be substituted for group open space with a multiplier of two (i.e., each square foot of private open space is equivalent to 2 square feet of group open space).

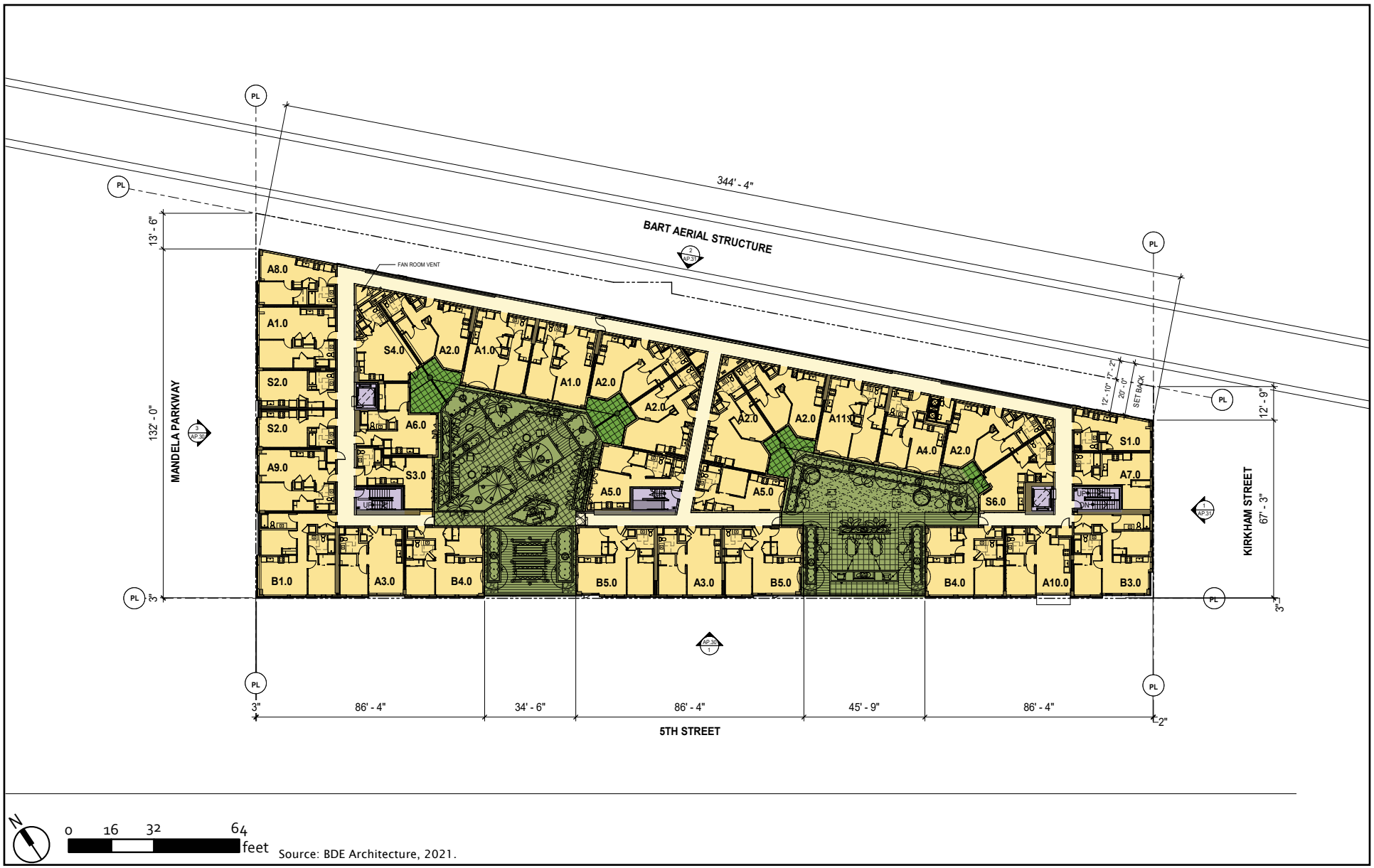


Source: BDE Architecture, 2021.

Legend

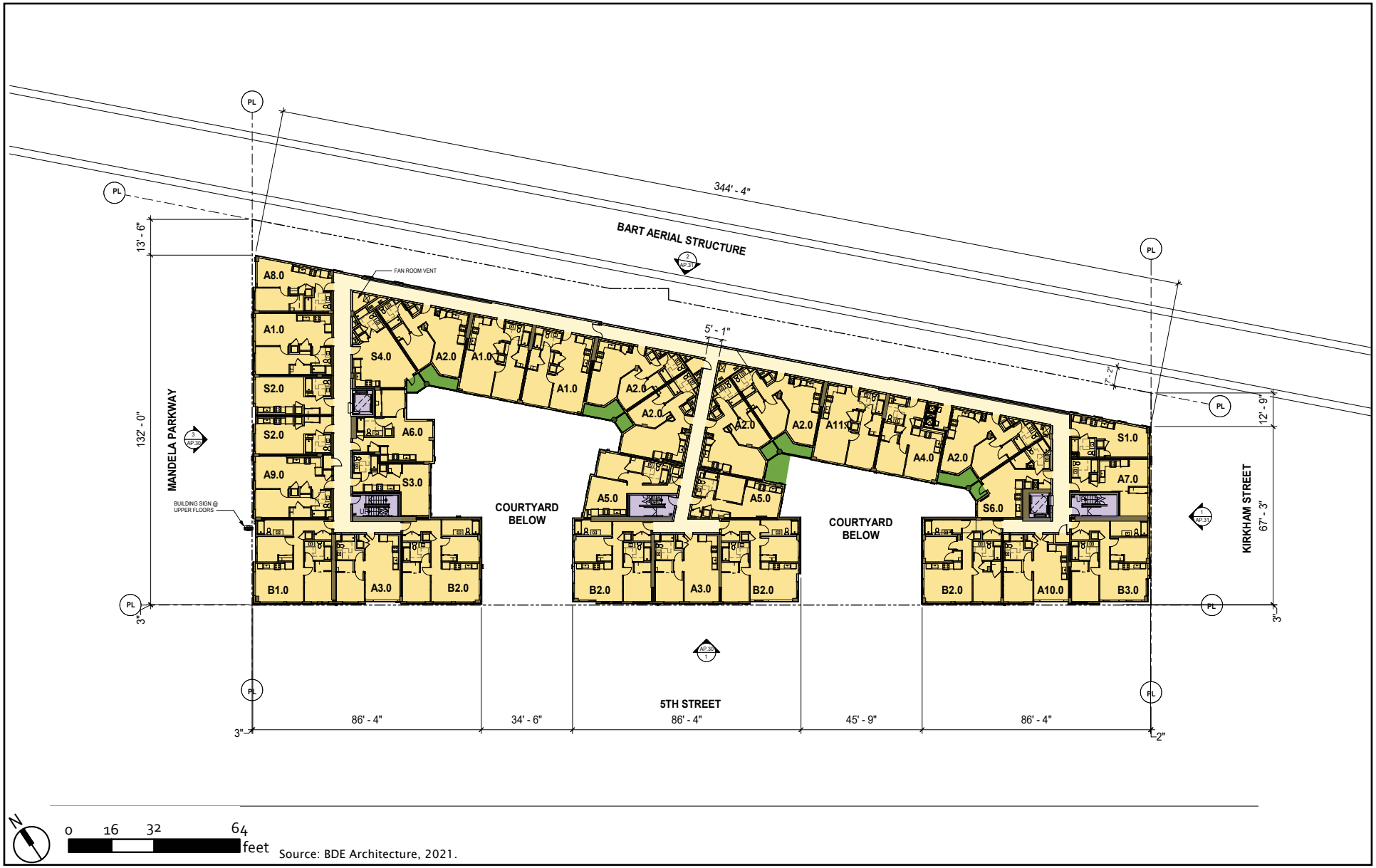
- Garage
- Storage, electrical, bike storage
- Net unit area
- Amenity
- Building operation
- Community benefit
- Corridors, misc., gross
- Circulation
- Landscape
- Private decks

Figure II-2
Site and Ground Floor Plan
1396 5th Street CEQA Analysis



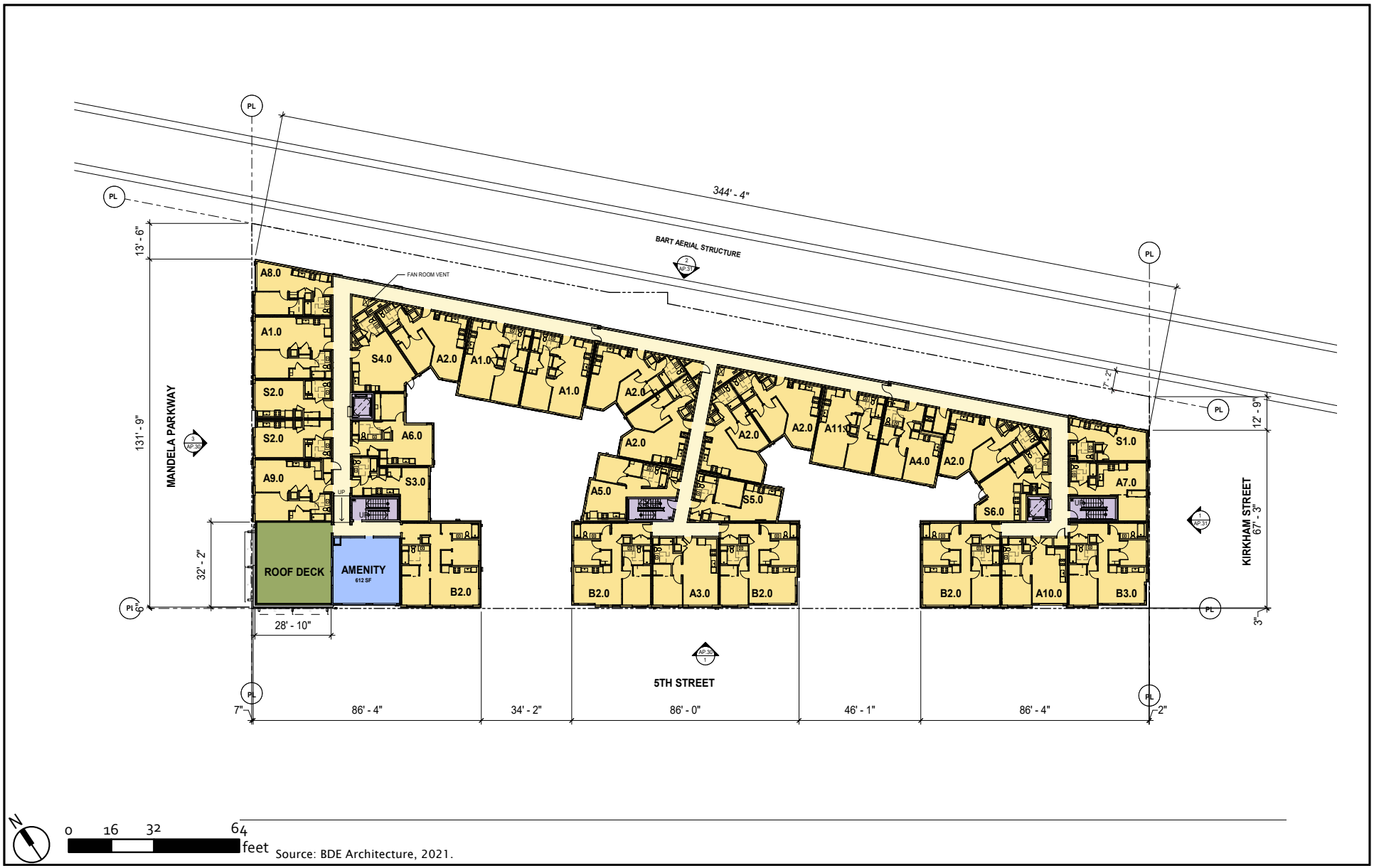
Source: BDE Architecture, 2021.

Figure II-3
Second Floor Plan
1396 5th Street CEQA Analysis



Source: BDE Architecture, 2021.

Figure II-4
Third-Seventh Floor Plan
1396 5th Street CEQA Analysis



Source: BDE Architecture, 2021.

Figure II-5
Eighth Floor Plan
1396 5th Street CEQA Analysis

View from Southeast

View from Southwest

View from Southwest - street level

View from Southeast - alternative

View from Southwest - alternative

View from Northwest

Source: BDE Architecture, 2021.

Figure II-6
Project Renderings

1. PAINT - LIGHT COLOR
2. PAINT - MED COLOR
3. PAINT DARK COLOR
4. FOAM TRIM
5. PLASTER PER CITY STANDARD
6. CAST STONE, STONE BASE OR SIM.
7. 43" GLASS RAIL
8. REDWOOD GOOD NEIGHBOR FENCE
9. 'VPI' VINYL WINDOWS
10. STOREFRONT TO MATCH VINYL WINDOWS
11. PUBLIC ART, SEE SHEET AP.34
12. GARAGE DOOR
13. BUILDING ADDRESS SIGNAGE
14. BUILDING SIGNAGE: DESIGN AND ILLUMNATION TO BE DETERMINED, FULLY-COMPLIANT WITH CITY CODES AND REGULATIONS
15. EXTERIOR LIGHTING
16. AWNING
17. OVERHEAD RECESSED LIGHT
18. METAL RAIL FENCE
19. WOOD-GRAINED RAINSCREEN LAP SIDING

0 16 32 64

feet Source: BDE Architecture, 2021.

Figure II-7
Building Elevation - West
1396 5th Street CEQA Analysis

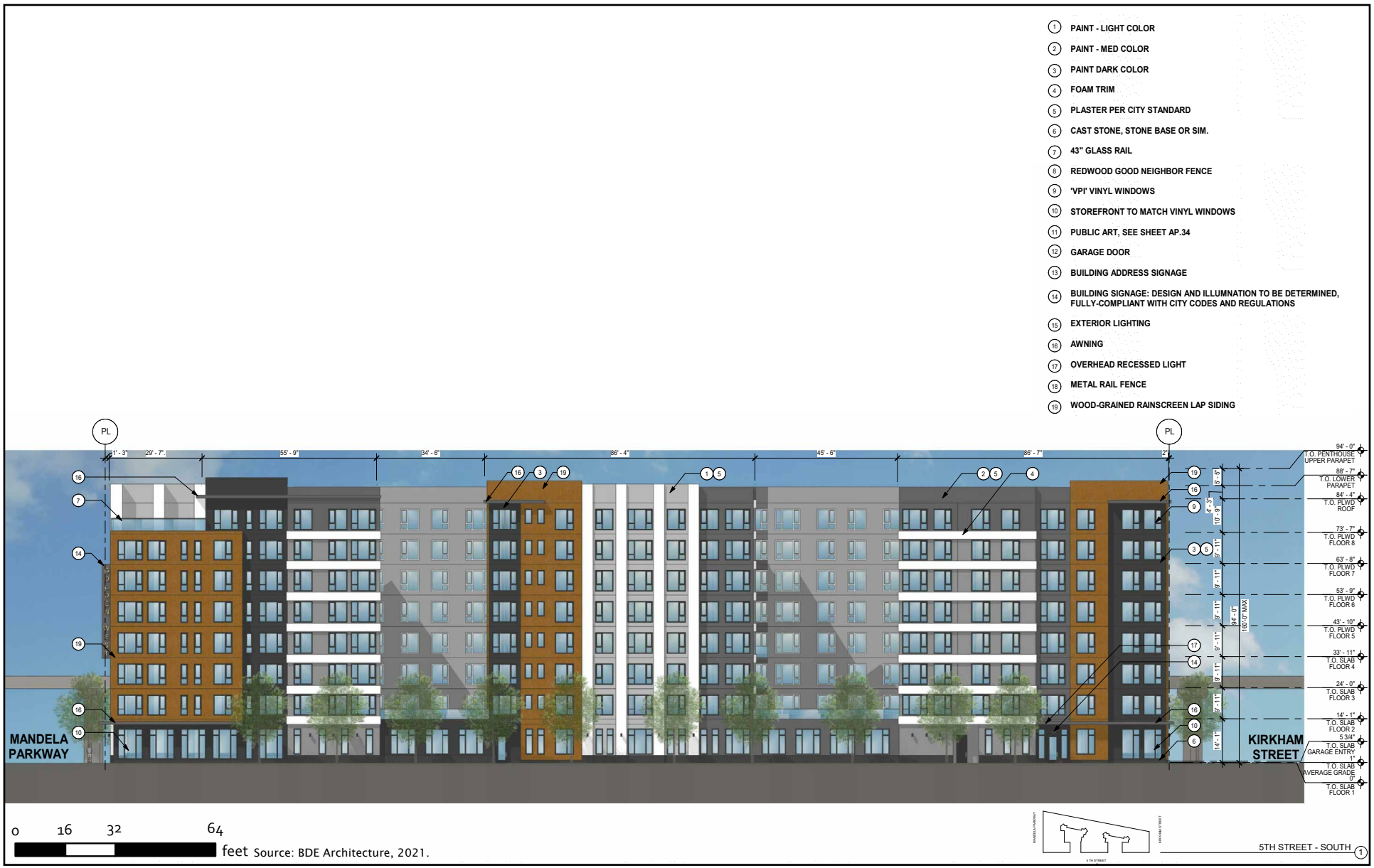


Figure II-8
Building Elevation 2
1396 5th Street CEQA Analysis

C. CALIFORNIA STATE DENSITY BONUS LAW

The project proposes to set aside nine percent of the base project units (16 units) as very-low income units. Under the State Density Bonus law, a project including this level of affordability is entitled to: (a) a 30 percent density bonus above the maximum allowable residential density (Gov. Code Sec. 65915(f)); (b) one concession/incentive (*Id*. at subs. (d)(2)(A)); and (c) waivers of development standards that would preclude development of the project at the bonus density (*Id*. at subs. (e)(1)).

Before bonuses, the S-15W zone allows a base density of one dwelling units per 225 square feet of lot area, or 171 dwelling units on the approximately 38,394 square-foot site. The project is entitled under the State Density Bonus Law to increase the total number of units allowed on site to 223 units when nine percent of the 171 base units are made available to very low-income households. A concession for off-street parking is being requested under the State Density Bonus law, as implemented through the City's Planning Code. To achieve the density bonus, the project proposes using one development standards "concessions" to reduce minimum parking requirements (where 111 is required and 41 permanent spaces are proposed), and two density bonus waivers to reduce the minimum required open space and to reduce the minimum court between opposite walls. For residential projects, the Planning Code requires a court with a minimum depth of 16 feet to be provided between opposite walls containing legally required living room windows, plus 4 feet for each story above but not to exceed forty feet.[8]

D. PROJECT APPROVALS

1. Actions by the City of Oakland

The project requires several discretionary actions and approvals, as well as administrative and ministerial City permits, including without limitation:

- Major Conditional Use Permit (Per Planning Code Section 17.97.030). In the S-15W zone, any development exceeding 100,000 square feet of new floor area requires a Major Conditional Use Permit.
- Minor Conditional Use Permit (Per Planning Code Section 17.134.020 (A) (1) (a)). In the S-15W zone, any off-street parking, loading, or driveway located on the ground floor within 20 feet of a pedestrian walkway or plaza requires a conditional use permit. Because the proposed on-site parking and loading areas are within 20 feet of pedestrian walkway/plaza off Kirkham Street, a conditional use permit is required.
- Regular Design Review for new construction

[8] Oakland Planning Code 17.108.120

- Tentative Parcel Map
- CEQA Determination
- Building permit and other related on-site and off-site work permits

2. Actions by Other Agencies

The project will require other administrative approvals from other agencies and utility providers such as East Bay Municipal Utility District (EBMUD), PG&E, and California Regional Water Quality Control Board (RWQCB).

III. PROJECT CONSISTENCY ASSESSMENT

The California Environmental Quality Act (CEQA) includes several provisions that state that once environmental assessment has been completed for a project, subsequent environmental review is generally not required. The purpose of this consistency analysis is to streamline the review of such projects and reduce the need to prepare repetitive environmental studies.

- Where a public agency has prepared an EIR on a specific plan after January 1, 1980, a residential project undertaken pursuant to and in conformity to that specific plan is exempt from CEQA unless an event described in CEQA Guidelines Section 15162 occurs. See CEQA Guidelines Section 15182(c)
- Projects which are consistent with the development density established by the existing zoning, community plan, or general plan policies for which an Environmental Impact Report (EIR) was certified shall not require additional environmental review, except as may be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. See CEQA Guidelines Section 15183(a).
- Where a public agency has prepared a program EIR, later activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared. If an agency finds that pursuant to CEQA Guidelines Section 15162 no subsequent EIR would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building impacts intensity, geographic area analyzed for environmental impacts, and covered infrastructure as described in the program EIR. See CEQA Guidelines Sections 15162, 15168.

On July 15, 2014, the City of Oakland adopted the West Oakland Specific Plan (WOSP) and certified the WOSP EIR. The purpose of the WOSP is to develop comprehensive, multi-faceted strategies for facilitating the development of selected vacant and/or underutilized commercial and industrial properties within the West Oakland community.

Project. The project site is within the West Oakland Specific Plan (WOSP) Area. The project would redevelop a now-vacant lot with a new building providing market-rate, and affordable multi-family housing. The project would be approximately 217,000 gross square feet in size and have a maximum height of 85 feet. Because the project proposes to set aside approximately nine percent of its baseline units as affordable to very-low income households, the project is entitled

to a density bonus, one density bonus concession/incentive under the City's Density Bonus and Incentive Procedure,[9] and waivers of development standards that would preclude development of the project.[10] Waivers relax development standards that would have the effect of physically precluding the construction of a qualifying development.[11]The concessions/incentives can include items such as parking, open space, height, setbacks, etc. The project sponsor requests one concession to reduce the minimum required off-street parking, and two waivers to reduce the minimum required open space, and to reduce the minimum court between opposite walls.

Project Consistency. The project is permitted in the zoning district in which it is located, and is consistent with the bulk, density, and land uses envisioned in the WOSP, as outlined below.

- In the West Oakland Specific Plan, the project site is located in Subarea 2A of the 7th Street Opportunity Area and is one of several parcels identified as site #23. The project is consistent with the plan policies for the 7th Street Opportunity Area, which contemplate higher-density housing, commercial office, and government/institutional office space around the core of the BART Station.
- The site is zoned S-15W (Transit-Oriented Development Commercial Zone). The S-15W zoning designation is intended to create, preserve, and enhance areas devoted primarily to serve multiple nodes of transportation and to feature high-density residential, commercial, and mixed-use developments to encourage a balance of pedestrian-oriented activities, transit opportunities, and concentrated development; encourage a safe and pleasant pedestrian environment near transit stations by allowing a mixture of Residential, Civic, Commercial, and Light Industrial Activities; and limit conflicts between vehicles and pedestrians.

  The proposed uses (multi-family residential) are allowable in the S-15W zone.

  Table 2 displays the Development Buildout Assumptions of the 7th Street Opportunity Area for both residential, as well as industrial and business space.

TABLE 2 DEVELOPMENT BUILDOUT ASSUMPTIONS OF THE 7TH STREET OPPORTUNITY AREA

Development Characteristics	Buildout Analyzed	Cumulative Projects[a]	Buildout Remaining	Proposed Project	Buildout Remaining After Project
Maximum Residential Units[b]	1,856 – 2,839	2,220 (78%)[d]	0 – 619 (22%)	222	0 – 397 (14%)

[9] City of Oakland, 2017. Oakland Planning Code, Chapter 17.107: Density Bonus and Incentive Procedure. Section 17.107.090-Permitted Number of Density Incentives or Concessions.

[10] City of Oakland, 2017. Oakland Planning Code, Chapter 17.107: Density Bonus and Incentive Procedure. Section 17.107.095-Waiver of Development Standards.

[11] Government Code Section 65915(e)(1).

TABLE 2 DEVELOPMENT BUILDOUT ASSUMPTIONS OF THE 7TH STREET OPPORTUNITY AREA

Development Characteristics	Buildout Analyzed	Cumulative Projects[a]	Buildout Remaining	Proposed Project	Buildout Remaining After Project
New Low-Intensity Industrial and Business Space (sq. ft)	170,000	55,523 (32%)	114,477 (67%)	1,564	112,913 (66%)

[a] The cumulative projects in the 7th Street Opportunity Area include 500 Kirkham (application approved), 532 Union Street (under construction), 1471 7th Street (application approved), and 801 Pine Street (application approved).
[b] Includes units from mixed-use and residential development.
[d] Percentages are based off maximum buildout of 2,839 residential units.
Source: West Oakland Specific Plan EIR (2014) Table 3.-3 Development Buildout Assumptions, 7th Street Opportunity Areas, page 3-40. City of Oakland Major Projects List March (2020) and Urban Planning Partners (2020).

As shown in Table 2, the project is consistent with the Development Program analyzed in the WOSP EIR for the 7th Street Opportunity Area. The number of residential units, and business space are within the range described in the Development Program.

According to the WOSP EIR, site #23 has a proposed maximum corridor/commercial height limit of up to 100 feet.[12] The project proposes a maximum height of 85 feet; therefore the project is consistent with the form and height of the WOSP EIR.

The S-15W zone outlines several development standards, including minimums for height, parking, setbacks, density, and Floor Area Ratio (FAR). The project would use a Density Bonus concession to reduce the number of parking spaces, and Density Bonus waivers to reduce the open space and minimum court between opposite walls requirements. The project's proposed 222 residential units is within the number of units allowed for the site after applying the Density Bonus allowance. Table 3 below demonstrates the project's compliance with other standards.

- The General Plan land use designations for the site is Community Commercial. The Community Commercial designation is intended to encourage neighborhood center uses and large-scale retail and commercial uses and can be complemented by the addition of urban residential development and compatible mixed-use development. This designation seeks to encourage neighborhood center uses and larger scale retail and commercial uses, which can be complemented by the addition of urban residential development and compatible mixed use development. The maximum FAR for this classification is 5.0 and maximum residential density is 125 units per gross acre, not including the State Affordable Housing Density Bonus.

[12] City of Oakland, 2014. West Oakland Specific Plan, Draft Environmental Impact Report, Figure 3-11, Propsoed Zoning Height Limit Change, West Oakland BART Statnoi TOD, Opportunity Sites 23, 24, and 25. SCH 2012102047, January.

The project includes market rate and affordable housing, related administrative office, amenities, and would be compatible with the existing residential communities. Because the project is consistent with the intent of the land use designations (i.e., compatibility with existing residential communities), the project would be consistent with the General Plan. Table 4 evaluates the projects consistency with the General Plan and the WOSP. [13]

[13] State law "does not require precise conformity of a proposed project with the land use designation for a site, or an exact match between the project and the applicable general plan…Instead, a finding of consistency requires only that the proposed project be 'compatible with the objectives, policies, general land uses, and programs specified in' the applicable plan. State of California, 2015. Court of Appeals of California, Fourth District, Division One. Save Our Heritage Organization v. City of San Diego (2015) 237 Cal.App.4th 163, 185, 187.

TABLE 3 SUMMARY OF ZONING DEVELOPMENT STANDARDS AND DENSITY BONUS CONCESSIONS/WAIVERS

	Allowed/Required by Zoning	Proposed by Project	Consistency Determination
Land Use	**S15-W** feature high-density residential, commercial, and mixed-use developments to encourage a balance of pedestrian-oriented activities.	Mixed-use Residential	**Consistent**
Max. Density	171 dwelling units (225 sf lot area per unit on 38,394 sf lot, rounded up as required by State Density Bonus Law)	222 dwelling units	**Consistent, with State Density Bonus:** Before bonuses, the S-15W zone allows a base residential density of one dwelling unit per 225 square feet of lot area, or up to 171 dwelling units on the site. With the State Density Bonus Law, implemented through Chapter 17.107 of the Planning Code, the project provides nine percent of the base project's units to very low income households, entitling the project to a thirty percent (30%) density bonus for a total of 222 units. Therefore, the project's development density is consistent with the development density permitted under existing zoning regulations.
Min. off-street parking	**Residential:** 111 spaces (0.5 space per dwelling unit minimum)	41 residential spaces	**Concession #1.** The project would utilize a concession to decrease the residential parking requirement by 70 spaces, from 111 to 41. The parking concession would result in a direct cost reduction, facilitating the construction of the project with nine percent of the base project units dedicated to very low-income households.
Loading	1 berth (1 residential, no commercial [a])	1 berth	**Consistent**
Open Space	75 sf/unit	48 sf/unit[b]	**Waiver #1** The project would utilize a wavier to decrease the open space requirement.
Max. Height	160 ft	85 ft	**Consistent**

TABLE 3 SUMMARY OF ZONING DEVELOPMENT STANDARDS AND DENSITY BONUS CONCESSIONS/WAIVERS

	Allowed/Required by Zoning	Proposed by Project	Consistency Determination
Minimum Court Between Opposite Walls	16 feet between opposite walls, plus 4 feet for each story above but not to exceed forty feet	<16 feet between opposite walls for 54 units of project	**Waiver #2.** The project would utilize a waiver from Planning Code Section 17.108.120 due to the irregular shape of the lot for 54 units of the project.

[a] One loading space is required for commercial uses that are 25,000-59,999 square feet. Given that the project does not include commercial use, no commercial loading space is needed. One loading space is required for residential uses that are 50,000 square feet or more. (Planning Code § 17.116.120, 17.116.140)
[b] This is calculated based on 9,938 sf of open space across all 222 units of the project.
Source: BDE Architecture, January 1, 2021, Reuben, Junius and Rose, December 31, 2020.

TABLE 4 EVALUATION OF CONSISTENCY WITH GENERAL PLAN AND WOSP

Relevant Policies, Principals, and Guidelines of the General Plan and WOSP	Project Consistency
Policy N3.1 Facilitating Housing Construction. Facilitating the Construction of housing units should be considered a high priority for the City of Oakland.	**Consistent.** The project would substantially increase the housing stock in Oakland by providing 222 units in conformity with the General Plan on an underutilized site. The General Plan land use designation is Community Commercial; this classification is intended to create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers. The General Plan contemplates urban residential and mixed-use developments in the Community Commercial areas.
Policy N3.2 Encouraging Infill Development. In order to facilitate the construction of needed housing units, infill development that is consistent with the General Plan should take place throughout the City of Oakland.	**Consistent.** The project site is surrounded by development and represents an infill development opportunity.
Policy N3.5 Encouraging Housing Development. The City should actively encourage development of housing in designated mixed housing type and urban housing areas through regulatory and fiscal incentives, assistance in identifying parcels that are appropriate for new development, and other measures.	**Consistent.** The project would add housing to an urban housing area and would utilize the state's affordable housing density bonus regulatory incentive.
Policy N3.8 Required High-Quality Design. High-quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements and procedures.	**Consistent.** The project would be designed pursuant to California Building Code and other applicable codes, and would be subject to Design Review approval by the City.
Policy N3.9 Orienting Residential Development. Residential developments should be encouraged to face the street and to orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure.	**Consistent.** The project is adjacent to an already-busy BART station site indicated for TOD development and is expected to develop taller and denser than surrounding uses and therefore, any change in sunlight, views, and privacy in the vicinity would not be considered unreasonable. The project includes enclosed on-site open space.

TABLE 4 EVALUATION OF CONSISTENCY WITH GENERAL PLAN AND WOSP

Relevant Policies, Principals, and Guidelines of the General Plan and WOSP	Project Consistency
Policy N3.10 Guiding the Development of Parking. Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized.	**Consistent**. 41 parking spaces would be provided on the ground floor garage on the project site. The project sponsor is seeking a concession to reduce the required number of parking spaces (111 spaces) to 41 spaces per the density bonus provision.
Policy N4.2 Advocating for Affordable Housing. The City encourages local non-profit organizations, affordable housing proponents, the business community, the real estate industry, and other local policy makers to join in efforts to advocate for the provision of affordable housing in communities throughout the Bay Area region.	**Consistent.** The project would involve adding 16 (9%) new very low income units.
Policy N6.1 Mixing Housing Types. The city will generally be supportive of a mix of projects that provide a variety of housing types, units sizes, and lots sizes which are available to households with a range of incomes.	**Consistent. T**he project includes a mix of residential units that vary in bedroom type and size that will accommodate households with varying incomes, including units that are affordable to very low income households.
Policy N7.1 Ensuring Compatible Development. New residential development in Detached Unit and Mixed Housing Type areas should be compatible with the density, scale, design, and existing or desired character of surrounding development.	**Consistent.** The project's choice of materials, design features, and scale of development would be compatible with existing character of surrounding development.
Policy N7.2 Defining Compatibility. Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height, scenic values, distance from public transit, and desired neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining compatibility. These factors should be balanced with the citywide need for additional housing.	**Consistent,** with density bonus. The project design would be consistent with the values that define compatibility. The project is located near infrastructure for utilities, transit, and community services. In height, scale, and development type, the project would be consistent with existing community character. The residential use would therefore be compatible with the Mixed Housing Type Residential land use goals in the General Plan.

TABLE 4 EVALUATION OF CONSISTENCY WITH GENERAL PLAN AND WOSP

Relevant Policies, Principals, and Guidelines of the General Plan and WOSP	Project Consistency
Policy N8.1 Developing Transit Villages. 'Transit Village' areas should consist of attached multi-story development on properties near or adjacent to BART Stations or other well-used or high volume transit facilities such as light rail, train, ferry stations or multiple-bus transfer locations. While residential units should be encouraged as part of any transit village, other uses may be included where they will not negatively affect the residential living environment.	**Consistent:** The project will add to the West Oakland Bart Station transit village on an underutilized site across the street from the BART Station and within walking distance of multiple AC transit lines including the 36, 62, and 14 bus lines. The proposal includes high-density residential uses.
Policy N9.7 Creating Compatible but Diverse Development. Diversity in Oakland's built environment should be as valued as the diversity in population. Regulations and permit processes should be geared toward creating compatible and attractive develop	**Consistent.** The project's choice of materials, design features, and scale of development would be compatible with existing character of surrounding development and is subject to Design Review approval by the City.
Policy N11.4 Alleviating Public Nuisances. The City should strive to alleviate public nuisances and unsafe and illegal activities. Code Enforcement efforts should be given as high a priority as facilitating the development process. Public nuisance regulations should be designed to allow community members to use City codes to facilitate nuisance abatement in their neighborhood.	**Consistent.** The project site would be developed to accommodate new residential uses per applicable codes.
West Oakland Specific Plan Guidelines- Applicant Submitted Consistency Assessment	
Economic Goal: Strengthen the economic base and expand the local economy of West Oakland through equitable land use development and inclusive economic revitalization	The Project will revitalize and rehabilitate this vacant site that was a yeast factory and brewery at one time with a high-density residential development.
Housing Goal: Expand Upon, Improve, and Stabilize the range of available housing opportunities	This new mixed-use development will provide housing across the street from the West Oakland BART Station and within walking distance of multiple AC transit lines, including the 36, 62, and 14 bus lines. The Project will include a range of housing opportunities, including 9% of the units affordable to very low-income households.

TABLE 4 EVALUATION OF CONSISTENCY WITH GENERAL PLAN AND WOSP

Relevant Policies, Principals, and Guidelines of the General Plan and WOSP	Project Consistency
Transportation Goal: Make necessary investments in public transportation and infrastructure systems to support and sustain new development	The project will greatly improve the pedestrian experience on this block. The project includes the construction of sidewalks on the east and south sides of the Project site where there are none existing and widening of the existing narrow sidewalk to the west in furtherance of these goals/objectives. The project will also maintain the network of bike routes through West Oakland by providing the entrance to the ground floor garage off Kirkham Street. In addition, the project removes the proposed garage entrance off Mandela Parkway at the request of Planning Department staff due to Mandela Parkway being a bicycle route. The building's design will also improve the pedestrian experience by replacing a vacant, underutilized lot with an attractive development that anchors this prominent lot adjacent to the West Oakland BART Station.
Social/Cultural Goal: Develop, foster and enrich the multicultural diversity of West Oakland	Compared to existing conditions, the project's addition of street trees as well as the new residents and pedestrians will bring new life to the site and improve public safety to the greater neighborhood.

(Michaels Organization, Basic Application for Development Review, Consistency with General Plan and WOSP)

IV. SUMMARY OF FINDINGS

An evaluation of the project is provided in the Chapter V, CEQA Checklist below. This evaluation provides substantial evidence that the project qualifies for an addendum/exemption from additional environmental review. The project was found to be consistent with the development density and land use characteristics established by the West Oakland Specific Plan, and any potential environmental impacts associated with its development were adequately analyzed and covered by the analysis in the WOSP EIR.

The project would be required to comply with any applicable City of Oakland Standard Conditions of Approval (SCAs) presented in Attachment A to this document: Standard Conditions of Approval and Mitigation Measures and Reporting Plan. With the implementation of the applicable SCAs, the project would not result in a substantial increase in the severity of significant impacts previously identified in the WOSP EIR, nor would it result in any new significant impacts not previously identified in the WOSP EIR. In particular,

(1) Although the proposed project adds project-level details to a site identified in the WOSP for development and leverages the State Density Bonus Law to allow for increased density, these features would not result in new significant environmental effects or a substantial increase in the severity of impacts identified in the WOSP EIR.

(2) There would be no new significant environmental effect or a substantial increase in the severity of impacts identified in the WOSP EIR due to changes in circumstances.

(3) There would be no new significant environmental effect or a substantial increase in the severity of impacts identified in the WOSP EIR due to new information.

Further, in accordance with Public Resources Code Sections 21083.3, 21094.5, and 21166, and CEQA Guidelines Sections 15162, 15164, 15183, 15183.3, and 15168, and as set forth in the CEQA Checklist below, the project qualifies for an addendum and one or more exemptions because the following findings can be made:

- **Addendum.** The WOSP EIR analyzed the impacts of development within the WOSP Area. The project would not cause new significant impacts not previously identified in the WOSP EIR and would not result in a substantial increase in the severity of previously identified significant impacts. No new mitigation measures are necessary to reduce significant impacts. The project meets the requirements for an addendum, as evidenced in Attachment B to this document: Criteria for Use of Addendum, per CEQA Guidelines Sections 15162, 15164, and 15168. Therefore, no supplemental environmental review can be required

in accordance with Public Resources Code Section 21166, and CEQA Guidelines Sections 15162 and 15164.

- **Community Plan Exemption.** Based on the analysis conducted in this document, the project also qualifies for a community plan exemption. The project is permitted in the zoning district where the project site is located, and is consistent with the bulk, density, and land uses envisioned for the site, as described in the WOSP EIR. This CEQA Analysis concludes that the project would not result in significant impacts that (1) are peculiar to the project or project site; (2) were not identified as significant project-level, cumulative, or off-site effects; or (3) were previously identified as significant effects but are determined to have a more severe adverse impact than discussed in the EIR. Findings regarding the project's consistency with the zoning are included as Attachment C: Project Consistency with Community Plan, General Plan or Zoning, Per CEQA Guidelines Section 15182, and 15183, to this document.
- **Qualified Infill Exemption.** The analysis indicates that the project qualifies for an infill exemption and is generally consistent with the required performance standards provided in CEQA Guidelines Appendix M, as evaluated in Attachment D: Infill Performance Standards, Per CEQA Guidelines Section 15183.3, to this document. This CEQA Analysis finds that the project would not cause any new specific effects or more significant effects than previously identified in the WOSP EIR, and that uniformly applicable development policies or standards (SCAs) would substantially mitigate the project's effects. The project site has been previously developed and is surrounded by urban uses. The project is consistent with the land use, density, building intensity, and applicable policies for the site. The project therefore meets the requirements for an infill exemption, as evidenced in Attachment D: Infill Performance Standards, Per CEQA Guidelines Section 15183.3, to this document.
- **Program EIRs and Redevelopment Projects.** Overall, based on an examination of the analysis, findings, and conclusions of the WOSP EIR, the potential environmental impacts associated with the project have been adequately analyzed and covered in prior program EIR. Therefore, no further review or analysis under CEQA is required.

Each of the above findings provides a separate and independent basis for CEQA compliance.

V. CEQA CHECKLIST

The Abbreviated Appendix N Checklist below compares potential environmental impacts of the project to the findings of the WOSP EIR, notes whether the project would result in new significant impacts or impacts substantially greater or more severe than those previously identified in WOSP EIR, and includes an explanation substantiating the findings for each topic. It uses the abbreviation SU for significant and unavoidable and LTS for less than significant.
The checklist also lists mitigation measures and standard conditions of approval applicable to the impacts. A full list of the SCAs applicable to the project can be found in Attachment A, Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCAMMRP), although it is noted that no mitigation measures beyond the SCAs are required for this project. More detail regarding the significance criteria used in this CEQA analysis and the environmental impacts of implementation of the WOSP is available in the WOSP Draft and Final EIR at the following link: **https://www.oaklandca.gov/topics/west-oakland-specific-plan**

When a dash (--) appears in the checklist below, it means that the WOSP EIR did not identify any MMs or SCAs related to that environmental impact. N/A appears when an MM or SCA was identified but it does not apply to the project (e.g., the project location does not meet the criteria specified in the MM or SCA). The SCAs that appear in the checklist represent the City's latest standards, revised January 24, 2020. In many cases, newer SCAs from the 2020 update have superseded the SCAs originally listed in the WOSP EIR. The numbers used to identify the SCAs are also reflective of the 2020 SCAs, not the numbers used in the WOSP EIR.

A. AESTHETICS, SHADOW, AND WIND

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Scenic Vistas or Resources Impact Aesth-1, and Aesth-2)	LTS	☒	☐	--	--	LTS
b. Visual Character or Quality (Impact Aesth-3)	LTS	☒	☐	--	--	LTS
c. Light or Glare (Impact Aesth-4)	LTS w/ SCAs	☒	☐	--	SCA Lighting Plan (#19)	LTS w/ SCAs
d. Shadows (Impact Aesth-5)	LTS	☒	☐	--	--	LTS
e. Adequate Lighting (Impact Aesth-6)	LTS	☒	☐	--	--	LTS
e. Wind (Impact Aesth-7)	LTS	☒	☐	--	--	LTS

Discussion

Under Public Resources Code Section 21099(d), effective January 1, 2014, aesthetics of "a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area" shall no longer be considered significant impacts on the environment. As a result, no further analysis is needed. Related to light and glare, implementation of SCA-AES-4: Lighting (#19) will ensure all light glare impacts are reduced to a less-than-significant level.

Independent of the CEQA analysis, the project would be required to implement the following SCAs, as found in Attachment A: SCA-AES-1: Trash and Blight Removal (#16), SCA-AES-2: Graffiti Control (#17), and SCA-AES-3: Landscape Plan (#18).

Non-CEQA Shadow Analysis

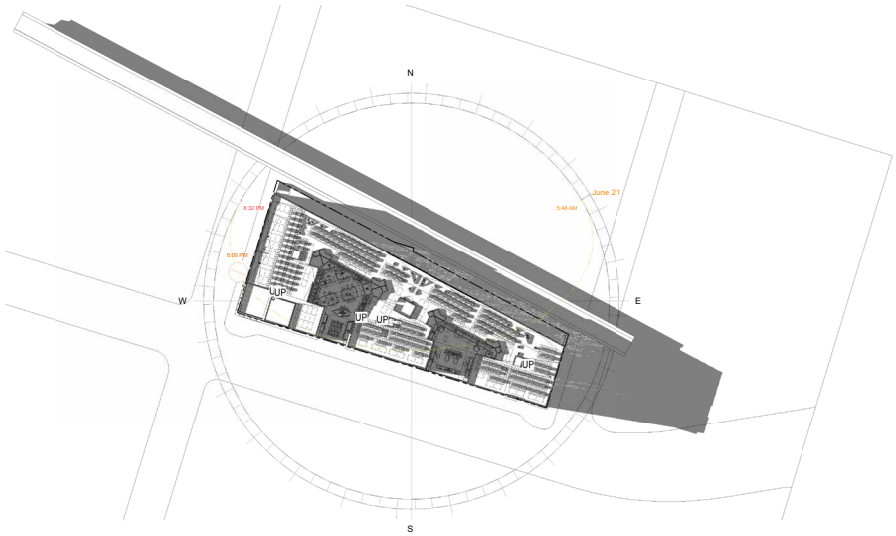
As described in the WOSP EIR, the anticipated development in the WOSP Area would not have significant impacts to shade and shadow, and thus, no mitigation measures or SCAs were required. To help inform the City's review of the project merits, a discussion of the potential shade and shadow effects of the project is provided below based on the shadow diagrams provided in the project plan set (dated January 1, 2021) and included here as Figures V-1, V-2, and V-3. Figure V-1 shows shadows during the summer solstice. Figure V-2 shows shadows during the

fall and spring equinox, and figure V-3 shows shadows during the winter solstice. All figures mentioned above show 4 times throughout the day: 9am, 12pm, 3pm and 6pm.

For projects where aesthetic impacts may be assessed under CEQA, the City utilizes the following thresholds of significance: a project would have a significant shadow impact if it were to:

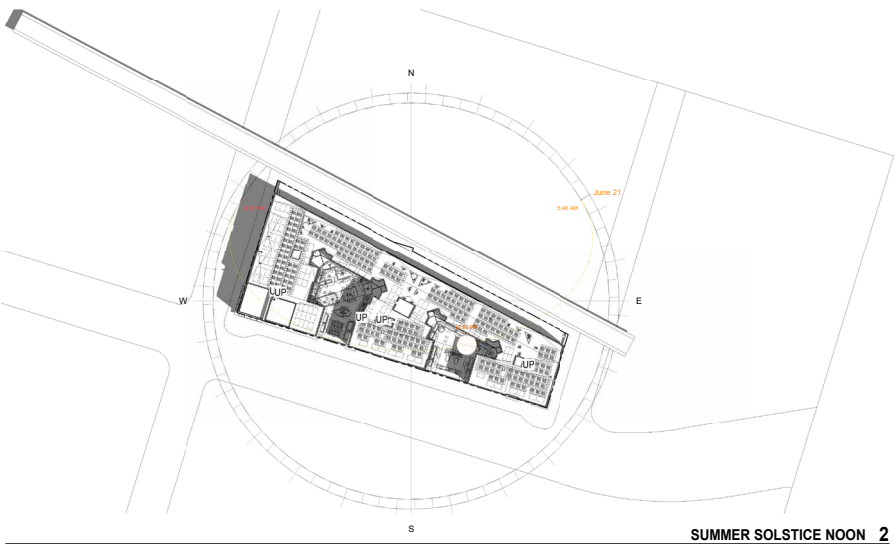
- Introduce landscape that would cast substantial shadows on existing solar collectors;
- Cast a shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors;
- Cast a shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space; or
- Cast a shadow on an historic resource such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics.

These criteria were used as guidelines for this Non-CEQA discussion. As summarized below the shadows associated with the project would not exceed any of the above thresholds. As shown in Figures V-1, the extent of the project's shadow during the summer solstice would be primarily onto adjacent streets and surface parking lots. As shown in Figure V-2, shadows extend onto adjacent streets, as well as the proposed development at 500 Kirkham Street at 6pm, as well as the proposed West Oakland BART TOD development to the west of Mandela Parkway at 9am. As shown in Figure V-3, shadows extend northwest across the Mandela Parkway, northeast across Kirkham Street and 7th Street, and well as extending to the proposed West Oakland TOD development to the west of Mandela Parkway.



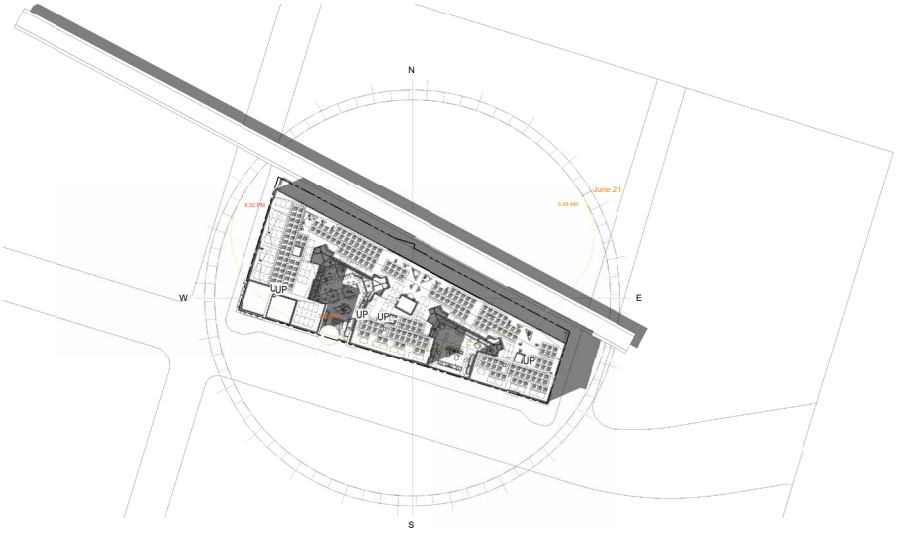
SUMMER SOLSTICE 6 PM 4

1" = 60'-0"



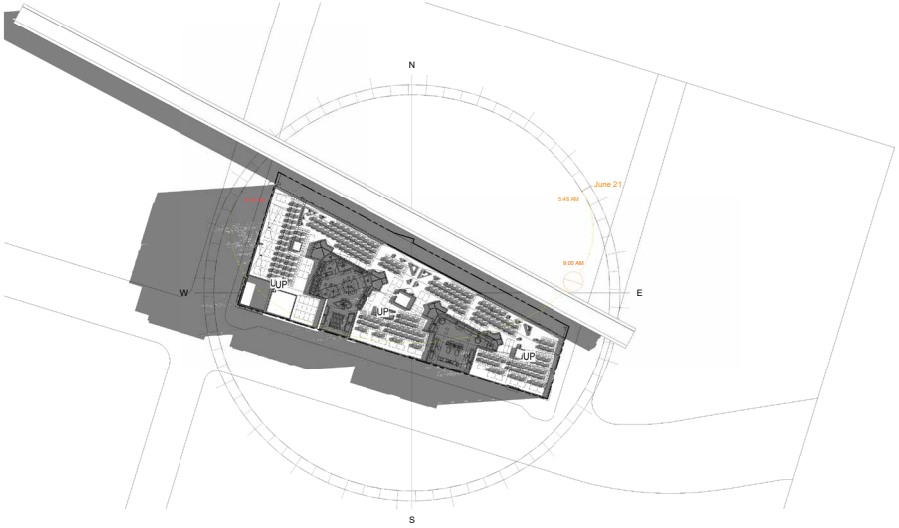
SUMMER SOLSTICE NOON 2

1" = 60'-0"



SUMMER SOLSTICE 3 PM 3

1" = 60'-0"

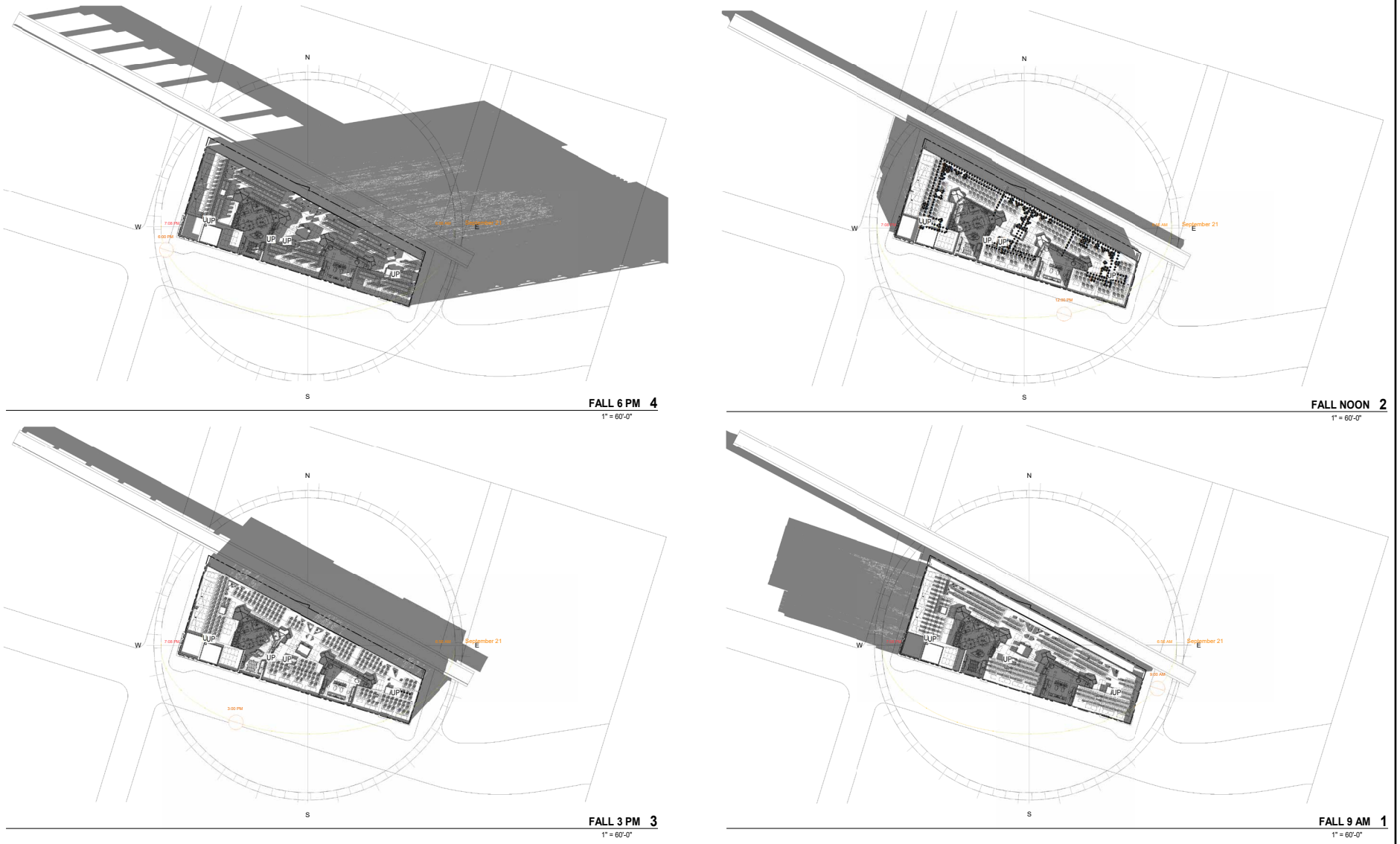


SUMMER SOLSTICE 9 AM 1

1" = 60'-0"

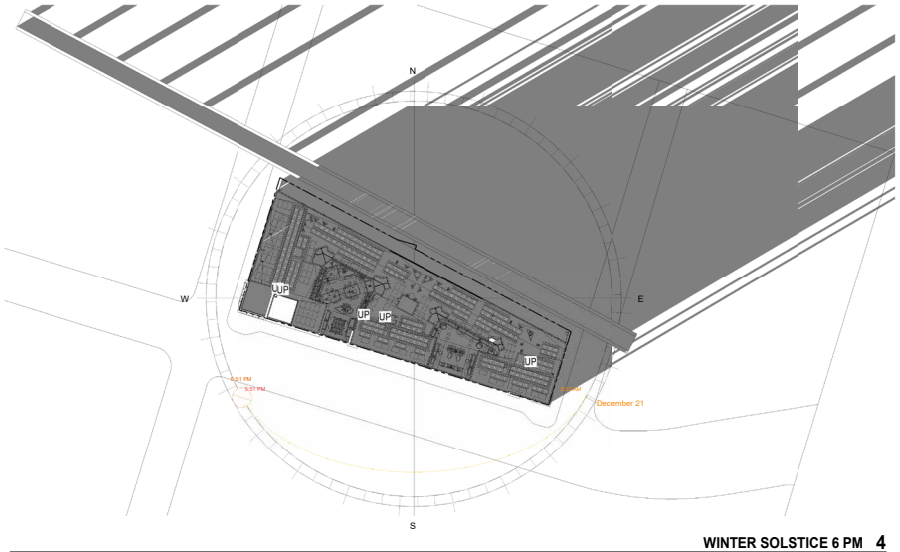
Source: BDE Architecture, 2021.

Figure V-1
Shadow Study - Summer Solstice
1396 5th Street CEQA Analysis

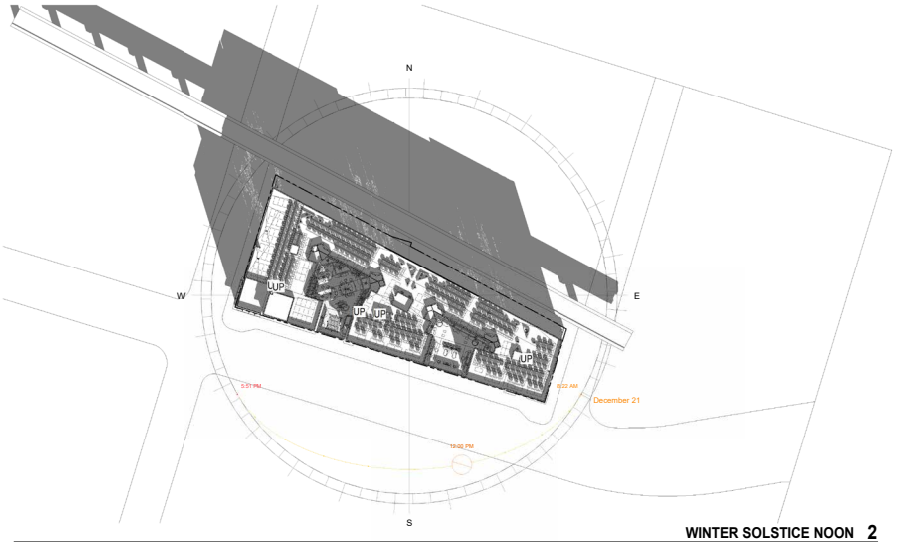


Source: BDE Architecture, 2021.

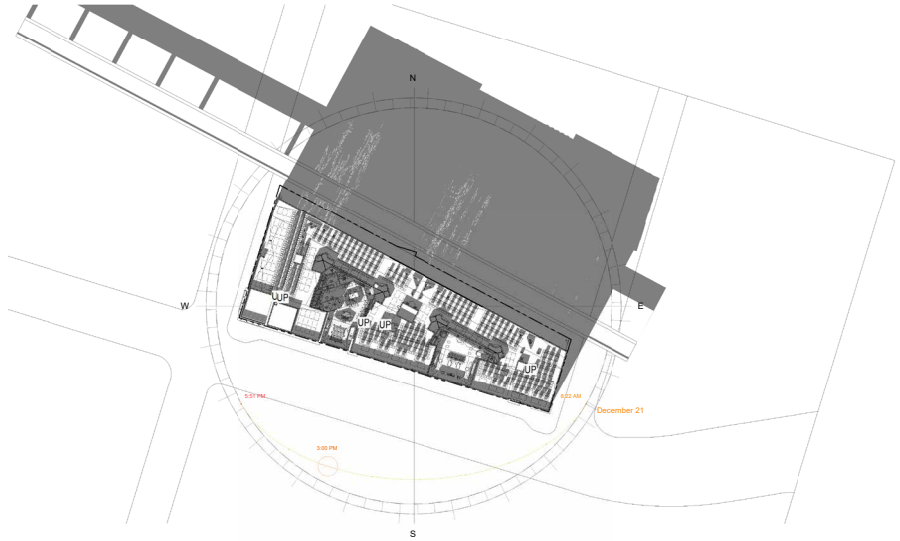
Figure V-2
Shadow Study - Equinox
1396 5th Street CEQA Analysis



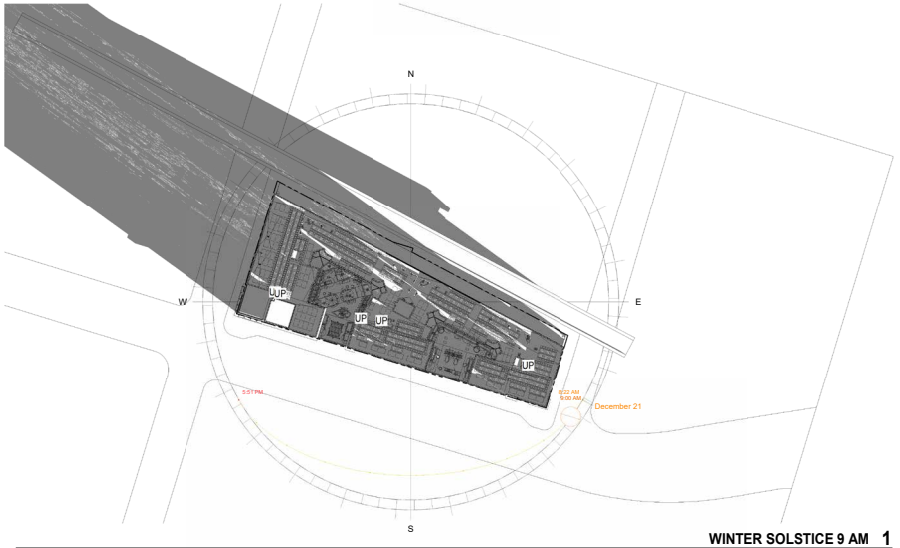
WINTER SOLSTICE 6 PM 4
1" = 60'-0"



WINTER SOLSTICE NOON 2
1" = 60'-0"



WINTER SOLSTICE 3 PM 3
1" = 60'-0"



WINTER SOLSTICE 9 AM 1
1" = 60'-0"

Source: BDE Architecture, 2021.

Figure V-3
Shadow Study - Winter Solstice
1396 5th Street CEQA Analysis

Known existing solar collectors in the area include a commercial-industrial building at 1260 7th Street (The Crucible Building)[14], as well as proposed solar collectors at 500 Kirkham Street on Building 1 and 2.[15] (500 Kirkham has been approved, but construction as of January 2021 has not yet started). This solar collector at 1260 7th Street is located north of 7th Street. Given that projects shadow does not reach north of 7th Street (except for very limited shadows during winter the winter solstice at 6pm), the project would not impair the existing solar collectors beneficial use installed at the Crucible building. The proposed project at 500 Kirkham includes three buildings, Building 1, Building 2 and Building 3. Building 1 and 2 are closest to the project site and will include solar panels.[16] The project would cast shadows on the planned solar panels on a portion of the project site including the space where Building 1 would be located during summer solstice at 6pm, during fall and spring equinox at 6pm on most of 500 Kirkham's project site including the space where Building 1 and 2 would be located, and during the winter solstice at 6pm on half of 500 Kirkham's project site including the space where Building 1 and 2 would be located.

While the project would cast shade upon nearby solar collectors located at the Crucible building, and the approved 500 Kirkham project shade would only affect the solar collectors during a time of day (at 6pm, during the year as described above) when generally lower levels of solar panel efficiency are present due to the lower solar angles, especially in winter when the sun sets typically around 5 or 6pm at night. In addition, the longer the sun shines, the more electricity the system will produce, meaning that summer months have higher solar panel efficiencies. As such because shading on solar collectors would occur only later in the day and evening, the presence of new shading would not substantially impair the functioning of the building and would not be a significant impact. Additionally, such shading impacts are to be expected, and analyzed in a transit developmental area with increased density. The WOSP vision for the 7th Street Opportunity Area (which includes the project site #23) includes higher-density housing, commercial and government/institutional office space around the core of the BART Station, and neighborhood-serving retail as well as ground-floor custom manufacturing/industrial arts/artist exhibition space. According to the WOSP EIR, site #23 has a proposed maximum corridor/commercial height limit of up to 100 feet.[17] The project proposes a maximum height of 85 feet; therefore the project is consistent with the form and height of the WOSP EIR such that any shadow impacts would have already been covered by the WOSP.

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[14] City of Oakland, 500 Kirkham Street Project-CEQA Analysis, April 2019, http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak072245.pdf, accessed August 24, 2020.

[15] City of Oakland, 500 Kirkham Street Project-CEQA Analysis, April 2019, http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak072245.pdf, accessed August 24, 2020.

[16] City of Oakland, 500 Kirkham Street Project-CEQA Analysis, April 2019, http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak072245.pdf, accessed August 24, 2020. (Project Plans are including in the Chapter IV, Project Description).

[17] City of Oakland, 2014. West Oakland Specific Plan, Draft Environmental Impact Report, Figure 3-11, Propsoed Zoning Height Limit Change, West Oakland BART Statnoi TOD, Opportunity Sites 23, 24, and 25. SCH 2012102047, January.

Existing open space in the area includes the Mandela Parkway Median park and open space area, and open space at Mandela Parkway and 8th Street. Both open space areas would receive very limited shadows during the winter months in the evening past 6pm for a limited amount of time. Based on the short duration and the occurrence over only a few months near the winter solstice at a time when the sun is already setting, the presence of new shading would not substantially impair the beneficial use of these parks and open spaces and therefore would not be considered a significant impact.

The West Oakland BART TOD project, which is expected to begin construction in the fall of 2021, would include public ground level open space consisting of plaza and pedestrian circulation areas, additionally, the two buildings containing residential uses also have common open space, including a landscaped terrace, courtyards and private decks.[18] The project would cast shadows on the planed open space during fall and spring equinox at 9am and during the winter solstice at 9am for a limited amount of time.

Based on the short duration and the occurrence over only a few months near the winter solstice, and fall and spring equinox, the presence of new shading would not substantially impair the beneficial use of these planned parks and open spaces and therefore would not be considered a significant impact.

No known historic architectural resources in the vicinity would be affected by new project shadows.

[18] City of Oakland, WOB TOD Project, Addendum #1 to the WOSP EIR, January 2019, http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak071986.pdf, accessed August 24, 2020.

B. AIR QUALITY

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Odor Impacts (impact Air-3)	SU	☒	☐	--		SU
a. Construction Criteria Air Pollutant Emissions (Impact Air-4, and Air-5)	SU	☒	☐	--	SCA Dust Controls-Construction Related (#20) SCA Criteria Air Pollutant Controls - Construction-Related (#21) SCA Diesel Particulate Matter Controls-Construction Related (#22)	LTS with SCA given the project is less than 240 units in a mid-rise building
b. Construction Toxic Air Emissions (Impact Air-6)	LTS	☒	☐	--	SCA Dust Controls-Construction Related (#20) Contaminants) (#25)	LTS with SCA
c. Operational Criteria Air Pollutant Emissions (Impact Air-7)	SU	☒	☐	--	SCA Transportation and Parking Demand Management (#78)	LTS given project is less than 494 units in a mid-rise building
d. Operational Toxic Air Contaminants (Impact Air-9)	Conservatively SU	☒	☐	Mitigation Measure Air-9B[19]	SCA Exposure to Air Pollution (Toxic Air	Conservatively SU

[19] Mitigation Measure Air-9B: Installation of non-diesel fuel generators has been incorporated into the City's SCAs adopted in 2020 as part of SCA-AIR-5: Stationary Sourceces of Air Pollution Exposure to Air Pollution (Toxic Air Contaminants) (#24). Only the SCA appears in Attachment A, not the mitigation measure.

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
				Mitigation Measure Air-9C[20]	Contaminants) (#23) SCA Stationary Sources of Air Pollution (Toxic Air Contaminants (#24)	
e. Cancer and Health Risk (Impact Air-10)	SU	☒	☐	MM Air-10[21]--	SCA Exposure to Air Pollution (Toxic Air Contaminants) (#23) --	SU

Note: The WOSP EIR analyzes impacts at both the program and project level. This CEQA document, as mandated, only considers the project-level significance criteria and impacts identified as potentially significant.

Discussion

Air Quality was analyzed in the WOSP EIR, which found impacts related to construction-period and operational air pollutant emissions and operational toxic air contaminants to be significant and unavoidable under build-out of the WOSP EIR. In this case, the project's construction-period dust and toxic air contaminants were found to be reduced to a less-than-significant level through implementation of SCAs. All other project impacts were found to be less-than-significant.

The project would provide 222 units in a mid-rise apartment, which is within the amount of development assumed in the WOSP EIR for the 7th Street Opportunity Area as discussed in Chapter III, Project Consistency Assessment. Therefore, the project would contribute to the identified emissions and significant impacts identified in the WOSP EIR, and the air quality impact analysis and conclusions presented in the WOSP EIR remains valid so long as the

[20] Mitigation Measure Air-9C: Installation of diesel generators with an EPA-certified Tier 4 engine or Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy. is now found in SCA-AIR-5 Stationary Sourceces of Air Pollution (Toxic Air Contaminants) (#24). Only the SCA appears in Attachment A, not the mitigation measure.

[21] Mitigation Measure Air-10 is now included in SCA-AIR-4: Exposure to Air Pollution (Toxic Air Contaminants) (#23). Only the SCA appears in Attachment A, not the mitigation measure.

development in the overall Plan Area remains below the forecasted level. Since the approval of the WOSP EIR, thirteen developments, including this project, have been proposed and are under construction or are in some stage of the City's approval process. As detailed in subsection M, Transportation, the current proposal is within the overall development assumed in the WOSP EIR, and thus it remains valid.

Odors (Impact AIR-3 in WOSP EIR)

As noted in the WOSP EIR, CEQA requires the analysis of potential adverse effects of a project on the environment. Potential effects of the environment on a project are legally not required to be analyzed or mitigated under CEQA. However, the WOSP EIR nevertheless analyzed potential effects of the environment on the project (i.e., siting new receptors near new odor sources) in order to provide information to the public and decisionmakers (Impact Air-3).

The East Bay Municipal Utility District (EBMUD) Main Wastewater Treatment Plant (WWTP) is located west of West Oakland. Odors from the WWTP are usually caused by gases produced when organic matter decomposes. The most typical odor is hydrogen sulfide. The 2011 EIR for EBMUD's Main Wastewater Treatment Plant Land Use Master Plan found that the project (EBMUD's Main Wastewater Treatment Plant Land Use Master Plan) would upgrade odor control facilities to address community concerns and respond to regulatory requirements, and was expected that the project would reduce odors. Despite these measures, odors from EBMUD WWTP are unlikely to be fully prevented.

There are no feasible mitigation measures identified for reducing the impact of sensitive receptors near odor sources expect for increasing the distance between the receptor and the source. While the project is approximately 1.5 miles south of the EBMUD WWTP,, impacts related to odors would be significant and unavoidable, since there are no SCA requirements, or mitigation measures outlined in the WOSP EIR to reduce the risk to acceptable levels.

Construction Emissions (Impact AIR-4, AIR-5, AIR-6 in the WOSP EIR)

Project construction activities would generate fugitive dust, criteria air pollutant emissions and toxic air contaminants that could adversely affect regional air quality. These impacts were studied in the WOSP EIR under Impacts Air-4, 5, and 6, respectively. Impacts related to each of these would be reduced to a less-than-significant level with the identified SCAs. Additionally, with 222 units in a mid-rise apartment, the project is below the Bay Area Air Quality Management District (BAAQMD) screening threshold for criteria air pollutants construction emissions. The WOSP EIR found that an individual project consistent with the WOSP would be unlikely to result in a significant impact due to the generation of construction-related criteria air pollutants if the

project did not exceed 240 units in a mid-rise apartment and implements the City's SCAs.[22] Indicating that project construction would not generate significant criteria air contaminant emissions. With implementation of SCA-AIR-1, SCA-AIR-2, SCA-AIR-3, and SCA-AIR-4, the project construction related air impacts would be less-than-significant consistent with the findings of the WOSP EIR.

Operation Emissions (Impact AIR-7, and Impact AIR-9 in the WOSP EIR)

The project includes 222 units in a mid-rise apartment, putting it below the BAAQMD's screening threshold for a significant impact for operational emissions of criteria air pollutants included in the WOSP EIR (Impact AIR-7). The WOSP EIR found that an individual project consistent with the WOSP would unlikely result in a significant impact due to the generation of operational-related criteria air pollutants if the project did not exceed 494 units in a mid-rise apartment or 540,000 square feet within a light industrial building.[23] The project may include an emergency diesel generator for the elevator, so the project would be subject to WOSP Mitigation Measure AIR-9: Risk Reduction Plan, which is now found in SCA-AIR-5 Stationary Sources of Air Pollution (Toxic Air Contaminants #24). Despite the City's SCAs, it is conservatively estimated that cumulative conditions and project-level impacts related to the emissions of TACs during project operations would be significant and unavoidable. This finding is consistent with WOSP Impact Air-9 and no further analysis is required.

Cancer and Health Risks (Impact AIR-10 in WOSP EIR)

As noted in the WOSP EIR, CEQA requires the analysis of potential adverse effects of a project on the environment. Potential effects of the environment on a project are legally not required to be analyzed or mitigated under CEQA. However, the WOSP EIR nevertheless analyzed potential effects of the environment on the project (i.e. siting new receptors near existing TAC sources) in order to provide information to the public and decisionmakers (Impact Air-10). The project site is within 500 feet of I-880 and subject to emissions from the I-880 freeway that are indicated to result in a risk of contracting cancer. At 500 feet from the freeway, this risk is reduced to approximately 32 in one million, exceeding the threshold level of 10 in one million. Similarly, the site is subject to PM2.5 concentrations that exceed the threshold of 0.3 ug/m3. In addition, the project site is located approximately 380 feet from a stationary source. [24]

[22] City of Oakland, 2014. West Oakland Specific Plan – Draft EIR, Chapter 4.2 Air Quality, p 4.2-39.

[23] City of Oakland, 2014. West Oakland Specific Plan – Draft EIR, Chapter 4.2 Air Quality, p 4.2-42.

[24] Bay Area Air Quality Management District, Tools and Methodologies, Permitted Stationary Source Risk Map, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65, accessed August 19, 2020.

The WOSP EIR identifies SCAs to minimize these impacts but recognizes that they cannot with certainty reduce risks to an acceptable level. While the site planning and filtration methods can capture/screen out airborne particulate matter and will reduce PM2.5 concentrations to less-than-significant levels, these methods do not reduce risks from gaseous TACs. There are no known feasible technologies or site planning considerations that have been shown to reduce risks of gaseous TACs. Therefore, impacts related to gaseous TACs would be significant and unavoidable, since SCA requirements are not sufficient to reduce the risk to acceptable levels.

The project would be required to implement the following SCAs, as found in Attachment A: SCA-AIR-1: Dust Controls – Construction Related (#20), SCA-AIR-2: Criteria Air Pollutant Controls – Construction-Related (#21), SCA-AIR-3: Diesel Particulate Matter Controls – Construction Related (#22), SCA-AIR-4: Exposure to Air Pollution (Toxic Air Contaminants) (#23), and SCA-AIR-5: Stationary Sources of Air Pollution (Toxic Air Contaminants (#24).

C. BIOLOGICAL RESOURCES

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Special-Status Species (Impact Bio-1), Wildlife Corridors (Impact Bio-4)	LTS w/ SCAs	☒	☐	--	--	LTS
b. Riparian Habitat and Sensitive Natural Communities (Impact Bio-2)	No Impact	☒	☐	--	--	No Impact
c. Wetlands (Impact Bio-3)	No impact	☒	☐	--	--	No Impact
d. Tree and Creek Protection (Impact Bio-5)	LTS w/ SCAs	☒	☐	--	--	LTS
e. Habitat Conservation Plan (Impact Bio-6)	No Impact	☒	☐	--	--	No Impact

Discussion

The project site is disturbed/vacant, with pavement and some ruderal vegetation and is located within a developed area. Wildlife and botanical resources present within the project site are adapted to disturbed, urban conditions and would not be adversely affected by the implementation of the project.

The WOSP EIR determined that due to the absence of natural habitat in the Plan Area, special-status species and habitat as well as wildlife corridors and wetlands were not expected to be present within the Plan Area, with the exception of common birds, which are protected when nesting under the Migratory Bird Treaty Act. Neither the City of Oakland's LUTE or Open Space, Conservation, and Recreation Element (OSCAR)[25] identify the site as hosting protected habitat, special status plant or animal species, or the four native plant communities of particular conservation value identified by the OSCAR. Additionally, no protected, candidate, or special status plant or animal species has its habitat in the type of landscape that exists at the project site.

No creeks exist on the project site, and no off-site creeks would be affected by the project, consistent with WOSP Impact Bio-2. According to the OSCAR, there are no wetlands known to occur within the Planning Area, therefore there would be no impact on wetlands, or indirectly

[25] City of Oakland, 1996. LUTE, Open Space, Conservation, and Recreational Element.

impacts to the hydrology, soil, vegetation or wildlife of wetlands, consistent with WOSP EIR Impact Bio-3.

There are no habitat conservation plans or natural community conservation plans applicable to the site per WOSP EIR Impact Bio-6.

Construction of the project would require removal of two existing landscaping trees at the project site. The WOSP EIR determined that through compliance with SCA-BIO-2: Tree Permit (#31) (which combines the tree removal and tree replacement SCAs identified in the WOSP EIR), tree removal for Plan Area projects would comply with the applicable City of Oakland Tree Protection Ordinance. With implementation of SCA-BIO-2, the project impact would be consistent with the WOSP Impact Bio-5 and no further analysis is required with respect to tree and creek protection.

D. CULTURAL RESOURCES

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Historical Resources (Impact CR-1)	LTS w/ SCAs	☒	☐	--	N/A	LTS
b. Archaeological Resources (Impact CR-2)	LTS w/ SCAs	☒	☐	--	SCA Archaeological and Paleontological Resources – Discovery During Construction (#32)	LTS w/ SCAs
c. Paleontological Resources & Human Remains (Impact CR-2)	LTS w/ SCAs	☒	☐	--	SCA Archaeological and Paleontological Resources – Discovery During Construction (#32) Archaeologically Sensitive Areas – Pre-Construction Measures (#33)	LTS w/ SCAs

Discussion

The project site is currently a paved vacant lot that was previously excavated, filled, and partially developed but destroyed mid-way through construction due to arson. It is not adjacent to any of the historically significant structures identified in the WOSP EIR and therefore SCAs identified in the WOSP EIR related to historic preservation and vibration adjacent to historic structures are not applicable. The 2014 WOSP EIR showed that the project site is near, but not within, the Oakland Point Area of Primary Importance (Oakland Point API), whose southern boundary is one half to one full block north of the project site across the BART tracks and 7th Street. The 2014 WOSP EIR clearly states that properties surrounding the Oakland Point API do not contribute to its historical

significance.[26] The WOSP EIR determined that Areas of Secondary Importance (ASIs) did not qualify as significant historical resources under CEQA and therefore, while the project site is near Chester Street close to the South Prescott ASI, there would be no potential for significant historic impacts on this area. Therefore, the project impact would be consistent with the WOSP Impacts CR-1 and CR-2 and no further analysis is required with respect to historic resources.

With respect to archaeological, paleontological, and Native American resources, and human remains, the WOSP EIR concluded that the Plan Area is located in an area of moderate to high potential for unrecorded historic-period archaeological and/or Native American resources. Compliance with the following SCAs, which are functionally equivalent to the SCAs that were in effect at the writing of the 2014 WOSP EIR, would ensure that any construction-related impacts to historic or potentially historic properties adjacent to the project site are mitigated to a less-than-significant level: SCA-CUL-1: Archaeological and Paleontological Resources – Discovery During Construction (#32); SCA-CUL-2 Archaeologically Sensitive Areas – Pre-Construction Measures (#33); and SCA-CUL-3: Human Remains – Discovery During Construction (#34).

[26] The only properties that surround the Oakland API and contribute to its historical significance are those at the southern end, where it adjoins the remnants of the 7th Street commercial district.

E. GEOLOGY, SOILS, AND GEOHAZARDS

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Seismic Hazards (Impact Geo-1, Impact Geo-2, and Impact Geo-3)	LTS w/ SCAs	☒	☐	--	SCA Construction-Related Permit[s] (#36)	LTS w/ SCAs
b. Expansive Soils & Soil Erosion (Impact Geo-4, and Impact Geo-5)	LTS w/ SCAs	☒	☐	--	SCA Construction-Related Permits (#36) SCA Erosion and Sedimentation Control Measures for Construction (#47) SCA Seismic Hazards Zone (Landslide/Liquefication #39)	LTS w/ SCAs
c. Soils Incapable of Supporting Septic Systems (Impact Geo-6)	No Impact	☒	☐	--	--	No Impact

Discussion

Seismic Hazards (Impact Geo-1, Geo-2 Geo-3 in the WOSP EIR)

The WOSP EIR noted that there are no Alquist-Priolo Earthquake Fault Zones within the Plan Area and therefore no significant impact related to fault rupture. The WOSP EIR further noted that the Plan Area, including the project site, is located within the greater San Francisco Bay Area, a seismically active region with risks of strong seismic ground shaking and seismic-related ground failure, particularly the potential for liquefaction at and around the project site. The nearest active fault to the project site is the Hayward-Rodgers Creek Fault, which is located approximately 4.5 miles east of the project site, and would experience very strong shaking in the event of a magnitude 6.8 earthquake of the Hayward Fault[27] The project site is not located within

[27] Salem Engineering Group, Inc., 2020. Update Geotechnical Engineering Investigation. *Proposed 8-story Mixed Use Retail and Residential Building, 1396 5th Street, West Oakland, California*, June 5.

or adjacent to an Alquist-Priolo Earthquake Fault Zone,[28] and therefore would not result in significant impacts with respect to rupture of a known earthquake fault. The project site is also not within an earthquake-induced landslides hazard zone, but is located within a liquefaction hazard zone, as designated on a map prepared by the California Geological Survey.[29]

SALEM Engineering prepared a Geotechnical Investigation report for the site on June 2, 2011. As discussed in the project description, there was a prior development on the project site known as Red Star, which was a 5-story framed structure planned as a senior living center. The previous 2011 geotechnical report identified very loose silty sand soils from the surface to depths of about 25 feet below surface grade (BSG). The near surface very loose materials were underlain by medium dense to very dense silty sand soils to the maximum depth explored of 50 feet BSG. Groundwater was noted at depths of about 2 feet BSG.

Expansive Soils and Soil Erosion (Impact Geo-4, and Impact Geo-5 in the WOSP EIR)

Liquefaction/seismic settlement analysis performed at the time of the 2011 investigation revealed potentially liquefiable soils from 2 feet to depths of about 20 to 25 feet BSG. Total seismic settlements due to liquefaction were estimated to be around 6 inches. In addition, an estimate of lateral spreading of over 5 feet was reported. Due to the potential for excessive seismic settlement, lateral spreading, and loss of bearing due to shallow liquefiable soils, the previous report recommended mitigation, such as support of foundations on rammed aggregate piers extending to depths of at least 25 feet BSG.

A supplemental report entitled "Compaction Grouting Recommendations" dated August 9, 2011 was prepared to supplement the June 2011 geotechnical report. During initial installation of rammed aggregate piers, layers of soft, organic soils revealed that densification using rammed aggregate piers was not feasible for the project. Therefore, a September 14, 2011 letter, prepared by SALEM, included design recommendations for use of grouted aggregate piers to support shallow foundations. Grouted aggregate piers were installed at several locations. Building construction continued to mid-2012, including framing of the structure. Due to a fire around May/June 2012, the building was a complete loss, and the site was demolished, and the concrete foundations and pile caps were removed, abandoning the grouted aggregate piers.

The soil borings and laboratory test data included in the previous 2011 geotechnical report were considered as part of the updated geotechnical investigation for this project (1396 5th Street), included in this addendum as Attachment E. The soils identified in the updated geotechnical investigation were generally very similar to findings of the 2011 geotechnical investigation. The

[28] California Department of Conservation, (CDC), 1982. Special Studies Zones, Oakland West, January 1.

[29] California Geologic Survey (CGS), 2003. State of California Seismic Hazard Zones, Oakland West Quadrangle Official Map. Released February 14.

soils included loose to loose silty sand and poorly graded sanded soils from the surface to depths around 18 to 22 feet BSG. It is anticipated that the site will require additional ground improvement modification to deal with loose soil, and liquefiable layers, and recommended measures are discussed to deal with this such as soil-cement columns, to further mitigate the potential for liquefaction and loss of bearing. The report recommends deep ground improvements such as social cement columns that should extend to depths of at least 25 feet BSG.

Based on review of the previous report, lateral spreading of up to 5 feet may occur within the vicinity of the project site, but if the building is supported on deep ground improvement elements (such as-soil-cement columns), the effects of lateral spreading to impact the site would be considered low. Groundwater levels on the project site range from approximately 2 to 4 feet below the existing ground surface. Fluctuations in groundwater levels should be expected during seasonal changes or over a period of years because of precipitation changes, perched zones, changes in drainage patterns, and/or irrigation.[30]

According to the updated geotechnical report, the project is feasible from a geotechnical viewpoint provided that the recommendations in the report are followed. The primary geotechnical concern for the site is the potential for differential seismic settlement. Recommendations related to deep ground improvements, and soil cement columns are discussed in more detail in Attachment E, Geotechnical Report. In addition, the near surface soils identified are very moist to overly saturated due to the absorption characteristics of the soil. Because of this characteristic and the potential for shallow groundwater, excavations will require dewatering and stabilization.

Geology, soil erosion, and seismic geohazards were analyzed in the WOSP. The WOSP Area is relatively flat and far from hillsides, and would not expose people or structures to landslides. However, the WOSP EIR found that future development under the WOSP could expose people or structures to substantial adverse effects due to strong seismic ground shaking, seismic-related ground failure, and unstable geologic and soils conditions. In addition, the WOSP EIR found that development of the WOSP Area could result in the loss of topsoil through erosion. These potential geologic impacts would be reduced to a less-than-significant level through compliance with local and state regulations governing design and construction practices, such as the California Building Code, and through implementation of the City of Oakland's SCAs. The geotechnical issues specific to the project do not rise to a level of significance greater than those impacts analyzed in the WOSP EIR.

The project would be required to comply with the City's SCAs related to geology and soils prior to approval of construction-related permits, including SCA-GEO-1: Construction-Related Permit(s)

[30] Salem Engineering Group, Inc. 2020. Update Geotechnical Engineering Investigation. *Proposed 8-story Mixed Use Retail and Residential Building, 1396 5th Street, West Oakland, California*, June 5.

(#36) which would require the project to comply with all standards, requirements and conditions contained in construction-related codes to ensure structural integrity and safe construction. Because the project site is located in a Seismic Hazards Zone, it would be required to comply with SCA-GEO-2: Seismic Hazards Zone (#39) which would require the project to implement the recommendations of the 2020 site-specific geotechnical report prepared by SALEM Engineering group discussed above to address seismic hazards that may be present on the site.

In addition the project would be required to comply with SCA-HYD-1: Erosion and Sedimentation Control Plan for Construction (#47), and SCA-HYD-2: State Construction General Permit (#49), which would ensure that the project would not result in significant impacts related to geology, soils, and geohazards.

Soils Incapable of Supporting Septic Systems (Impact Geo-6 in the WOSP EIR)

All properties within the Planning Area, including the project site are connected to the City of Oakland Sanitary Sewer system. Therefore, the project, like the Specific Plan would have no impact related to capacity of soils to adequately support the use of septic tanks or alternative wastewater disposal systems.

F. GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. GHG Emissions (Impact GHG-1)	LTS	☒	☐	--	SCA Green Building Requirements (#85) SCA Construction and Demolition Waste Reduction and Recycling (#81) SCA Landscape Plan (#18) SCA Erosion and Sedimentation Control Plan for Construction (#48) SCA Source Control Measures to Limit Stormwater Pollution (#53) SCA Recycling Collection and Storage Space (#84) SCA Sanitary Sewer System (#87) SCA Recycled Water (#89)	LTS w/ SCAs
b. Consistency with Applicable GHG Plans (Impact GHG-2)	LTS	☒	☐	--	SCA Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist (#41)	LTS

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
c. New Stationary Sources of GHG Emissions, Individual Development Projects (Impact GHG-3)	SU	☒				LTS

Discussion

The WOSP EIR evaluated potential plan- and project-level impacts related to greenhouse gas (GHG) emissions from construction and operation of development under the WOSP utilizing a bright-line threshold and an efficiency threshold. A bright-line threshold is a quantitative threshold for a given project based on the total mass emissions generated by the project. An efficiency threshold is a quantitative threshold based on a measurement of the GHG efficiency for a given project, regardless of the total amount of mass emissions. Projects that attain a bright-line or efficiency target, with or without mitigation, would result in less-than-significant impacts related to GHG emissions. The efficiency metric used in this analysis is based on the statewide GHG emissions divided by the "service population" (SP), which is the sum of people who live (residents) and work (employees) in California. According to the City of Oakland's threshold of significance applicable at the time of certification of the WOSP EIR, a project would have a significant impact if it would produce total GHG emissions above the bright-line threshold of 1,100 metric tons of carbon dioxide equivalents (CO_2e) annually and the efficiency threshold of 4.6 metric tons of CO_2e per service population annually.

The WOSP EIR analyzed the quantity of GHG emissions attributable to projected future development within the West Oakland Specific Plan Opportunity Areas as compared to existing (2013) emissions as well as the GHG emissions projected from current land uses in the West Oakland Opportunity Areas as they would occur in 2035 (without future development as envisioned under the Specific Plan). The EIR found that future projects and development under the WOSP would be required to implement SCAs that would reduce GHG emissions during construction and operation of projects and, with the exception of new stationary sources of GHG, would be expected to meet applicable thresholds and result in less-than-significant impacts.

The WOSP EIR further found that the WOSP would not conflict with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. The EIR stated that the WOSP includes several policy-based design features that would be effective in reducing GHG emissions on an area-wide basis as individual development projects are incrementally proposed and developed, and future development consistent with the WOSP would comply with the applicable

requirements of the City's Energy and Climate Action Plan.[31] Therefore, the WOSP EIR determined that the impact related to consistency with applicable plans, policies or regulations to reduce GHG emissions would be less than significant.

With respect to stationary sources, however, even with implementation of SCAs, the WOSP EIR determined that GHG impacts from new industrial and commercial development that introduces new stationary sources of GHG emissions could be significant and avoidable. While the project is consistent with the WOSP EIR analysis and therefore would have a less-than-significant impact with regard to GHG emissions, a GHG emissions analysis was prepared for the project to determine whether SCA-GHG-1: GHG Reduction Plan (#42) would apply to the project. The City's GHG Reduction Plan SCA applies to projects of a certain minimum size that produce total GHG emissions exceeding one or both of the City's thresholds of significance. As discussed below, the SCA-GHG-1: GHG Reduction Plan (#42) is not applicable to the project. A copy of the GHG emissions analysis is included in Attachment E.

Updated Regulatory Setting and Significance Criteria

The WOSP EIR used applicable City of Oakland's thresholds of significance recommended by the Bay Area Air Quality Management District (BAAQMD). BAAQMD has adopted and incorporated GHG thresholds of significance into their CEQA Guidelines[32] to assist lead agencies in evaluating and mitigating air quality impacts under CEQA, for which the City has also adopted. The BAAQMD's GHG thresholds were developed to evaluate stationary sources and whether land-use sector projects would comply with the statewide 2020 GHG reduction goal under Assembly Bill (AB) 32 to reduce GHG emissions to 1990 levels. The scientific soundness of the thresholds is supported by substantial evidence presented in the BAAQMD's Revised Draft Options and Justification Report.[33] In September 2016, Senate Bill (SB) 32 was signed into law to expand upon AB 32 to require the State to reduce GHG emissions to at least 40 percent below 1990 levels by 2030. The BAAQMD is in the process of updating their CEQA Guidelines to include revised significance thresholds to evaluate long-term GHG reduction goals beyond 2020. The WOSP EIR included an analysis of GHG emissions using the BAAQMD then-current May 2011 CEQA Guidelines. While BAAQMD has since updated its CEQA Guidelines – the latest was issued in May 2017 – there have been no changes to the thresholds applicable to the project.

The City of Oakland has also adopted its own long-term goal of reducing GHG emissions 56 percent below 2005 levels by 2030. The City Energy and Climate Action Plan (ECAP) was adopted on December 4, 2012, as an environmental policy to address the issues of climate change and

[31] City of Oakland, 2012. Energy and Climate Action Plan. December 4.

[32] Bay Area Air Quality Management District (BAAQMD), 2017. CEQA Air Quality Guidelines, May.

[33] Bay Area Air Quality Management District (BAAQMD), 2009. Revised Draft Options and Justification Report: CEQA Thresholds of Significance, October.

energy consumption. The ECAP, now the Equitable Climate Action Plan, was updated to reflect the City's updated reduction target of 56 percent under 2005 levels by 2030 and was adopted on July 28, 2020. The City adopted a new SCA (#42) and a new CEQA threshold of significance in December 2020, which requires a project to complete an ECAP Consistency Checklist to determine whether the project complies with the City's ECAP and the GHG emissions reduction target for 2030.[34] The ECAP Consistency Checklist includes topics such as consistency with the General Plan, parking limitations to reduce vehicle trip generation, electric vehicle charging infrastructure requirements, and all electric buildings (i.e., no natural gas connections). If a project can qualitatively demonstrate compliance with the ECAP Consistency Checklist items, or alternatively demonstrate to the City's satisfaction why an item is not applicable, then the project will be considered in compliance with the City's 2020 CEQA GHG threshold of significance.

Since GHG issues were known or could have been known when the WOSP EIR was being prepared, revised thresholds or guidelines are not legally "new information" as specifically defined under CEQA. Therefore, consistent with requirements for analysis of a project in an addendum under CEQA, the impact discussion below is focused on whether the impact of the project to the environment – being the resultant amount of GHG emissions – would be more severe than that analyzed in the WOSP EIR.

Project Analysis

Greenhouse Gas Emissions

The project's GHG emissions were estimated to determine whether the project's impact would be more severe than that analyzed in the WOSP EIR, and to determine whether SCA-GHG-1: GHG Reduction Plan (#42) would apply to the project. BAAQMD recommends using the most current version of CalEEMod (version 2016.3.2) to estimate construction and operation emissions for a land use project. CalEEMod uses widely accepted models for emission estimates combined with appropriate default data for a variety of land use projects that can be used if site-specific information is not available. The default data (e.g., emission factors) are supported by substantial evidence provided by regulatory agencies and a combination of statewide and regional surveys of existing land uses and resources. Additional project-specific information used to calculate GHG emissions in CalEEMod, including changes to default data, is detailed in Attachment F.

The project meets the criteria for a residential or mixed use "transit priority project" and is located within a "Regional Center" Priority Development Area (PDA) pursuant to the Plan Bay Area, which represents the Sustainable Communities Strategy (SCS) for the greater San Francisco Bay Area (MTC, 2013). Environmental documents for such projects need not analyze global warming impacts resulting from cars and light duty trucks. Consequently, if the project meets the requirements of a transit priority project, its mobile sources need not be included in the

[34] City of Oakland, 2020. Okland City Planning Commission, Agenda. December 16.

assessment of GHG impacts. For this reason, Table 5 presents the project-related GHG emissions without the mobile emissions, as permitted per CEQA Guidelines Section 15183.5(c). GHG emissions from heavy-duty trucks generated by project operation are less than five percent of total fleet, and were therefore excluded from the analysis and the comparison to the GHG efficiency metric.

Based on the GHG analysis shown in Table 5 and described in Attachment E, the project's estimated CO_2e emissions would be 0.58 metric tons per service population annually, which is below the efficiency threshold of 4.6 metric tons per service population utilized in the WOSP EIR. Because the project would be below one of the project-level significance thresholds, impacts related to GHG emissions would be less-than-significant. Therefore, the project would not substantially increase the severity of significant impacts identified in the WOSP EIR, nor would it result in new significant impacts related to GHG and climate change that were not identified in the WOSP EIR.

TABLE 6 SUMMARY OF AVERAGE GHG EMISSIONS FROM EMERGENCY GENERATOR

Stationary Source	CO2e (MT/year)
Emergency Generator	26
Threshold of Significance	10,000
Exceed Threshold?	**No**

Notes: MT = metric tons
Source: Attachment E.

TABLE 5 SUMMARY OF GHG EMISSIONS FROM OPERATION OF THE PROJECT

Emission Source	CO_2e (MT/year/SP)
Construction[a]	0.02
Operation – Area	<0.01
Operation – Energy[b]	0.46
Operation – Mobile[c]	0.00
Operation – Waste	0.06
Operation – Water	0.04
Total Project Emissions[d]	0.58
Threshold of Significance	4.6
Threshold Exceedance?	**No**

Notes: MT = metric tons; SP = service population
[a] In accordance with CEQA guidance from the City of Oakland, GHG emissions during construction are amortized over 40 years.
[b] The estimated GHG emission from energy consumption is conservative because it includes GHG emission from uses of natural gas, which would not be a part of the project based on the project's ECAP Compliance Checklist.
[c] In accordance with SB 375, the estimated GHG emissions from cars and light-duty trucks are excluded from the GHG analysis.
[d] Service population of the project is 556 persons.[35]
GHG emissions from CalEEMod output were conservative because the CalEEMod output included land use for retail that was subsequently removed from the proposed project. In addition, the CAlEEMod output had a calculation of 44 parking spaces, versus what is proposed at 41.
Source: CalEEMod (see Attachment F).

[35] Baseline Environmental Consulting, 2020. Email communication from Emilie Wofson at Urban Planning Partners to Ivy Tao at Baseline Environmental Consulting, titled: Red star senior housing project CEQA analyais. Received on June 9, 2020.

The project would also be required to operate an emergency generator for the elevator system, which must comply with the BAAQMD's permit requirements for a stationary source. It was assumed a 1,000-kilowatt diesel generator would be used for non-emergency operation up to 50 hours per year (for routine testing and maintenance). As shown in Table 6, the emissions from the emergency diesel generator are below the City's threshold of 10,000 CO_2e for stationary sources. Therefore, routine testing and maintenance of the emergency generator would have a less-than-significant impact on global climate change.

The project's GHG emissions would be less than the emissions anticipated by the WOSP EIR. Therefore, the project would not substantially increase the severity of significant impacts identified in the WOSP EIR, nor would it result in new significant impacts related to GHG and climate change that were not identified in the WOSP EIR.

The WOSP EIR did not identify any mitigation measures related to GHGs, and none are required for the proposed project. Furthermore, the GHG emissions analysis (Attachment E) determined that the project would not be required to develop a GHG Reduction Plan under SCA-GHG-1: Greenhouse Gas (GHG) Reduction Plan (#42).

Consistency with GHG Emissions and Policies

The City's qualitative CEQA GHG threshold of significance relies on a project's compliance with the ECAP Consistency Checklist, as discussed previously. The City's ECAP was updated in 2020 to ensure compliance with the State's AB 32 and SB 32 GHG reduction goals, as set forth in the California Air Resources Board's (CARB's) Climate Change Scoping Plan.

The project's ECAP Consistency Checklist demonstrated that the project is in compliance with the City's ECAP. The project is required by SCA Project Compliance with the ECAP Consistency Checklist (#42) to incorporate all Checklist items into the project.[36] Therefore, it can be assumed that the proposed project is consistent, and not in fundamental conflict, with the AB 32 and SB 32 Scoping Plan. Moreover, the project site is located in a Priority Development Area designated by Plan Bay Area,[37] the Sustainable Communities Strategy adopted for the purpose of achieving the GHG reduction target established by CARB for the region's transportation and land use sector pursuant to the AB 32 and SB 32 Scoping Plan. As stated by Plan Bay Area, a Priority Development Area is a geographic area "where new development will support the day-to-day

[36] Cooper, 2021. 1396 5th Street Equitable Climate Action Plan Consistency Checklist.

[37] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2017. Priority Development Areas (Plan Bay Area 2040). Available at: http://opendata.mtc.ca.gov/datasets/9342d628f9a54293aab487cef56132ed_0, accessed January 18, 2018.

needs of residents and workers in a pedestrian-friendly environment served by transit." By focusing new development within a Priority Development Area, Plan Bay Area establishes a preferred development scenario, which will achieve the plan's GHG reduction targets. Since the project would be constructed within a Priority Development Area with land uses at a density and intensity higher than the minimum recommendation included in Plan Bay Area (i.e., >20 dwelling units per acre; 0.75 FAR), the proposed project would further, and not conflict with, Plan Bay Area's GHG reduction targets.

Implementation of the City's SCAs would also reduce GHG emissions. These include but are not limited to SCA-TRAN-4: Transportation and Parking Demand Management (#78), SCA-UTIL-1: Construction and Demolition Waste Reduction and Recycling (#82), SCA-UTIL-7: Recycled Water (#89), and SCA-UTIL-4: Green Building Requirements (#85). SCA-GHG-1: Greenhouse Gas (GHG) Reduction Plan (#42) is not applicable to the project based on the GHG emissions analysis, above. Overall, the project would not conflict with applicable GHG plans, policies or regulations, and any impact would be less than significant and within the scope of the impacts identified in the WOSP EIR.

G. HAZARDS AND HAZARDOUS MATERIALS

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Hazardous Materials Use, Exposure, Storage & Disposal (Impact Haz-1, Haz-2, Haz-3)	LTS w/ SCAs	☒	☐	--	SCA Hazardous Materials Related to Construction (#43) SCA Hazardous Building Materials and Site Contamination (#44) SCA Hazardous Materials Business Plan (#45)	LTS w/ SCAs
b. Hazardous Materials within a ¼-Mile of a School (Impact Haz-4)	LTS w/ SCAs	☒	☐	--	N/A	LTS w/ SCAs
c. Airport Hazards (Impact Haz-5)	No Impact	☒	☐	--	N/A	No Impact
d. Emergency Access Routes (Impact Haz-6)	LTS w/ SCAs	☒	☐	--	SCA Fire Safety Phasing Plan (#46) SCA Construction Activity in the Public Right-of-Way (#75)	LTS w/ SCAs
e. Wildland Fires (Impact Haz-7)	No Impact	☒	☐	--	N/A	No Impact

Discussion

The project site is not located near wildland areas (WOSP EIR Impact Haz-7) or public or private airstrips (WOPS EIR Impact Haz-5). The project site does not contain any buildings and therefore does not contain any hazardous materials from buildings (WOPS EIR Impact Haz-2). Therefore, there are no wildland fire risks, risk of airport hazards, or hazardous building materials risks at the project site and these are not further discussed in this document.

Hazardous Materials Release Sites (Impact Haz-1 of the WOSP EIR)

The WOSP EIR notes that West Oakland was one of the first industrial locations in the San Francisco Bay Area and has been the site of a variety of defense, transportation, and industrial activities. Over the years, many of these uses have relocated or closed and have left behind a legacy of soil and groundwater contamination, which poses a hazard to human health and the environment.

The project site has historically been occupied by various food grade industries including yeast and vinegar production and a brewery from approximately 1900 through 2003. Primary demolition of structures related to those uses occurred from 2003 to 2004. The project site is also the location of a previously proposed and under construction residential development that was lost to arson. In preparation for that development, numerous environmental investigations and soil removal occurred under regulatory oversight from 2004 through approximately 2016. Environmental investigations with regulatory oversight resumed in 2021 as necessary for the currently proposed project.

The project site is not included on the list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5 (the Cortese List).[38] However, the project site is identified as a Cleanup Program Site on the State Water Resources Control Board's GeoTracker database as a closed case under the name Red Star Yeast / 1396 Fifth Street LLC[39] and as an open case under the name The Michaels Organization Redevelopment.[40] The closed case largely relates to the remediation work performed to allow for the development of a senior housing development on the project site. However, that development was not completed after a structure fire on June 14, 2012, resulted in complete loss of the under-construction development. The case was closed to

[38] California Environmentla Protection Agncy, 2022. Cortese List Data Resources. Available at: https://calepa.ca.gov/sitecleanup/corteselist/, accessed May 26, 2022.

[39] State Water Resources Control Board, 2022a. GeoTracker Web Page for Red Star Yeast/ 1396 5th Street LLC. Available at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0619794669, accessed May 26, 2022.

[40] State Water Resources Control Board, 2022b. GeoTracker Web Page for The Michaels Organization Redevelopment. Available at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000017095, accessed May 26, 2022.

allow for the site to remain a vacant parcel. The open case refers to the ongoing work being performed by the current project applicant.

This section provides a detailed summary of previous environmental investigations and remediation of the project site, followed by a discussion of the condition of the project site at the time of adoption of the WOSP, and ends with a discussion of consistency with the WOSP EIR and summary. The following information regarding previous environmental investigations and remediation of the project site was obtained from documents available on GeoTracker.

2000 Phase I ESA

A Phase I Environmental Site Assessment (ESA) was prepared for the project site in June 2000 (2000 Phase I ESA).[41] A Phase I ESA is a report that compiles research regarding the current and historical uses of a property and surrounding properties with the intent of assessing whether those activities may have resulted in hazardous materials releases that could impact the environmental condition of a property. If conditions indicative of hazardous materials contamination are identified, then the Phase I ESA may include recommendations to prepare a Phase II ESA to collect soil, groundwater, or soil vapor samples as appropriate to assess the presence of contamination.

According to the 2000 Phase I ESA, the project site was initially developed with a manufacturing building in 1880 and the building was expanded over time. A 1902 Sanborn fire insurance map showed an oil underground storage tank (UST) in the west-central portion of the project site; however, this UST was not shown on subsequent maps and personnel at the project site interviewed during preparation of the 2000 Phase I ESA did not believe there was a UST in this area of the project site. The boilers at the project site were fueled by a 3,000-gallon UST until the early 1970s when a 16,000-gallon aboveground storage tank (AST) was installed. The 16,000-gallon AST was removed by 1978, and the 3,000-gallon UST was abandoned in place in 1989 under Alameda County Department of Environmental Health (ACDEH) oversight.

The 2000 Phase I ESA also documents that during a sewer replacement in 1996, mercury was found in soil around a floor drain. The source of the mercury was assumed to be spillage from a manometer. The mercury release was reported to the California Environmental Protection Agency and cleanup of contaminated soil and groundwater was performed. In 1999, petroleum odors were noted in soil during installation of footings in the vicinity of the abandoned-in-place 3,000-gallon UST. Soil sampling was performed, and relatively low levels of petroleum hydrocarbons were detected.

[41] Environmental Resources Management, Inc. (ERM), 2000. Phase I Environmental Site Assessment of: Red Star Yeast and Prodcuts, A Division of Universal Foods Corporation, 1384 5th Street Oakland, California, 94607, June.

During the site visit conducted for the 2000 Phase I ESA, several areas of surface staining were observed on concrete at the project site, including beneath the hydraulic system of an elevator, near pumps for ASTs, in an oil and paint storage shed, on the floor of the boiler room, compressor room, and parts storage room. No areas of standing oil or other materials were observed; however, oil and other materials used at the project site had the potential to seep through cracks to the subsurface. According to figures presented in the 2000 Phase I ESA, a petroleum oil storage area was present in the northwest corner of the project site, and a water supply well was located in the southeast portion of the project site near the former 16,000-gallon fuel oil AST.[42] The water supply well was properly destroyed in 2004.[43]

2005 Phase I and II ESA

A Phase I and II ESA was prepared for the project site in 2005 (2005 Phase I and II ESA)[44] and was submitted to ACDEH along with a request for ACDEH to provide oversight of a proposed construction project at the project site.[45] In coordination with the State Water Board, San Francisco Regional Water Quality Control Board, and the Department of Toxic Substances Control, ACDEH oversees the investigation and cleanup of hazardous materials releases to the environment under the Leaking Underground Fuel Tank (LUFT) program and the Site Cleanup Program (SCP), which together constitute the Local Oversight Program (LOP). The LOP provides a means for oversight agencies to review technical reports and provide review of proposed testing and remediation measures.

The 2005 Phase I and II ESA indicated that in 1985 a UST at the active gas station located at 1395 7th Street (a nearby site to the north of the project site) failed a tank integrity test and three monitoring wells and two trenches were installed around the leaking UST. Free product was observed in one of the monitoring wells and sheen and odor was present in both trenches. A 520-gallon waste oil UST was removed from the gas station property in 1996 and approximately 60 cubic yards of petroleum hydrocarbon contaminated soil were excavated from the UST location. In 1997, three fuel USTs and approximately 800 cubic yards of petroleum hydrocarbon contaminated soil were removed from the area where USTs are currently located at the gas station property, and floating petroleum fuel was observed on groundwater in the UST excavation. ACDEH had requested that additional studies of the UST area at the gas station property be performed; however, additional studies had not been performed at the time the 2005 Phase I and II ESA was prepared.. Based on the upgradient direction of this property from the

[42] Environmental Resources Management, Inc. (ERM), 2000. Phase I Environmental Site Assessment of: Red Star Yeast and Prodcuts, A Division of Universal Foods Corporation, 1384 5th Street Oakland, California, 94607, June.

[43] Treadwell & Rollo, 2007a. Red Star Yeast Project, 1396 Fifth Street, Oakland, California, February 28.

[44] Remediation Services Inc. (RS), 2005. Phase I & II Environmental Site Assessment, Alameda County Assessor's Parcel Numnber 004-69-004, June 15.

[45] Treadwell & Rollo, 2005. Letter regarding 1396 5th Street, August 8.

project site, the property was considered to be a potential environmental threat to the project site.[46]

The 2005 Phase I and II ESA investigation included sampling of shallow soil in four borings located on the project site and sampling of groundwater in two of the borings. No evidence of significant contamination from petroleum hydrocarbons, volatile organic compounds (VOCs), or acids and bases was identified. Elevated concentrations of metals (lead and zinc) and relatively minor concentrations of polycyclic aromatic hydrocarbons (PAHs) were detected in one soil sample, which were attributed to contaminated fill material at the project site.[47]

2006 Subsurface Investigation and Subsequent Actions

In April 2006, a subsurface investigation was conducted at the project site which involved advancing six borings to depths of approximately 6.5 to 10 feet below the ground surface (bgs) for shallow soil and groundwater sampling. The investigation found the project site to be underlain by a heterogenous layer of fill that generally ranged in depth from 2.5 to 4 feet bgs and was composed of sand with varying amounts of clay, brick, concrete, and gravel. Low levels of total petroleum hydrocarbons (TPH) as diesel (TPHd) and motor oil (TPHmo) were detected in six soil samples, and two soil samples contained soluble lead at concentrations that exceeded California hazardous waste thresholds. Elevated levels of TPHd and TPHmo were detected in three groundwater samples.[48]

In September 2006, a 3,000-gallon diesel UST that had been filled with concrete slurry was removed from the southeast portion of the project site. The UST removal action included excavation of approximately 20 cubic yards of soil, removal and off-site disposal of approximately 6,300 gallons of groundwater from the excavation which was observed to have hydrocarbon sheen, and sampling of soil and groundwater. Contamination was not detected in the soil or groundwater samples from the excavation with the exception of TPHd detected at 180 microgram per liter (µg/L) in the groundwater sample. The City of Oakland Fire Department (OFD) issued a No Further Action Letter for this former UST in November 2006.[49] Based on the size and location of this former abandoned-in-place UST, it appears to have been the 3,000-gallon UST that formerly fueled boilers which was abandoned in place in 1989 as discussed above.

[46] Remediation Services Inc. (RS), 2005. Phase I & II Environmental Site Assessment, Alameda County Assessor's Parcel Numnber 004-69-004, June 15.

[47] Remediation Services Inc. (RS), 2005. Phase I & II Environmental Site Assessment, Alameda County Assessor's Parcel Numnber 004-69-004, June 15.

[48] Treadwell & Rollo, 2006. UST Soil and Groundwater Confirmation Sampling Results, Former Red Star Yeast Facility, 1396 Fifth Street, Oakland, California, December 15.

[49] Treadwell & Rollo, 2006. UST Soil and Groundwater Confirmation Sampling Results, Former Red Star Yeast Facility, 1396 Fifth Street, Oakland, California, December 15.

In November 2006, four pits were excavated in the area surrounding the former 3,000-gallon UST for the collection of soil samples and one groundwater sample. Only minor concentrations of TPHd were detected in two soil samples, and 270 µg/L of TPH as gasoline (TPHg) was detected in the groundwater sample, which was collected from 10 feet north of the former UST. The report prepared to document the UST investigation activities concluded that soil beneath the project site contained elevated concentrations of heavy metals and petroleum hydrocarbons, and provided recommendations for preparation of a health and safety plan and soil and groundwater management measures to be implemented during construction activities at the project site.[50]

In May 2007, excavation of shallow soil and confirmation sampling was performed in two areas of the project site. One area was in the northwest portion of the project site where elevated lead was detected during the 2005 Phase I and II ESA, and the other was in the eastern portion of the project site where the 1996 cleanup of mercury reportedly occurred. Concentrations of lead ranging from 94 to 190 milligrams per kilogram (mg/kg) were detected in confirmation samples from the northwestern excavation area. In the eastern excavation area concentrations of mercury ranging from 0.72 to 5.8 mg/kg were detected in confirmation samples collected from a depth of 6-inches, and lower concentrations of mercury ranging from 0.093 to 0.58 mg/kg were detected in confirmation samples from 12-inches. [51] The detected concentrations of lead in soil exceeded the current residential Environmental Screening Level (ESL)[52] established by the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) of 80 milligrams per kilogram (mg/kg) and the detected concentrations of mercury in soil were below the current residential ESL of 13 mg/kg.[53] It appears that the excavated soils were left on-site for future disposal during construction activities.

2011 Subsurface Investigation and Remedial Action Plan

From January to March 2011, an additional subsurface investigation was performed at the project site. As part of the investigation, a geophysical survey was conducted across the project site to identify possible structures of concern such as an abandoned water supply well, an elevator shaft, sewer lines, and possible USTs. The geophysical survey identified four significant anomalies[54] in the central portion of the project site that warranted further investigation. Each of these areas

[50] Treadwell & Rollo, 2006. UST Soil and Groundwater Confirmation Sampling Results, Former Red Star Yeast Facility, 1396 Fifth Street, Oakland, California, December 15.

[51] Treadwell & Rollo, 2007b. Analytical Results of Soil Confirmation Sampling, Former Red Star Yeast Facility, 1384 Fifth Street, Oakland, California, May 30.

[52] Environmental Screening Levels (ELSs) provide conservative screening levels for over 100 chemicals found at sites with contaminated soil and groundwater. For further background, see San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, accessible at https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.html.

[53] San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels, January.

[54] Geophysical anomalies are areas where geophysical properties differ from surrounding areas, which can be due to differences in soil conditions or the presence of buried objects.

was investigated using a backhoe to expose the anomaly. In each case, a metal structure was found, but the precise nature of each object was not identified. Soil samples were also collected from each excavation pit.[55] A fifth anomaly was also identified; however, shallow excavation revealed no subsurface structure.

Additional excavation performed in late March 2011 in the locations of the anomalies identified metal structures including two structural pilings, an elevator piston, a sewer system connection, and an abandoned water supply well.[56] The investigation also included advancing 15 borings to 4 to 6 feet bgs for soil sampling, and installation of five temporary monitoring wells to 6.5 feet bgs.

Based on the analytical results, the subsurface investigation concluded that the fill material on the project site has numerous hot spots of lead contamination and limited zones of mercury, and other heavy metal contamination. Three zones of contamination with hydrocarbon levels that exceeded ESLs established at the time were also identified within the fill. Only one groundwater sample (collected near the northern boundary of the project site) had detectable levels of hydrocarbons, with 2,400 µg/L oil-range hydrocarbons.[57]

In July 2011, a Remedial Action Plan (RAP)[58] was prepared for the project site. A RAP is a remedy selection document that explains the reasons for selecting a particular cleanup approach for a contaminated site. The RAP proposed the removal of fill materials to depths of 2 to 4 feet bgs in the eastern portion of the project site, removal of fill materials to 5 feet bgs in the western portion of the project site, targeted removal of deeper soil in select areas, and confirmation sampling to verify the removal of contaminated soil. Potential re-use of fill material from the eastern portion of the project site was proposed with the use of field screening, segregated stockpiling, and stockpile sampling to evaluate whether excavated fill material was suitable for re-use on the project site. In August 2011, the RAP was conditionally approved by ACDEH in a letter which included additional requirements related to the potential re-use of excavated fill material on the project site, including that ACDEH provide approval of fill material re-use based on screening and analytical results.[59]

Remedial Actions Implemented During Development Under Prior Entitlement

[55] Citadel, 2011a. Subsurface Investigation Report, Former Red Star Yeast Company, 1396 Fifth Street, Oakland, California 94607, April 4.

[56] Citadel, 2011b. Revised Remedial Action Plan, Former Red Star Yeast Company, 1396 Fifth Street, Oakland, California 94607, July 7.

[57] Citadel, 2011a. Subsurface Investigation Report, Former Red Star Yeast Company, 1396 Fifth Street, Oakland, California 94607, April 4.

[58] Citadel, 2011b. Revised Remedial Action Plan, Former Red Star Yeast Company, 1396 Fifth Street, Oakland, California 94607, July 7.

[59] Alameda County Environmental Health, 2011. Letter Re: Conditional Approval for Revised Remedial Action Plan for SLIC Case RO0002896 and GeoTracker Global ID T06019794669, Red Star Yeast/1396 Fifth Street LLC, 1396 5th Street, Oakland, CA 94607, August 1.

During the previous development of the project site in 2011 under prior entitlements, four suspected USTs were discovered beneath the sidewalk area along Fifth Street and were referred to as USTs No. 1 through No. 4. In October 2011, samples of liquids were collected from the fill ports of USTs No. 1 through No. 3. A fill port was not located for UST No. 4. An obstruction was noted in the fill port of UST No. 2 and therefore only the liquid within the UST No. 2 fill port was sampled. The content of UST No. 1 was observed to be primarily water with a slight petroleum sheen. The content of the UST No. 2 fill port was observed to be water with no odor or sheen. The content of UST No. 3 was observed to be water under a thick viscous petroleum layer. Concentrations of TPHd and TPHmo were detected in all of the liquid samples, and concentrations of xylenes and toluene (VOCs typically associated with gasoline) were detected in the liquid sample from UST No. 1, although TPHg was not detected in any of the liquid samples. Tetrachloroethylene (PCE) was also detected in the liquid from UST No. 3.[60]

In November 2011, soil was excavated to expose the tops of the suspected USTs. UST No. 1 was determined to be approximately 250 gallons in volume; UST No. 2 was found to be just a standpipe with no actual UST; UST No. 3 was determined to be approximately 2,500 gallons in volume; and UST No. 4 was determined to be approximately 10,000 gallons in volume. The OFD was present to witness the cleaning and removal of the USTs. USTs No. 1 and No. 3 were removed; however, UST No. 4 could not be removed due to the presence of active utilities and therefore this UST was filled with concrete slurry and abandoned in place. Soil and groundwater samples were collected from the pits where USTs No. 1 and No. 3 were removed, and three soil borings were advanced around UST No. 4 to collect soil and groundwater samples to evaluate whether the UST had leaked. The UST excavations were backfilled and no further remedial actions were performed for the USTs. The UST Removal Report[61] that was prepared to document the activities and findings summarized above indicated that relatively minor concentrations of TPHd and TPHmo were detected in soil samples and no significant findings were reported for TPH and VOCs in the groundwater.

Discrepancies were noted in the UST Removal Report,[62] including discrepancies between the identification numbers assigned to the USTs in the text/Figure 2 versus the attached field notes, photographs, and laboratory reports; and discrepancies between the analytical results presented in the text/data summary tables versus the attached laboratory reports. The UST Removal Report included photographs showing the removal of UST No. 3 which show significant oily staining of the excavation sidewalls and oily water in the excavation, and a laboratory report in the UST

[60] Citadel, 2012. Underground Storage tank Removal and Closure Report, Red Star Senio Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 23.

[62] Citadel, 2012a. Underground Storage Tank Removal and Closure Report, Red Star Senior Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 23.

[62] Citadel, 2012a. Underground Storage Tank Removal and Closure Report, Red Star Senior Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 23.

Removal Report indicated that TPHmo was detected at a concentration of 21 milligram per liter (mg/L) in the groundwater sample from the UST No. 3 excavation, while the UST Removal Report text/summary table indicated that this sample contained 1 mg/L of TPHmo. Despite the discrepancies, adequate factual information about the UST removal activities (i.e., physical descriptions and photographs of the USTs and laboratory reports) was provided to characterize the encountered conditions.

In August 2012, a Soil Excavation Report[63] was prepared for the project site to document implementation of the RAP including the removal of contaminated fill materials from across the project site and confirmation sampling results. According to the Soil Excavation Report, a feature that was previously identified as an abandoned water supply well was determined to be a small diameter unconnected standpipe. The Soil Excavation Report indicated that the depth of excavation in the western portion of the project site ranged from 5 to 7.5 feet bgs, and the depth of excavation in the eastern portion of the project site ranged from 3 to 4 feet bgs, and fill material remained around much of the perimeter of the project site where the excavation sidewalls were sloped. Oil was observed to be seeping into the excavation sidewall along the northern property boundary near the northwest corner of the project site, and a picture of the seeping oil was included in Appendix J of the Soil Excavation Report.[64] Based on the results of a technical review conducted by the preparer of this CEQA analysis, the seeping oil in the picture appeared to be a very viscous liquid that was isolated to a small area (approximately 1 foot wide); and based on the viscous nature of the oil and its limited extent, the seeping oil would not be expected to migrate a significant distance into the project site.

Approximately 8,575 cubic yards of non-hazardous soil and 31 cubic yards of California hazardous waste soil was transported off-site for disposal. Only one of the final excavation bottom confirmation samples contained lead at a concentration (93 mg/kg) that exceeded the residential threshold of 80 mg/kg. The Soil Excavation Report indicates that to the best of their knowledge, all excavated soil was removed from the project site.[65]

Appendix A of the Soil Excavation Report is a Property Mitigation Plan (PMP)[66] that was prepared for the project site in 2008. The PMP summarized the findings of past investigations of the project site and provided recommended strategies to manage soil contamination to allow for redevelopment of the project site. The PMP included a list of environmental issues and their status at the time, which indicated that the 1951, 1952, 1957, 1958, and 1961 Sanborn maps

[63] Citadel, 2015. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[64] Citadel, 2015. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[65] Citadel, 2015. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[66] SCS Engineers, 2008. Property Mitigation Plan, Assessor's Parcel Number 004-69-004 1384-1396 5t h Street, Oakland, California.

depict a "deep well" slightly west of the approximate center of the project site; and the 1967 and 1970 Sanborn maps depict a "deep well" near the northwestern corner of the project site. The PMP indicated that while there was evidence to conclude that one water supply well had been properly decommissioned; there was no evidence regarding the decommissioning of the other water supply well that was apparently located at the project site.[67] Neither of the wells discussed in the PMP were located in the southeast portion of the project site where a groundwater supply well was identified in a site map presented in the 2000 Phase I ESA. A Water Supply Well Survey included as Appendix B of the Soil Excavation Report also indicated that there are records of three water supply wells that were located on and/or adjacent to the project site and were owned by Red Star Yeast Company.[68]

In December 2012, ACDEH issued a directive letter[69] regarding the UST Removal Report and Soil Excavation Report which indicated that ACDEH identified several items that required additional information, clarification, or correction in order to adequately evaluate the effectiveness of the soil excavation and UST removals. The ACDEH letter pointed out discrepancies in the UST Removal Report that were discussed above, and requested clarification regarding soil management during construction and the sampling approach for the UST removals and remedial excavations. The ACDEH letter requested that a revised UST Removal Report and Soil Excavation Report be prepared for the project site.

In March 2013, a Soil Closure Report[70] was prepared for the project site which was essentially a revised version of the Soil Excavation Report. In April 2013, ACDEH issued a directive letter[71] which indicated that the Soil Closure Report addresses several of ACDEH's previous comments; however, it did not address or was unclear on several major items that are necessary to understand what occurred and the effectiveness of the excavation. The ACDEH letter pointed out that there was no documentation regarding the decommissioning of a second water supply well at the project site. The ACDEH letter once again requested that a revised UST Removal Report and Soil Excavation Report be prepared for the project site.

[67] SCS Engineers, 2008. Property Mitigation Plan, Assessor's Parcel Number 004-69-004 1384-1396 5t h Street, Oakland, California.

[68] Citadel, 2015. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[69] Alameda County Environmental Health, 2012. Letter Re: Case File Review for SLIC Case RO0002896 and GeoTracker Global ID T06019794669, Red Star Yeast/1396 Fifth Street LLC, 1396 5th Street, Oakland, CA 94607, December 18.

[70] Citadel, 2013. Soil Closure Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised March 21, 2013.

[71] Alameda County Environmental Health, 2013. Letter Re: Case File Review for SLIC Case RO0002896 and GeoTracker Global ID T06019794669, Red Star Yeast/1396 Fifth Street LLC, 1396 5th Street, Oakland, CA 94607, April 18.

In September 2015, a Revised Soil Excavation Report[72] was prepared for the project site. In December 2015, ACDEH issued a directive letter[73] which indicated that the Revised Soil Excavation Report addressed several of ACDEH's previous comments; however, it did not address several major items that are necessary to evaluate the case for closure. The letter requested that additional site assessment activities be conducted to address ACDEH's comments, including evaluating the quality of imported fill materials, evaluating the area where oil was observed to be seeping into the project site, and soil and groundwater sampling in the areas of the three identified USTs.

2016 Subsurface Investigation

In July 2016, a Phase II Subsurface Investigation Report and Closure Request (2016 Investigation)[74] was prepared for the project site which documented investigation activities performed to address ACDEH comments. The 2016 Investigation included advancing 15 borings for the collection of soil and groundwater samples. The 2016 Investigation found that all contaminant concentrations in the imported fill material samples were below residential ESLs established at the time with the exceptions of PAHs and arsenic. All PAHs were below the ESLs established at the time for the commercial land use scenario, and arsenic concentrations were well within the average range for naturally occurring arsenic. Groundwater results indicated that there were impacts from TPH, benzene, toluene, ethylbenzene, and xylenes (BTEX) and tert-butyl alcohol (TBA) in groundwater in the northern portion of the project site. The potential source of the groundwater contamination was indicated to be off-site properties to the north of the project site. Soil and groundwater sample results from adjacent to the former USTs at the project site were low or non-detect. [75]

The 2016 Investigation also acknowledged that an extensive fire occurred during the construction phase at the project site in 2012, significantly damaging the site structure and surrounding properties. The remaining structure from the fire consisted of a concrete podium, which was removed in April 2016.

2017 ACDEH Closure Letter

[72] Citadel, 2015. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[73] Alameda County Environmental Health, 2015. Letter Re: Case File Review for SLIC Case RO0002896 and GeoTracker Global ID T06019794669, Red Star Yeast/1396 Fifth Street LLC, 1396 5th Street, Oakland, CA 94607, December 9.

[74] Citadel, 2016. Phase II Subsurface Investigation Report and Closure Request, Former Red Star Senior Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

[75] Citadel, 2016. Phase II Subsurface Investigation Report and Closure Request, Former Red Star Senior Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 21, 2012, Revised September 22, 2015.

On May 10, 2017, ACDEH issued a Closure Letter[76] which indicated that investigation and remedial actions for soil and groundwater at the project site were completed based on the current land use at the time as a commercial vacant lot. The Closure Letter indicated that if there is a proposed change in land use (including to any residential use), or if any redevelopment occurs, ACDEH must be notified, and ACDEH would re-evaluate the project site relative to the proposed redevelopment. The Closure Letter indicated that excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

2021 Environmental Update Letter

In May 2021, the property owner submitted a service request application to ACDEH for preliminary site review, which created a new identification number for the project site under GeoTracker.

In July 2021, an Environmental Update Letter[77] was prepared for the project site to describe potential environmental concerns that remained after previous investigations and removals; compare past investigation results with current screening levels; and describe the potential contaminant locations in relation to the proposed future development. The Environmental Update Letter indicated the following:

- Residual concentrations of VOCs, TPH, PAH, and heavy metals remaining in soil from the 2016 Investigation do not exceed the 2019 residential ESLs;
- Low concentrations of fuel-related VOCs consisting of benzene, toluene, total xylenes and TBA, and TPHg were reported above their respective maximum contaminant level (MCLs)[78], and the presence of these contaminants appears to be from an off-site, upgradient source; and
- Utilizing the shallow groundwater results to evaluate potential vapor intrusion concerns, benzene and ethylbenzene were reported above the vapor risk threshold. No other VOC concentrations exceeded the ESLs for vapor intrusion. [79]

[76] Alameda County Environmental Health, 2017. Case Closure for Site Cleanup Program Case No. RO0002896 and GeoTracker Global ID T0601794669, Red Star Yeast/1396 Fifth Street LLC, 1396 5th Street, Oakland, CA 94607, May 10.

[77] Citadel, 2021a. Environmental Update Letter, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, July 2.

[78] MCLs are drinking water standards established by the State of California pursuant to the California Safe Drinking Water Act.

[79] Citadel, 2021a. Environmental Update Letter, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, July 2.

The Environmental Update Letter indicated that the presence of some residual soil and groundwater contaminants would require health and safety measures in areas of ground disturbance and recommended that a Soil Management Plan be developed in coordination with the ACDEH, and that a vapor barrier should be installed under the building slab to mitigate the potential for vapor intrusion. [80]

Based on the results of a technical review conducted by the preparer of this CEQA analysis, the Environmental Update Letter erroneously listed the residential ESLs for the benzo(a)pyrene and naphthalene (which are PAHs) in soil as 18 mg/kg and 130 mg/kg, respectively, while they are actually 0.11 mg/kg and 3.8 mg/kg, [81] respectively. It appears that the Environmental Update Letter erroneously listed the higher non-cancer hazard values for these compounds rather than the lower cancer risk values presented in the ESLs. Naphthalene was not detected in soil samples at concentrations exceeding the residential ESL of 3.8 mg/kg; however, benzo(a)pyrene was detected in one soil sample at a concentration of 0.15 mg/kg, which slightly exceeds the residential ESL. The Environmental Update Letter also erroneously listed the higher values between the ESLs based on cancer risk and non-cancer hazard for several metals in soil; however, comparison to the correct ESLs (the lower of the cancer risk and non-cancer hazard) indicates that metals concentrations in soil did not exceed the residential ESLs or construction worker exposure ESLs with the exception of arsenic, which was within the range of naturally occurring background concentrations.

2021 ACDEH Phase I/II Screening Determination and Environmental Site Review

In August 2021, ACDEH Issued a Phase I/II Screening Determination[82] which indicated that ACDEH had reviewed the July 2021 Environmental Update Letter and information available on GeoTracker for the project site, and that ACDEH had determined that further investigation of the environmental concerns at the project site was warranted.

In September 2021, ACDEH issued an Environmental Site Review[83] for the project site indicating that any potential risk from subsurface contamination to construction workers, the adjacent community, and project site users could be mitigated during redevelopment activities and long-term use of the project site. Risk reduction measures could include implementation of appropriate soil and groundwater management practices, use of engineering controls such as vapor migration and mitigation systems, and/or capping of impacted soil beneath hardscape and foundations. ACDEH also requested that the Applicant enter into a Voluntary Remedial Action Agreement (Voluntary Agreement) with ACDEH to provide oversight of additional investigation

[80] Citadel, 2021a. Environmental Update Letter, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, July 2.

[81] San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels, January.

[82] ACDEH, 2021a. Phase I/II Screening Determination, 1396 5th Street, Oakland, CA 94607, August 26.

[83] ACDEH, 2021b. Environmental Site Review, Cleanup Program Site Case No. RO0003500 GeoTracker Global ID T06019794669 The Michaels Organization Redevelopment 1396 5th Street, Oakland, CA 94607, September 14.

activities to fill remaining data gaps to characterize soil and soil vapor at the project site and development of soil and groundwater management plans and engineering control documents to be implemented during development if warranted based on the additional data collection.

2022 Phase II Subsurface Investigation Report

In March 2022, a Phase II Subsurface Investigation Report (Phase II Report)[84] was prepared to document investigation activities performed at the project site between November 2021 and February 2022. The investigation activities were performed in general accordance with a Phase II Subsurface Investigation Work Plan[85] that was reviewed and approved by ACDEH.

On November 30, 2021, twelve borings were advanced at the project site for the collection of soil samples and installation of soil vapor probes. Six borings were advanced along the east, south and west perimeter of the project site and six borings were advanced in the interior of the project site. Soil samples collected from depths of approximately one, three and five feet bgs in the six perimeter borings were analyzed for TPH, VOCs, PAHs, heavy metals, and polychlorinated biphenyls (PCBs). Soil vapor probes were installed in all borings at five feet bgs or approximately one foot above groundwater if encountered in the boring (the depth to groundwater was observed to be as shallow as 2 to 2.5 feet bgs in some borings).

On December 2, 2021, sampling of the soil vapor probes was performed in general accordance with guidelines from the Department of Toxic Substance Control (DTSC). Samples could not be collected from five of the twelve soil vapor probes because they were found to be flooded by groundwater. In February 2022, 20 additional borings were advanced across the project site for soil and groundwater sampling using handheld power tools. Five shallow borings were advance to evaluate potential PCBs in soil in the eastern portion of the project site where low concentrations (below the residential ESL) of PCBs were previously detected in two soil samples collected from 1-foot bgs along the eastern perimeter of the project site. Fifteen borings were attempted for groundwater sampling across the project site; and groundwater was sampled from ten borings and analyzed for TPH and VOCs. Five borings could not be advanced deep enough to collect groundwater due to the hard packed soil conditions.

The Phase II Report indicated that all soil sample analytical results were below their respective residential ESLs with the exception of arsenic, which was within the range of normal background concentrations for the area. PCBs were not detected in the additional soil borings advanced in the eastern portion of the project site.

[84] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[85] Citadel, 2021b. Phase II Subsurface Investigation Work Plan, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, October 6.

The Phase II Report indicated that TPHd and TPHmo concentrations were reported in groundwater samples collected from across the project site, and the TPHd concentrations exceeded the maximum contaminant level (MCL) Priority[86] in all but one sample. Concentrations of TPHd and TPHmo were generally higher in the western portion of the project site compared to the eastern portion, and could be migrating onto the project site from off-site sources to the north and east of the project site. [87]

The Phase II Report indicated that VOCs reported in one or more groundwater samples included BTEX, acetone, 2-butanone, chlorobenzene, chloroform, cis-1,2-dichloroethene, methyl bromide, naphthalene, tetrahydrofuran, 1,2,4-trimethylbenzene, and 1,3,5- trimethylbenzene, and all reported concentrations were below their MCL Priority.[88] The MCL Priority for naphthalene was erroneously reported in the Phase II Report to be 17 µg/L, while it is actually 0.17 µg/L,[89] and naphthalene was detected in one sample at 1.1 µg/L, which exceeds the MCL Priority. Shallow groundwater beneath the project site is not utilized for drinking water and is not planned to be utilized for drinking water in the future; therefore, having contaminants in groundwater at concentrations that exceed their MCL Priority does not necessarily represent a risk to public health. Comparison of VOCs concentrations in groundwater to the ESLs for groundwater vapor intrusion is appropriate because vapor intrusion is a concern for the project site. The concentrations of benzene in one groundwater sample from the project site equaled the ESL for residential groundwater vapor intrusion of 0.42 µg/L, [90] and benzene slightly exceeded this ESL in another groundwater sample (0.47 µg/L). The Phase II Report did not identify the concentrations of chlorobenzene, chloroform, cis-1,2-dichloroethene, methyl bromide, tetrahydrofuran, 1,2,4-trimethylbenzene, and 1,3,5- trimethylbenzene that were detected in groundwater and did not include a copy of the lab report for the February 2022 sampling event; therefore, it is not known whether other VOCs in groundwater may have exceeded ESLs for groundwater vapor intrusion. The ESL for groundwater vapor intrusion for chloroform is very low (0.81 µg/L) and elevated chloroform (exceeding the residential soil vapor ESL) has been identified in soil vapor at the project site, as discussed below.

The Phase II Report indicated that soil vapor sample analytical results exceeded the residential ESL for TPHg of 20,000 micrograms per cubic meter (µg/m^3) in one sample with a concentration of 35,000 µg/m^3; and VOCs detected in one or more soil vapor samples at concentrations that exceeded residential ESLs included the following:

[86] MCL Priority are thresholds presented in the ESLs which lists available MCL values, and if no MCL is available, lists the lower of the cancre or noncancer tapwater direct exposure levels listed in the ESLs.

[87] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[88] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[89] San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels, January.

[90] San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels, January.

- Benzene exceeded the residential ESL of 3.2 µg/m^3 in five locations with a maximum concentration of 2,800 µg/m^3. The remaining samples ranged in concentration from 2.7 µg/m^3 to 17 µg/m^3.
- Ethylbenzene exceeded residential ESL of 37 µg/m^3 in one sample with a concentration of 41 µg/m^3.
- Bromodichloromethane exceeded the residential ESL of 2.5 µg/m^3 in three samples with a maximum concentration of 6.0 µg/m^3.
- Chloroform exceeded the residential ESL of 4.1 µg/m^3 in six of the seven soil vapor samples with a maximum concentration of 110 µg/m^3.
- PCE exceeded the residential ESL of 15 µg/m^3 in two samples with a maximum concentration of 93 µg/m^3.
- Vinyl chloride exceeded the residential ESL of 0.32 µg/m^3 in one sample with a concentration of 2.5 µg/m^3.

The Phase II Report indicated that the elevated concentrations of TPHg and BTEX in one soil vapor sample from the west-central portion of the project site (in boring B24) appears to be isolated as the concentrations in the other borings are significantly lower; and that these concentrations may be related to the former USTs that were removed from the southern edge of the project site or impacted groundwater from the upgradient properties as data collected during this investigation does not show a significant contribution of TPHg or BTEX from soil or groundwater at the project site.[91] However, soil and groundwater samples were not analyzed from the area of boring B-24 during this investigation. The boring logs in the Phase II Report indicate that photoionization detector (PID)[92] readings were observed in boring B-24, including a PID readings of 5.6 parts per million (ppm) in the soil sample from 3 feet bgs and 1.2 ppm in the soil sample from 5 feet bgs. No PID readings above 0 ppm were noted on any other boring logs, and the soil samples that exhibited PID readings were placed on hold and not analyzed for TPH or VOCs. Additionally, three groundwater sampling borings were attempted in the area surrounding boring B-24 but were unsuccessful in reaching groundwater. Therefore, it is possible that TPH and BTEX impacted soil and/or groundwater is present in the west-central portion of the project site in the area of boring B24. Based on the results of a technical review conducted by the preparer of this CEQA analysis, the soil and groundwater sampling results from other borings advanced at the project site, including during the 2011 subsurface investigation, the 2012 investigation around the former USTs, and the 2016 Investigation, suggest that the extent of potential TPH and BTEX impacted soil and grounder in the area of boring B24 would be limited.

[91] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[92] A PID is a device used to measure volatile organic vapors.

The Phase II Report indicated that bromodichloromethane and chloroform are common byproducts from the chlorination of drinking water and are not considered to be contaminants from past activities at the project site. The Phase II Report also indicated that the low levels of PCE and vinyl chloride reported in soil vapor samples do not appear to be sourced from the project site based on current and historical soil and groundwater data. [93] As discussed above, PCE was detected in the liquid sampled from UST No. 3 in 2011 prior to its removal, and UST No. 3 was located near some of the soil vapor samples where PCE was detected; however, PCE and other VOCs was not detected in the groundwater samples collected from the UST No. 3 excavation.[94] It is possible that there are impacts from PCE and related breakdown products (e.g., trichloroethylene [TCE], vinyl chloride) in soil and groundwater in the southwest portion of the project site in areas that have not been sampled, or in areas surrounding the project site. Impacts in soil vapor can migrate away from areas of contaminated soil and groundwater through preferential pathways such as utility trenches or other areas backfilled with more permeable materials.

Helium was used as a leak detection agent during soil vapor sampling and was detected in samples collected from six out of seven of the soil vapor probes that were sampled, with detected helium concentrations ranging from less than 1 percent to 12 percent.[95] According to DTSC, an ambient air leak of up to 5 percent is acceptable for soil vapor samples if quantitative leak tracer testing is performed by shrouding.[96] The Phase II Report indicated that three soil vapor samples exceeded the acceptable leakage threshold of 5 percent and that the results from these samples were in general agreement with the remaining samples analyzed and do not appear to be suppressing the VOC results; however, given the shallow nature of the sample depths and that helium was reported in several samples, the results may be biased low.

The Phase II Report recommended the following: [97]

- A soil management plan (SMP) be submitted to the ACDEH for approval. The SMP would provide guidance for the general contractor and grading contractor during soil removal and grading operations. The purpose of the SMP is to indicate best management practices when disturbing soil with residual contaminants and direct actions if potential contaminants are encountered.
- Any contaminated soil be identified during soil disturbance and removed from the project site using a licensed and qualified waste disposal company.

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[93] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[94] Citadel, 2012. Underground Storage tank Removal and Closure Report, Red Star Senio Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 23.

[96] DTSC, 2015. Advisory, Active Soil Gas Investigations, July.

[96] DTSC, 2015. Advisory, Active Soil Gas Investigations, July.

[97] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

- The design and installation of a vapor barrier across the footprint of the building and that the remainder of the project site be hardscaped

The Phase II Report also requested closure of the project site to allow residential occupancy;[98] however, it is not clear why closure was requested at this point given that the Phase II Report is recommending further actions (e.g., preparation and implementation of a SMP and installation of a vapor barrier). Closure of a site is typically only allowed by regulatory agencies after ensuring that all necessary actions to protect human health and the environment have been completed and documented. The Phase II Report has been submitted to ACDEH for review; however, ACDEH has not yet issued a response to the Phase II Report.

Voluntary Remedial Action Agreement (Voluntary Agreement)

In June 2022, the project applicant entered into a Voluntary Agreement [99] with ACDEH for the project site. The Voluntary Agreement requires that the project applicant perform all remedial actions and other activities requested by ACDEH and indicates that upon completion of site assessment and/or remedial action, ACDEH will provide a letter indicating that no further action is required (i.e., Closure Letter) for the project site. The Voluntary Agreement indicates that if remedial action includes installation of engineering controls at the project site to mitigate human health exposure from residual contamination, the project applicant must complete all remediation phases, mitigate all current risks to receptors, confirm risk management measures are in place, and prepare and record a covenant for environmental restrictions. The ACDEH would issue a No Further Remedial Action Letter when these actions are completed and a Risk Management Plan is prepared by the project applicant and approved by ACDEH. The Risk Management Plan must include a maintenance/monitoring/reporting program to confirm ongoing performance of the engineering controls and risk management measures until such time that subsurface contamination no longer poses a risk to human health if the engineering controls were not in place. The Risk Management Plan must also include routine inspection and testing to confirm the engineering controls continue to be protective of human health and the environment.[100]

WOSP EIR Findings and Existing Conditions at the Time versus Current Conditions

At the time that the WOSP EIR was prepared (May 2014), remediation activities had been completed at the project site including the cleaning and removal/in-place abandonment of USTs, removal of contaminated fill materials, and confirmation sampling. The WOSP EIR indicated that ACDEH staff had reviewed the Soil Closure Report, Soil Excavation Report, and UST Removal

[98] Citadel, 2022. Phase II Subsurface Investigation Report, Proposed Golden West Residential Development, 1396 Fifth Street, Oakland, California 94607, March 2.

[99] ACDEH, 2022. Voluntary Remedial Action Agreement, Agreement #: RO0003500-2022-06-08, executed June 9.

[100] ACDEH, 2022. Voluntary Remedial Action Agreement, Agreement #: RO0003500-2022-06-08, executed June 9.

Report, and had identified several items that require additional information, clarification, or correction before ACDEH would be able to adequately evaluate the effectiveness of the soil excavation and UST removals before considering the case for closure.

Since the WOSP EIR was prepared, there have been no activities at the project site or at nearby upgradient properties that would increase potential hazardous materials contamination at the project site. Based on the review of aerial imagery available on Google Earth, the upgradient properties immediately north and east of the project site have remained paved lots since the WOSP EIR was prepared. While there is also an active gas station immediately north of the project site at 1395 7th Street which has an open leaking UST (LUST) case, the LUST case is related to hazardous materials releases that occurred at this property prior to the replacement of the gas station's USTs and removal of contaminated soil in the late 1990s.[101] Operation of the USTs at this gas station is permitted through ACDEH,[102] therefore the USTs and fuel dispensing systems undergo annual inspections to ensure that they are not leaking and that leak detection systems are functioning properly as required by State law. Therefore, it is unlikely that recent operations at this gas station would contribute to subsurface contamination at the project site. Potential contamination that may have migrated beneath the project site from the previous hazardous materials releases at this upgradient gas station would be expected to decrease over time, as after a source of petroleum hydrocarbon contamination (e.g., leaking USTs) has been removed, the processes of natural attenuation and biodegradation typically reduces petroleum contamination in soil and groundwater over time. The concentrations of TPHg and BTEX compounds detected in groundwater samples collected near the northern boundary of the project site decreased between 2016 and 2022, suggesting that groundwater contamination that may have migrated beneath the project site from northern upgradient properties has decreased since the time that the WOSP EIR was prepared.

New information regarding soil, groundwater, and soil vapor conditions at the project site has become available since preparation of the WOSP EIR due to additional sampling activities performed at the project site under the oversight of ACDEH, as discussed above.

The new information has confirmed that soil contamination conditions at the project site have significantly improved due to the past implementation of the RAP, as only one minor exceedance of current residential ESLs for soil (except for arsenic, which is within the naturally occurring background range) was identified by the investigation activities performed in 2016 and 2021-2022.

[101] State Water Resources Control Board, 2022c. GeoTracker Webpage for Trucker's Friend. Available at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T60010029 6accessed June 8, 2022.

[102] State Water Resources Control Board, 2022d. GeoTracker. Available at: https://geotracker.waterboards.ca.gov, accessed June 8, 2022.

While groundwater contamination from TPH and VOCs is present beneath the site, this is a condition that was present at the time the WOSP EIR was prepared, and the degree of groundwater contamination appears to have decreased with time and would be expected to continue decreasing with time due to natural attenuation and biodegradation, as discussed above.

While potential soil vapor contamination at the project site had not been evaluated at the time the WOSP EIR was prepared, it is reasonable to assume that the soil vapor conditions at the project site would have been similar if not worse than the current condition, as soil vapor conditions would be expected to improve following the previous remediation activities and with the apparent improvement in groundwater quality over time.

Consistency with WOSP EIR

Soil Contamination

Although the potential for significant residual contamination in soil at the project site appears to be low, the 2022 Phase II Report recommended that a SMP be prepared and implemented for the project site to ensure that potentially contaminated soil that may be encountered during construction would be appropriately managed. In accordance with SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44), best management practices (BMPs) would be implemented by the contractor during construction to minimize potential soil and groundwater hazards, and the remedial recommendations of the 2022 Phase II Report, including preparation and implementation of an SMP, would be performed under the oversight of ACDEH. ACDEH oversight of SMP preparation and implementation would ensure that potentially contaminated soil would be managed in a manner that would protect human health and the environment.

Groundwater Contamination

The need to properly manage groundwater contaminated by TPH and VOCs during construction is a very common issue in the City and other urban areas and would be adequately addressed by existing regulations and compliance with the City's SCA-HAZ-1: Hazardous Materials Related to Construction (#43), which requires the project applicant to ensure that BMPs are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health; and SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44), which includes measures such as compliance with all required treatment, remediation, and disposal requirements from applicable agencies; a Health and Safety Plan to ensure the protection of construction workers from hazardous materials releases; and implementation of construction BMPs. Oversight from ACDEH would further ensure that contaminated groundwater is appropriately managed during construction.

Soil Vapor Contamination

The presence of soil vapor contamination is also a very common issue in the City and other urban areas, and can be adequately addressed through the design, installation, operation, and maintenance of a vapor intrusion mitigation system (VIMS). While the 2022 Phase II Report indicated that a vapor barrier should be installed beneath the proposed building on the project site, it did not provide recommendations regarding the design of the of VIMS, which would ultimately be developed under ACDEH oversight. Based on the results of a technical review conducted by the preparer of this CEQA analysis, the VIMS for the project site may need to include active sub-slab ventilation in the western portion of the project site due to the highest concentration of benzene (2,800 µg/m^3) detected in soil vapor at the project site, and a passive sub-slab ventilation system may be adequate for the eastern portion of the project site where lower concentrations of VOCs were detected in soil vapor samples. A detailed design of the VIMS would be prepared as part of the implementation of SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44), which requires that the remedial recommendations of the 2022 Phase II Report, including installation of a vapor barrier, would be performed under the oversight of ACDEH. Oversight from ACDEH would ensure that the design, installation, operation, and maintenance of a VIMS for the project site would be performed in a manner that would protect future site users from soil vapor intrusion.

Worker Safety

Compliance with SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44) would require a health and safety plan to be prepared for the project, which would ensure that construction workers would be protected from risks associated with hazardous materials during construction, including potentially encountering soil, groundwater, and soil vapor contamination.

Remedial Approach and Regulatory Oversight

Although ACDEH has not yet provided a response to the 2022 Phase II Report, based on the findings and recommendations of the 2022 Phase II Report and previous correspondence from ACDEH regarding the project, as discussed above, it is anticipated that preparation and implementation of an SMP and installation, operation, and maintenance of a VIMS would be the selected remedial approach for the project.

If ACDEH determines that there are data gaps at the project site that warrant further investigation, such as potential sources of soil vapor contamination or the potential presence of abandoned groundwater supply wells that do not have documentation of proper destruction, then ACDEH would require investigation of the data gaps and appropriate remedial actions to be taken to address any environmental concerns that are identified. Based on substantial evidence in the environmental records described above, ACDEH has demonstrated its ability to identify inaccuracies, discrepancies, and data gaps in investigation reports related to the project site and require the responsible party to correct the reports and perform further investigation. The ACDEH oversight process for remedial actions includes a public participation process that

includes sending a fact sheet to the nearby community and making plans for remedial actions available for a 30-day public review and comment period. This public participation process would ensure that any concerns from the public regarding proposed remedial actions would be considered and responded to prior to a final determination on the proposed remedial actions.

Summary

The WOSP EIR indicated that potential impacts from hazardous materials release sites would be mitigated to less-than-significant levels with compliance with local, state, and federal regulations for treatment, remediation, and/or disposal of contaminated soil and/or groundwater and the City SCAs that were in effect at the time, which are functionally equivalent to the City's current SCAs, including: SCA-HAZ-1: Hazardous Materials Related to Construction (#43), SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44). While some investigation and remedial actions are ongoing, adherence to and demonstration of compliance with these SCAs would ensure that the project site would be adequate for residential development prior to demolition, grading, and/or building permit issuance. Consistent with the findings of the WOSP EIR, compliance with existing hazardous materials regulations and the City's current SCAs discussed above would reduce potential impacts of the project related to contamination from hazardous materials release sites to a less-than-significant level.

Hazardous Materials Use, Transport or Disposal (Impact Haz-3 of the WOSP EIR)

Consistent with the findings of the WOSP EIR, construction of the proposed project would involve the use, transport, storage, and disposal of hazardous materials such as fuels, solvents, oil and grease, and paint; however, required compliance with existing hazardous materials regulations and the City's current SCAs, including SCA-HAZ-1: Hazardous Materials Related to Construction (#43) and SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44), which are functionally equivalent to the City's SCAs at the time the WOSP EIR was prepared, would ensure that potential impacts related to the routine transport, use, or disposal of hazardous materials during construction would be less than significant.

The proposed residential and retail land use of the project would involve the storage and use of only small quantities of commercially available hazardous materials for routine maintenance (e.g., paint and cleaning supplies) and may involve the storage of diesel fuel for an emergency generator. If the storage of diesel fuel for an emergency generator would occur, the project would be required to comply with existing hazardous materials regulations and SCA-HAZ-3: Hazardous Material Business Plan (#45). Consistent with the findings of the WOSP EIR, compliance with existing hazardous materials regulations and the City's SCA-HAZ-3: Hazardous Material Business Plan (#45), which is functionally equivalent to the City's previous SCA 74: Hazardous Materials Business Plan that was in place at the time the WOSP EIR was prepared, would ensure that operation of the project would result in less-than-significant impacts related to the routine transport, use, or disposal of hazardous materials.

Hazardous Materials Near Schools (Impact Haz-4 of the WOSP EIR)

The Pentecostal Way of Truth School Academy, a private K-12 school, is located at 1575 7th Street, approximately 1,200 feet west-northwest of the project site. There are no other schools located within a ¼-mile of the project site.[103] Consistent with the findings of the WOSP EIR, required compliance with existing hazardous materials regulations and the City's SCAs, including SCA-HAZ-1: Hazardous Materials Related to Construction (#43), SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44), and SCA-HAZ-3: Hazardous Material Business Plan (#45), which are functionally equivalent to the City's SCAs at the time the WOSP EIR was prepared, would ensure that potential impacts related to hazardous materials near schools would be less than significant.

Emergency Access Routes (Impact Haz-6 of the WOSP EIR)

As noted in the WOSP EIR, 7th Street in the project area is an identified emergency evacuation route. The WOSP EIR determined that construction under the WOSP would result in temporary traffic lane closures along evacuation routes. The WOSP EIR noted that the temporary localized disruption of evacuation routes could be possible. Figure 7.1 of the Safety Element of the City of Oakland General Plan[104] indicates that the emergency evacuation routes in the vicinity of the project site include 7th Street and Adeline Street. Construction of the project may require temporary closure of portions of adjacent streets, including 7th Street. However, as described in the WOSP EIR, any need for traffic lane reductions or street closures due to construction would be short-term and localized. Additionally, the project would be required to comply with SCA-TRANS-1: Construction Activity in the Public Right-of-Way (#75), which requires an obstruction permit to be obtained from the City prior to placing any temporary construction-related obstruction in the public right-of-way, and requires the project to develop a Traffic Control Plan with a set of comprehensive traffic control measures should obstruction of any vehicle or bicycle travel lanes be required. The traffic control requirements imposed by the City through the permitting process would ensure that appropriate emergency access is maintained at all times during construction activities.

[103] California Department of Education, 2022. California School Directory. Availale at: http://www.cde.ca.gov/re/sd/, accessed May 26, 2022.

[104] City of Oakland, 2004. General Plan, Safety Element, Figure 7.1. Amended 2012.

H. HYDROLOGY AND WATER QUALITY

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Water Quality (Impact Hydro-1, Hydro-3 and Hydro-4)	LTS w/ SCAs	☒	☐	--	SCA Erosion and Sedimentation Control Plan for Construction (#48) SCA State Construction General Permit (#50) NPDES C.3 Stormwater Requirements for Regulated Projects (#54)	LTS w/ SCAs
b. Use of Groundwater (Impact Hydro- 2)	LTS	☒	☐	--		LTS
c. Stormwater Drainages & Drainage Patterns (Impact Hydro-5)	LTS w/ SCAs	☒	☐	--	SCA Erosion and Sedimentation Control Plan for Construction (#48) SCA State Construction General Permit (#50) NPDES C.3 Stormwater Requirements for Regulated Projects (#54)	LTS w/ SCAs
d. Flooding & Substantial Risks from Flooding (Impact Hydro-6)	LTS	☒	☐	--	--	LTS
e. Dam Failure Inundation and Seiche, Tsunami, and Mudflow (Impacts Hydro-7 and Hydro-8)	LTS	☒	☐	--	--	LTS

Discussion

Water Quality and Drainage (Impact Hydro-1, Hydro-3 and Hydro-4 in WOSP EIR)

The majority of the site is currently covered with impervious surfaces. Implementation of the project would include 3,520 square feet of landscaped areas (sheet L3.0 of landscape plan set, Water Use Plan) that would reduce impervious surfaces on the project site (relative to the existing condition). Because the project would involve replacement of over 10,000 square feet of impervious surfaces, the project would be required to comply with Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) Municipal Regional Permit (MRP).[105] Because the project would adhere to national, state, and local regulations, as well as the City's SCAs, the potential for the project to substantially alter drainage patterns, increase the flow of runoff, or affect water quality would be less than significant.

The project is located within a highly urbanized environment. There are no lakes, creeks, or other surface waters in the immediate proximity that the project would alter. Oakland Inner Harbor (the nearest surface water body) is approximately 3,100 feet to the south and stormwater runoff from the project site is conveyed to Oakland Inner Harbor via underground storm drains and culverts.[106] The project would not substantially alter a natural watercourse because there are no creeks crossing or located near the project site. The project would be required to comply with SCA-HYD-3: NPDES C.3 Stormwater Requirements for Regulated Projects (#53). These guidelines require a net reduction of 25 percent in the peak stormwater runoff rate from new projects to the extent possible, in an effort to better address Citywide storm drainage capacity.[107] The project has incorporated stormwater quantity and quality control that include maximizing on-site infiltration, incorporating efficient water use practices, and utilizing bioretention areas in accordance with the C.3 requirements and City of Oakland Storm Drainage Design Guidelines.[108]

In addition, the following SCAs would be applicable to the project: SCA-HYD-1: Erosion and Sedimentation Control Plan for Construction (#48), SCA-HYD-2: State Construction General Permit (#50), and SCA-HAZ-1: Hazardous Materials Related to Construction (#43) and SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44). Compliance with SCAs and other

[105] San Francisco Bay Regional Water Quality Control Board (RWQCB), 2015. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2015-0049, NPDES Permit No. CAS612008, November 19.

[106] Google Earth version of the Creek & Watershed Map of Western Alameda County – a Digital Database, ver. 1.0, October 2010, by Janet M. Sowers, Ranon Dulberg, Jason Holmberg, and Marco Ticci of Fugro William Lettis & Associates, Inc., and Christopher M. Richard, Oakland Museum of California. Available at: http://explore.museumca.org/creeks/GIS/index.html, accessed August 2020.

[107] State Water Resources Control Board (SWRCB), 2009. Construction General Permit, 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ.

[108] City of Oakland Stormwater Supplemental Form completed for 1396 5th Street , June 4, 2020.

local and state regulations would ensure that all hydrology impacts are less than significant, consistent with the findings of the WOSP EIR.

Use of Groundwater (Impact Hydro-2 in WOSP EIR)

Dewatering during construction may be required because groundwater levels are shallow, ranging from approximately 2 to 4 feet below the existing ground surface.[109] Construction-related dewatering would be temporary and limited to the area of the project site and would not substantially contribute to depletion of groundwater supplies or reduce the quality of groundwater.

Additionally, the project would decrease impervious surfaces on the project site, thereby potentially increasing groundwater recharge occurring at the site. Regardless, the WOSP EIR noted that the local water district, EBMUD, relies on surface water and does not use the groundwater basin for municipal water supply so the impact in regard to use of groundwater would be less-than-significant.

Flooding (Impact Hydro-6)

The project site is inside of a 0.2% Annual Chance Flood Hazard and Areas of 1% chance flood with average depth less than one foot or with drainage areas of less than 1 square mile (Zone X).[110] However, it is not located in a dam failure inundation area.[111] The project site is not located in a tsunami inundation zone,[112] and as described in the WOSP EIR, the Alaska Tsunami Warning Center, State Warning System, and Oakland Office of Emergency Services, including the outdoor warning sirens in West Oakland, would provide early notification of an advancing tsunami allowing evacuation of people and ensuring potential impacts related to tsunami inundation are less than significant.

Dam Failure Inundation and Seiche, Tsunami, and Mudflow (Impacts Hydro-7 and Hydro-8)

The only dam failure inundation area identified within the WOSP is the Temescal Lake dam failure inundation area. The project site is not located within any dam failure inundation area, and therefore the project would not expose people or structures to substantial risk of loss, injury or death involving flooding due to dam failure inundation. The project site is not located close

[109] Salem Engineering Group, Inc. 2020. Update Geotechnical Engineering Investigation. *Proposed 8-story Mixed Use Retail and Residential Building, 1396 5th Street, West Oakland, California,* June 5.

[110] Federal Emergency Management Agency (FEMA), 2009. Flood Insurance Rate Map, Alameda County, California and Incorporated Areas, Panel 66 of 725, Map Number 06001C0066G. Effective August 3.

[111] City of Oakland, 2004. City of Oakland General Plan Safety Element- Figure 6.1, November.

[112] California Emergency Management Agency, California Geological Survey, and University of Southern California, 2009. Tsunami Inundation Map for Emergency Planning, State of California, County of Alameda, Oakland West Quadrangle, July 31.

enough to the San Francisco Bay to be affected by a seiche or tsunami. The project site is flat and far from hillsides, and is not subject to landslides.

I. LAND USE, PLANS, AND POLICIES

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	Project Level of Significance
a. Division of Existing Community (Impact LU-1)	LTS	☒	☐	--	--	LTS
b. Conflict with Land Uses (Impact LU-2)	LTS	☒	☐	--	--	LTS
c. Land Use Plans (Impact LU-3)	LTS	☒	☐	--	--	LTS
d. Habitat and Natural Community Conservation Plans	No Impact	☒	☐	--	--	No Impact

Discussion

The project would facilitate a transition from vacant commercial land to land uses more compatible with existing neighborhoods by redeveloping with residential uses. The proposed streetscape improvements and the increase in population, jobs, and activity on this vacant block – consistent with the overall scope of development analyzed in the WOSP EIR – would further improve the connectivity, safety, comfort, and appearance of the area. Land uses surrounding the site, as described in Chapter II, Project Description, is primarily a mix of primarily multi-family residential and light industrial uses and surface parking, making the project compatible with existing uses while furthering the housing and economic development goals of the WOSP. Consistent with the findings of the WOSP EIR, the project would not physically divide an established community.

The project's consistency with zoning, the General Plan, and the policies of the WOSP, and its use of State Density Bonus Law waivers and a concession, is explained primarily in Chapter III, Project Consistency Assessment.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other adopted habitat conservation plan applicable to the Planning Area. The project site being within the Specific Plan area, would therefore have no impact specific to the conflict of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

J. NOISE

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Construction Noise and Vibration (Impact Noise-1, Noise-4)	LTS w/ SCAs	☒	☐	--	SCA Construction Days/Hours (#62) SCA Construction Noise (#63) SCA Extreme Construction Noise (#64) Construction Noise Complaints (#66) SCA Exposure to Vibration (#69)	LTS w/ SCAs
b. Operational Noise and Vibration(Impact Noise-2, Impact Noise-5)	LTS w/ SCAs	☒	☐	--	SCA Operational Noise (#68) SCA Exposure to Vibration (#69)	LTS w/ SCAs
c. Airport Noise (Impact Noise-8)	LTS	☒	☐	--	--	LTS
d. Noise Exposure/ Compatibility (Impact Noise-9)	LTS	☒	☐	--	--	LTS

Discussion

Consistent with the WOSP EIR, the project's impacts related to noise would be less than significant with implementation of SCAs, as described below.

Construction Noise and Vibration (Impact Noise-1, Impact Noise-4 in the WOSP EIR)

Construction is expected to occur over a period of approximately 24 months and would temporarily increase noise levels in the vicinity of the project site during the single construction

phase. The nearest sensitive receptor[113] to the project site is a multi-family structure approximately 400 feet north measured from the center of the project site, as well as a proposed multi-family project consisting of 1,032 units approximately 250 feet east measured from the center of the project site. Other nearby sensitive receptors to the project site include a dance studio located approximately 800 feet east of the site across Union Street, and an art studio located approximately 600 feet northeast of the site across 7th Street.[114]

The WOSP EIR Table 4.7-11 and Table 7 summarized below, presents the typical range of hourly average noise levels generated by different phases of construction measures for domestic housing production at a distance of 50 feet.

TABLE 7 TYPICAL NOISE LEVEL RANGE AT 50 FEET FROM CONSTRUCTION SITES: ALL PATIENT EQUIPMENT PRESENT AT SITE, MINIMUM REQUIRED EQUIPMENT PRESENT AT SITE

	Domestic Housing	
	Phase 1	Phase 2
Ground Clearing	83	83
Excavation	88	75
Foundations	81	81
Erection	81	65
Finishing	88	72

Source: U.S EPA, Legal Compilation on Noise, Vol 1, 1973, p. 2-104

The project site's proximity to sensitive receptors, and the type of construction equipment that would be used as part of the project, are similar to other projects in urban areas.

Table 8 presents typical construction equipment maximum noise levels, a described in Table 4.7-12 of the WOSP EIR. All equipment proposed for the project has been analyzed in the WOSP EIR for noise impacts. In addition, the project would not include pile drivers, which are often the most impactful in terms of noise impacts.

[113] Legal residences, schools, childcare facilities, health care or nursing home, public open space, or similarly sensitive land uses. (Refer to City of Oakland CEQA thresholds of significance guidelines.)

[114] The dance studio is considered a sensitive receptor in this analysis because it contains a commercial land use, which, though not as sensitive as residential land uses, can be impacted by excessive noise levels.

Because the project site and its vicinity are part of an established, urbanized area, periodic exposure to construction-related noise and vibration are existing conditions. The use of heavy

TABLE 8 TYPICAL CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVELS, LMAX

Type of Equipment	Range of Maximum Sound Levels (dBA) at 50 feet	Suggested Maximum Sound Levels for WOSP EIR Analysis (dBA) at 50 feet
Rock Drills	83-99	96
Jackhammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Scrapers	83-91	87
Haul Trucks	83-94	88
Electric Saws	66-72	70
Portable Generators	71-87	80
Rollers	85-90	88
Dozers	77-82	80
Tractors	86-90	88
Front-End Loaders	81-90	86
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	79-89	85
Graders	79-89	85
Air Compressors	76-89	85
Trucks	81-87	85

Source, Table 4.7-12 WOSP Draft EIR, January 2014

Notes: dBA=A weighted decibel.

construction equipment would occur at different locations across the site. Therefore, the duration and frequency of heavy construction equipment operation near sensitive receptors would be limited on any given day and would not be expected to last more than a few days at a time. The WOSP EIR concluded that significant noise impacts do not normally result when standard construction noise control measures are enforced and when the duration of the noise generating

construction period is limited to one construction season. Given that the project would use off-site construction and adhere to SCAs, construction noise impacts would be less than significant consistent with the findings from the WOSP EIR.

The incorporation of the appropriate noise attenuation measures required by SCA-NOI-2 through SCA-NOI-3 would substantially reduce the impact of construction generated noise on nearby receptors. In addition, implementation of SCA-NOI-4: Construction Noise Complaints (#66) would ensure that the project will implement procedures for responding and tracking noise complaints. In addition, compliance with SCA-NOI-1 would limit construction days and hours.

Compliance with SCA-NOI-2: Construction Noise (#63) would limit the use of impact tools, which would limit the use of equipment that could generate high vibration levels. SCA-NOI-2: Construction Noise (#63) also requires stationary construction equipment to be located as far as possible from adjacent properties. Because ground borne vibration attenuates rapidly with distance from the source of the vibration, SCA-NOI-2: Construction Noise (#63) would limit vibration impacts from any stationary construction equipment. Implementation of SCA-NOI-3: Extreme Construction Noise (#64) would require the project to reduce construction impacts associated with extreme noise generating activities, such as pile driving. Potential attenuation measures would include the use of "quiet" pile driving technology, such as pre-drilling of piles. High-noise-generating construction activities often generate high vibration levels.

With implementation of these SCAs, the project's impact would be less than significant and within Impacts Noise-1 and Noise 4 of the WOSP EIR.

Operational Noise and Vibration (Impact Noise-2, Impact Noise-5 in the WOSP EIR)

The primary noise generation from the long-term operation of the project would occur as a result of the use of mechanical heating, ventilation, and air conditioning (HVAC) systems. Consistent with the WOSP EIR findings, implementation of SCA-NOI-5: Operational Noise (#68), which requires all operational noise to comply with the performance standards of Chapter 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code, would reduce this impact to a less-than-significant level.

The project does not include any sources that would generate vibration that would be perceptible to people during the operational period.

Airport Noise (Impact Noise-8 in the WOSP EIR)

The Planning Area is located more than two miles outside of the Oakland International Airport noise contour, which the Federal Aviation Administration regards as a significance threshold for

noise-sensitive land uses. The project's impacts would be less than significant within Impact Noise-8 of the WOSP EIR.

Noise Exposure/Compatibility (Impact Noise-9 the WOSP EIR)

The WOSP EIR identified that noise levels from BART train activities and freeway traffic in the project vicinity would exceed the noise level beyond which residential uses would be considered "normally unacceptable." The WOSP includes strategies to reduce noise generation from BART trains which include an agreement between the City and BART for scheduled rail grinding, the installation of a noise baffle structure on the BART overhead structure near the project, and the use of new train cars with more stringent noise standards.

Impacts of the environment on the project as they relate to ambient noise are not within the scope of CEQA. However, CEQA does require consideration of whether the project might exacerbate existing environmental hazards.

Vibration from the adjacent BART tracks may be noticeable at the project site and affect future residents. Under the requirement of SCA-NOI-7: Exposure to Vibration (#69), the project would submit a Vibration Reduction Plan and implement vibration reduction measures to reduce the exposure of on-site receptors on the project site to acceptable levels of ground borne vibration. In addition, SCA-NOI-5: Exposure to Community Noise (#67) would reduce the potential of future occupants of the proposed development to be exposed to noise given the various noise reductions measures to achieve an acceptable interior noise level. The project would not create noise exposure impacts more severe than identified in WOSP EIR, nor would it exacerbate existing ambient noise conditions.

The project would adhere to City of Oakland's SCAs to reduce construction noise and vibration, achieve interior noise standards, and require operational noise to meet applicable noise performance standards. The following SCAs are applicable to the project: SCA-NOI-1: Construction Days/Hours (#62), SCA-NOI-2: Construction Noise (#63), SCA-NOI-3: Extreme Construction Noise (#64), SCA-NOI-4: Construction Noise Complaints (#66), SCA-NOI-5: Exposure to Community Noise (#67) SCA-NOI-6: Operational Noise (#68), and SCA-NOI-7: Exposure to Vibration (#69).

K. POPULATION AND HOUSING

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Population Growth (Impact PHE-1)	LTS	☒	☐	--		LTS
b. Displacement of Housing & People (Impact PHE-2)	LTS	☒	☐	--		No Impact

Discussion

Consistent with the WOSP EIR, the project's impacts related to population and housing would be less than significant as described below.

Population Growth (Impact PHE-1 in the WOSP EIR)

The project would result in approximately 553 new residents[115] on-site. As stated in the WOSP EIR, development within Opportunity Areas resulting from implementation of the WOSP between 2005 and 2035 is projected to add up to 5,090 housing units[116] and 11,136 residents and 14,850 new jobs. [117] The project would represent approximately seven percent[118] of the total population growth projected for Oakland through 2035, and is generally consistent with the Association of Bay Area Governments (ABAG) projections for household and employment growth for that period.

As shown in Table 7, the project is consistent with the Development Program analyzed in the WOSP EIR for the 7th Street Opportunity Area. The number of residential units are within the range described in the Development Program.

[115] Based on average of 2.49 persons per household (2015-2013 Housing Element, 2010 US Census Data, p. 114, Table 3-5).

[116] WOSP Draft EIR, Chapter 4.8, Population, Housing and Employment, Table 4.8.5, Specific Plan Household Projections as Compared to ABAG Projections, page 4.8-13, West Oakland Specific Plan Opportunity Areas.

[117] WOSP Draft EIR, Chapter 1, Introduction, page 1-2.

[118] Association of Bay Area Governments (ABAG), Total Population Projections, 2035 (562,200); Growth from 2005-2035 in Oakland: (151,400): 11,136 WOSP Opportunity Area Residents/151,400 (Population Growth of Oakland) = seven percent.

TABLE 7 DEVELOPMENT BUILDOUT ASSUMPTIONS OF THE 7TH STREET OPPORTUNITY AREA

Development Characteristics	Buildout Analyzed	Cumulative Projects[a]	Buildout Remaining	Proposed Project	Buildout Remaining After Project
Maximum Residential Units[b]	1,856 – 2,839	2,220 (78%)[d]	0 – 619 (22%)	222	0 – 397 (14%)

[a] The cumulative projects in the 7th Street Opportunity Area include 500 Kirkham (application approved), 532 Union Street, 1471 7th Street (application approved), and 801 Pine Street (application approved).
[b] Includes units from mixed-use and residential development.
[d] Percentages are based off maximum buildout of 2,839 residential units.
Source: West Oakland Specific Plan EIR (2014) Table 3.-3 Development Buildout Assumptions, 7th Street Opportunity Areas, page 3-40. City of Oakland Major Projects List March (2020) and Urban Planning Partners (2020).

Displacement of Housing & People (Impact PHE-2 in the WOSP EIR)

The project site has been undeveloped for many years and as a result, the project would not demolish or displace any existing housing units, and accordingly there would no impact.

L. PUBLIC SERVICES, PARKS, AND RECREATION FACILITIES

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Fire, Police, and School Services (Impact PSR-1, PSR-2, and PSR-3)	LTS w/ SCA	☒	☐	--	SCA Compliance with Other Requirements (#3) SCA Capital Improvements Impact Fee (#73) SCA Fire Safety Phasing Plan (#46)	LTS w/SCA
b. Parks & Recreation (Impact PSR-4)	LTS	☒	☐	--		

Discussion

The project would add 222 residential units , and 41 parking spaces in an urban area already served by public services, and recreation facilities. This development program and intensity falls within the WOSP EIR assumptions, as shown in Table 7 of subsection K, Population and Housing, above. As such, the project would not increase demand for public services, parks, and recreation over what was already considered in the WOSP EIR and its effects on public services, parks and recreation facilities would be less than significant with implementation of the SCAs identified in the WOSP EIR related to Other Requirements and Fire Safety and payment of school fees, specifically SCA-GEN-1: Compliance with Other Requirements (#3) and SCA-PUB-2: Capital Improvement Impact Fee (#73). The SCAs are also included in Attachment A.

M. TRANSPORTATION

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	Project Level of Significance
a. Conflict with Plans (Impact Trans-15)	LTS	☒	☐	--	SCA Bicycle Parking (#76) SCA Transportation Impact Fee (#79) SCA Plug-In Electric Vehicle (PEV) Charging Infrastructure (#81)	LTS
b. Substantial Additional VMT	LTS	☒	☐	--	SCA Transportation and Parking Demand (#78)	LTS
c. Induce Automobile Travel	LTS	☒	☐	--	N/A	LTS

Previous CEQA Documents Findings

Transportation and circulation impacts throughout the WOSP were analyzed in the WOSP EIR, which found Level of Service (LOS) impacts at Intersection #13 (Broadway and West Grand Avenue), Intersection #15 (Adeline Street and 18th Street), and Intersection #24 (Adeline Street and 5th Street) to be less than significant with implementation of mitigation measures or SCAs. LOS and queuing Impacts at Intersection #1 (40th Street and Hollis Street) and Intersection #2 (40th Street and San Pablo Avenue), and LOS impact at Intersection #7 (West Grand Avenue at Mandela Parkway) were found to be significant and unavoidable under the WOSP EIR. The current transportation impact fee (TIF) required of all projects for the City of Oakland is equivalent to full mitigation compliance. All other transportation and circulation impacts under the WOSP were found to have no impacts or less-than-significant impacts.

Project Analysis

Conflicts with Plans, Ordinances, or Policies Relating to Safety, or Performance of the Circulation System (Impact Trans-15)

The project is consistent with applicable plans, ordinances, and policies, and would not cause a significant impact by conflicting with adopted plans, ordinances, or policies addressing the safety

and performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay).

The 1998 LUTE, as well as the City's Public Transit and Alternative Mode and Complete Streets policies, states a strong preference for encouraging the use of non-automobile transportation modes, such as transit, bicycling, and walking. The project would encourage the use of non-automobile transportation modes by providing residential uses in a dense, walkable urban environment that is well-served by both local and regional transit. The project also encourages the use of non-automobile transportation modes by providing minimal on-site residential parking and ample on-site bicycle parking.

The project is consistent with both the City's Pedestrian Master Plan (*2017 Oakland Walks!*) and Bicycle Master Plan (2019 *Let's Bike Oakland)* as it would not make major modifications to existing pedestrian or bicycle facilities in the surrounding areas and would not adversely affect installation of future facilities.

Because the project would generate more than 50 peak hour trips, preparation and implementation of a Transportation and Demand Management Plan (TDM Plan, which is provided in Attachment G) is required per SCA-TRAN-4: Transportation and Parking Demand Management (#78). The TDM Plan would include operational strategies and infrastructure improvements to encourage the use of non-automobile travel modes. The infrastructure improvements included in the TDM Plan would not only benefit the project residents, but also residents, workers, and visitors in the areas surrounding the project site. In addition, these improvements are also consistent with the City's adopted plans, ordinances, and policies relating to safety and performance of the circulation system because they improve the pedestrian and bicycle environment in the vicinity of the project.

Overall, the project would not conflict with adopted plans, ordinances, or policies addressing the safety and performance of the circulation system. This is a less-than-significant impact; no mitigation measures are required.

In addition, the project is consistent with the WOSP EIR, which evaluated the impacts of developments in the West Oakland area, as described below.

WOSP EIR Traffic Analysis

The project site is located within the WOSP Area. The development evaluated in the WOSP EIR represents the reasonably foreseeable development expected to occur in the next 20 to 25 years in the WOSP Area. The WOSP and its EIR intend to provide flexibility in the location, amount, and type of development. Thus, as long as the trip generation for the overall WOSP Area remains below the levels estimated in the WOSP EIR, the traffic impact analysis presented in the WOSP EIR continues to remain valid.

Since the approval of the WOSP EIR, 13 developments, including this project, have been proposed and have either been constructed or are in some stage of the City's approval process at this time. Table 8 summarizes the trip generation for these developments. The 13 developments combined would generate about 1,405 AM peak hour and 1,616 PM peak hour trips, which is about 25 percent of the total trip generation estimated in the WOSP EIR. Accordingly, the WOSP EIR findings continue to remain valid.

TABLE 8 TRIP GENERATION FOR DEVELOPMENT PROJECTS WITHIN THE WOSP AREA

Project Name	AM Peak Hour	PM Peak Hour
2201 Filbert (Icehouse)[a]	52	84
532 Union Street (The Union Project)[b]	34	47
1708 Wood Street (Roadway Express)[c]	50	58
Mandela Parkway Hotel[d]	135	141
914 West Grand Avenue[e]	15	17
34th and San Pablo Affordable Housing Development[f]	38	41
1450 32nd Street[g]	12	15
1919 Market Street[h]	34	41
500 Kirkham Street[i]	345	379
801 Pine Street (The Phoenix)[j]	84	97
West Oakland BART Project[k]	472	548
2715 Adeline Street[l]	92	95
1396 5th Street[m]	42	52
Total Projects Trips	**1,405**	**1,616**
WOSP Estimated Trip Generation[n]	5,537	6,698
Percent Complete	***25%***	***24%***

[a] Source: *West Grand Avenue & Market Street CEQA Analysis* (August 20, 2015).
[b] Source: *532 Union Street CEQA Analysis* (July 15, 2016).
[c] Source: *1708 Wood Street CEQA Analysis* (June 20, 2016).
[d] Source: *914 West Grand Avenue Project in Oakland – Transportation Impact Review* (November 17, 2017).
[e] Source: *Mandela Hotel in Oakland – Transportation Assessment* (November 29, 2017).
[f] Source: *34th and San Pablo Project – Transportation Impact Review* (October 20, 2017).
[g] Source: *1450 32nd Street – Preliminary Transportation Impact Analysis* (July 28, 2017).
[h] Source: *1919 Market Street Project in Oakland – Preliminary Transportation Assessment* (August 8, 2017).
[i] Source: *500 Kirkham Street – Planning-Related Non-CEQA Transportation Impact Review* (March 31, 2019).
[j] Source: *The Phoenix – Transportation Assessment (Non-CEQA Memorandum* (November 29, 2018).
[k] Source: *West Oakland BART Project Planning-Related Non-CEQA Transportation Impact Review* (January 29, 2019).
[l] Source: *2715 Adeline – Transportation Assessment (Non-CEQA) Memorandum* (June 21, 2019).
[m] Source: *1396 5th Street - Transportation Impact Review (Non-CEQA) Memorandum* (October 12, 2020).
[n] Source: West Oakland Specific Plan Draft EIR, Table 4.10-4 (May 2014).
Source: Fehr & Peers, 2020.

The project is located in the 7th Street Opportunity Area. The project is consistent with the assumptions used in the WOSP EIR for the 7th Street Opportunity Area. Since the project, combined with other currently proposed developments in the WOSP Area, would generate fewer automobile trips than assumed in the WOSP EIR, the project would not result in additional impacts on traffic operations at the intersections analyzed in the WOSP EIR. In addition, all the mitigation measures identified in the WOSP EIR are included in the citywide Transportation Impact Fee (TIF) and as a result payment of this fee constitutes adequate mitigation.

Cause Substantial Additional Vehicle Miles Traveled

On September 21, 2016, the City of Oakland's Planning Commission directed staff to update the CEQA Thresholds of Significance Guidelines related to transportation impacts in order to implement the directive from Senate Bill 743 to modify local environmental review processes by removing automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, as a significant impact on the environment pursuant to CEQA.[119] The Planning Commission direction aligns with draft proposed guidance from the Governor's Office of Planning and Research and the City's approach to transportation impact analysis, with adopted plans and polices related to transportation, which promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. Consistent with the Planning Commission direction and the Senate Bill 743 requirements, the City of Oakland published the revised Transportation Impact Review Guidelines on April 14, 2017 to guide the evaluation of the transportation impacts associated with land use development projects.

[119] Steinberg, 2013. (Senate Bill SB 743)

Many factors affect travel behavior, including density of development, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development that is located at a great distance from other land uses, in areas with poor access to non-single occupancy vehicle travel modes generate more vehicle travel compared to development located in urban areas, where a higher density of development, a mix of land uses, and non-single occupancy vehicle travel options are available.

Given these travel behavior factors, most of Oakland has lower VMT per capita and VMT per worker ratios than the nine-county San Francisco Bay Area region. Further, within the City of Oakland, some neighborhoods may have lower VMT ratios than others.

VMT Estimate

Neighborhoods within Oakland are expressed geographically in transportation analysis zones (TAZ), which are used in transportation planning models for transportation analysis and other planning purposes. The Metropolitan Transportation Commission (MTC) Travel Model includes 116 TAZs within Oakland that vary in size from a few city blocks in the downtown core, to multiple blocks in outer neighborhoods, to even larger geographic areas in lower-density neighborhoods.

The MTC Travel Model is a model that assigns all predicted trips within, across, or to/from the nine-county San Francisco Bay Area region onto the roadway network and the transit system by mode (single-driver and carpool vehicle, biking, walking, or transit) and transit carrier (bus, rail) for a particular scenario.

The travel behavior from MTC Travel Model is modeled based on the following inputs:

- Socioeconomic data developed by the Association of Bay Area Governments (ABAG).
- Population data created using the 2000 US Census and modified using the open source PopSyn software.
- Zonal accessibility measurements for destinations of interest.
- Travel characteristics and vehicle ownership rates derived from the 2000 Bay Area Travel Survey (BATS).
- Observed vehicle counts and transit boardings.

The daily VMT output from the MTC Travel Model for residential and office uses comes from a tour-based analysis. The tour-based analysis examines the entire chain of trips over the course of a day, not just trips to and from the project site. In this way, all of the VMT for an individual resident or employee is included; not just trips into and out of the person's home or workplace. For example, a resident leaves her apartment in the morning, stops for coffee, and then goes to

the office. In the afternoon she heads out to lunch, and then returns to the office, with a stop at the drycleaners on the way. After work, she goes to the gym to work out, and then joins some friends at a restaurant for dinner before returning home. All the stops and trips within her day form her "tour". The tour-based approach would add up the total number of miles driven over the course of her tour and assign it as her daily VMT.

Based on the MTC Travel Model, the regional average daily VMT per capita is 15.0 under 2020 conditions and 13.8 under 2040 conditions.

Thresholds of Significance for VMT

According to the City of Oakland Transportation Impact Review Guidelines[120] (TIRG), the following are thresholds of significance related to substantial additional VMT:

- For residential projects, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per worker minus 15 percent.
- For retail projects, a project would cause substantial additional VMT if it results in a net increase in total VMT.

Screening Criteria

VMT impacts would be less than significant for a project if any of the identified screening criteria outlined below are met:

Small Projects: The project generates fewer than 100 vehicle trips per day.

Low-VMT Areas: The project meets map-based screening criteria by being located in an area that exhibits below threshold VMT, or 15 percent or more below the regional average.

Near Transit Stations: The project is located in a Transit Priority Area or within a one-half mile of a Major Transit Corridor or Stop121 and satisfies the following:

- Has a Floor Area Ratio (FAR) of more than 0.75.
- Includes less parking for use by residents, customers, or employees of the project than other typical nearby uses, or less than required by the City (if parking minimums pertain

[120] City of Oakland, 2017, Transportation Impact Review Guidelines, April.

[121] "Major transit stop" is defined in CEQA Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. See Chapter IV, Summary of Findings of this CEQA Document for a discussion on how this project meets this requirement.

to the site) or allowed without a conditional use permit (if minimums and/or maximums pertain to the site).

- And is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the MTC).

The project satisfies the Near Transit Stations (#3) criterion as described below.

Criterion #1: Small Projects

The project would generate more than 100 vehicle trips per day and therefore does not meet criterion #1.

Criterion #2: Low-VMT Area

Table 9 shows the estimated 2020 and 2040 VMT per capita for TAZs 965, the TAZ in which the project is located, as well as the applicable VMT thresholds of 15 percent below the regional average. The 2020 estimated average daily VMT per resident in the project TAZ is less than the regional averages minus 15 percent. However, the 2040 VMT per resident is greater than the regional average minus 15 percent.

TABLE 9 DAILY VEHICLE MILES TRAVELED SUMMARY

Geography[a]	2020 VMT per Capita	2040 VMT per Capita[b]
Bay Area Residential Regional Average	15.0	13.8
Bay Area Residential Regional Average minus 15%	12.8	11.7
TAZ 965	12.5	**12.4**

[a] MTC Model results at analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerCapita and accessed in June 2020.
[b] Bold indicates that the TAZ does not meet the screening criteria of VMT per capita less than the regional average minus 15 percent.
Source: Fehr & Peers, 2020.

Note that TAZ 965 has more than double the estimated VMT per resident than other nearby TAZs. Although the West Oakland BART Station is located in TAZ 965, the MTC Model does not accurately reflect the proximity of the uses in the TAZ, especially the proposed project, to the BART Station because TAZ 965 is a relatively large TAZ (it is more than three or four times the size of the other nearby TAZs and includes the Port of Oakland to the west which is not very transit accessible). The Model assumes that all the developments in the TAZ are uniformly distributed throughout the TAZ; even though many uses, such as the project, are concentrated

around the BART Station. Considering that the project is a high-density development with a low parking supply – less than the City's minimum requirement – adjacent to the BART station, it is expected that its VMT per resident would be lower than the TAZ average shown in Table 9. It is likely that the project would generate less VMT per resident than the regional average minus 15 percent. However, since TAZ 965 does not meet the map-based screening criteria, it is conservatively assumed that the project cannot be presumed to result in less than substantial additional VMT under this screening criterion.

Criterion #3: Near Transit Stations

The project would be located adjacent to the West Oakland BART Station and would be near frequent bus service at the West Oakland BART Station (Lines 14 and 62 with 15-minute headways during the peak periods). The project would satisfy Criterion # 3 because it would meet all the following three conditions for this criterion:

- The project would have a FAR of 5.6, which is greater than 0.75.
- According to the City of Oakland Municipal Code Section 17.116.060, the project is required to provide a minimum of 0.5 parking spaces per unit for multi-family residential developments in the S-15W zone. The Code requires the project to provide a minimum of 111 parking spaces. Thus, the 41 spaces proposed by the project would be less than the minimum required by the Code. Therefore, the project would not provide more parking for use by residents than other typical nearby uses, nor would it provide more parking than required by City Code.
- The project is located within the West Oakland PDA as defined by Plan Bay Area, and is therefore consistent with the region's Sustainable Communities Strategy

VMT Screening Conclusion

As described above, VMT impacts would be less than significant for a project if any of the identified screening criteria outlined below are met: Small Projects, Low-VMT Areas, and Near Transit Stations). The project would satisfy the Near Transit Stations (#3) criterion and thus would have a less–than-significant impact on VMT.

Substantially Induce Additional Automobile Travel (Criterion M.c)

The project would not modify the roadway network surrounding the project site. Therefore, it would not increase the physical roadway capacity and would not add new roadways to the network, and would not induce additional automobile traffic. This is a less-than-significant impact; no mitigation measures are required.

Conclusion

Consistent with the findings of the WOSP EIR, the project would not result in any increase in the severity of any previously identified impacts, nor would it result in new significant impacts related to transportation or circulation that were not previously identified in the WOSP EIR.

The project would be required to implement the following SCAs, also included in Attachment A, consistent with the WOSP EIR findings: SCA-TRAN-1: Construction Activity in the Public Right-of-Way (#75), SCA-TRAN-4: Transportation and Parking Demand Management (#78), and SCA-TRAN-5: Transportation Impact Fee (#79). Additionally, independent of CEQA, the project is subject to additional transportation SCAs: SCA-TRAN-2: Bicycle Parking (#76), SCA-TRAN-3: Transportation Improvements (#77), and SCA-TRAN-6: Plug-In Electric Vehicle (PEV) Charging Infrastructure (#81).

N. UTILITIES AND SERVICE SYSTEMS

Impacts Related To:	WOSP EIR Findings	PROJECT				
		Relationship to WOSP EIR Findings		Applicable		Project Level of Significance
		Equal or Less Severity	Substantial Increase in Severity	MMs	SCAs	
a. Wastewater and Stormwater Facilities (Impact Util-1, Util-3	LTS w/SCA	☒	☐	--	SCA State Construction General Permit (#50) NPDES C.3 Stormwater Requirements for Regulated Projects (#54) SCA Sanitary Sewer System (#87) SCA Storm Drain System (#88)	LTS w/ SCA
b. Water Supplies (Impact Util-2)	LTS	☒	☐	--	--	LTS
c. Solid Waste Services (Impact Util-4)	LTS w/ SCA	☒	☐	--	SCA Construction and Demolition Waste Reduction and Recycling (#82) SCA Recycling Collection and Storage Space (#84)	LTS w/ SCAs
d. Energy (Impact Util-5)	LTS	☒	☐	--	--	LTS

Discussion

Wastewater generated by the project would be subject to both primary and secondary treatment and would not violate the wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board. The current project site is primarily composed of impervious surfaces and new development would likely decrease storm drain runoff because the project would be required to incorporate additional pervious areas through landscaping, in compliance with City of Oakland requirements.

The Water Supply Assessment prepared by EBMUD for the WOSP EIR[122] concluded that EBMUD has sufficient water supplies to meet current water demand and future water demand through 2035, including the increased water demand associated with the WOSP, during normal, single dry, and multiple dry years. The WOSP EIR determined that development under the WOSP would have less-than-significant impacts related to stormwater and wastewater facilities, solid waste services, and energy as well.

As described in the WOSP EIR, all development in the WOSP Area would be designed in accordance with State and local solid waste regulations and therefore impacts associated with solid waste would be less than significant. Non-hazardous solid waste in the WOSP Area is brought to the Altamont Landfill and Resource Facility. The Altamont Landfill is projected to have sufficient capacity to operate until at least 2031, and potential to operate through 2071, depending on waste flows and waste reduction measures.[123] The Altamont Landfill would have sufficient capacity to accept waste generated by development under the WOSP.

The WOSP EIR identified less-than-significant impacts related to energy standards and use. Under the WOSP EIR, Pacific Gas & Electric Company has indicated that there is ample capacity to handle projected demand with its current system.[124] Therefore, development under the WOSP would not cause a violation of regulations relating to energy standards nor result in a determination by Pacific Gas & Electric Company that it does not have adequate capacity to serve the project, or result in construction or expansion of energy facilities.

The WOSP EIR did not identify any mitigation measures related to utilities and service systems, and none would be required for the project. Implementation of SCA-UTIL-1: Construction and Demolition Waste Reduction and Recycling (#82), SCA-UTIL-5: Sanitary Sewer System (#87), and SCA-UTIL-6: Storm Drain System (#88), would ensure that impacts to water supply, sewer capacity, stormwater drainage facilities, solid waste services, and energy would be less than significant. Independent of the CEQA analysis, the project would comply with the following SCAs: SCA UTIL-2 Underground Utilities (#83), SCA UTIL-3: Recycling Collection and Storage Space (#84), SCA UTIL-4: Green Building Requirements (#85), SCA-UTIL-7: Recycled Water (#89), as well as compliance with Title 24 and CALGreen requirements and SCA-UTIL-8: Water Efficient Landscape Ordinance (WELO) (#90), SCA-HYD-2: State Construction General Permit (#51), and SCA-HYD-3: NPDES C.3 Stormwater Requirements for Regulated Projects (#55).

[122] East Bay Municipal Utility District, 2013. Water Supply Assessment, *West Oakland Specific Plan,* March 26.

[123] City of Oakland, 2014. West Oakland Specific Plan, Draft Environmental Impact Report, SCH 2012102047, January.

[124] City of Oakland, 2014. West Oakland Specific Plan, Final Environmental Impact Report, SCH 2012102047, May.

ATTACHMENT A: STANDARD CONDITIONS OF APPROVAL AND MITIGATION MONITORING AND REPORTING PROGRAM

This Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCAMMRP) is based on the CEQA Analysis prepared for the 1396 5th Street Project (project).

This SCAMMRP is in compliance with Section 15097 of the CEQA Guidelines, which requires that the Lead Agency "adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects." The SCAMMRP lists the City's Standard Conditions of Approval ("SCA") identified in the EIR as measures that would minimize potential adverse effects that could result from implementation of the project, to ensure the conditions are implemented and monitored. The SCA number that corresponds to the City's master SCA list is provided at the end of the SCA title — e.g., SCA-AIR-1: *Dust Controls – Construction-Related* (#20). It is noted that no mitigation measures beyond the SCAs are required for this project. Mitigation measures (MM) identified in the WOSP EIR are now included in the city's SCA's such as Mitigation Measure Air-9B (SCA #24), Mitigation Measure Air-9C (SCA #24 and SCA #26), and Mitigation Measure Air-10 (SCA #23) and are functionally equivalent to mitigation measures.

All SCAs identified in the CEQA Analysis which are consistent with the measures and conditions presented in the WOSP EIR, are included herein. To the extent that there is any inconsistency between the SCA and MM, the more restrictive conditions shall govern; to the extent any MM and/or SCA identified in the CEQA Analysis were inadvertently omitted, they are automatically incorporated herein by reference.

- The first column identifies the SCA and MM applicable to that topic in the CEQA Analysis.
- The second column identifies the monitoring schedule or timing applicable to the project.
- The third column names the party responsible for monitoring the required action for the project.

The project sponsor is responsible for compliance with any recommendations in approved technical reports, all applicable mitigation measures adopted and with all conditions of approval set forth herein at its sole cost and expense, unless otherwise expressly provided in a specific mitigation measure or condition of approval, and subject to the review and approval of the City of Oakland. Overall monitoring and compliance with the mitigation measures will be the responsibility of the Planning and Zoning Division. Prior to the issuance of a demolition, grading, and/or construction permit, the project sponsor shall pay the applicable mitigation and monitoring fee to the City in accordance with the City's Master Fee Schedule.

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
General			
SCA-GEN-1: Compliance with Other Requirements (#3) The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Bureau of Building, Fire Marshal, Department of Transportation, and Public Works Department. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition #4.	N/A	N/A	N/A
SCA-GEN-2: Regulatory Permits and Authorizations from Other Agencies (#15) The project applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies including, but not limited to, the Regional Water Quality Control Board, Bay Area Air Quality Management District, Bay Conservation and Development Commission, California Department of Fish and Wildlife, U. S. Fish and Wildlife Service, and Army Corps of Engineers and shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City, along with evidence demonstrating compliance with any regulatory permit/authorization conditions of approval.	Prior to activity requiring permit/ authorization from regulatory agency	Approval by applicable regulatory agency with jurisdiction; evidence of approval submitted to Bureau of Planning	Applicable regulatory agency with jurisdiction
Aesthetics, Shadow and Wind			
SCA-AES-1: Trash and Blight Removal (#16) The project applicant and his/her successors shall maintain the property free of blight, as defined in Chapter 8.24 of the Oakland Municipal Code. For nonresidential and multi-family residential projects, the project applicant shall install and maintain trash receptacles near public entryways as needed to provide sufficient capacity for building users.	Ongoing	N/A	Bureau of Building
SCA-AES-2: Graffiti Control (#17) a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:	Ongoing	N/A	Bureau of Building

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	**Initial Approval**	**Monitoring/ Inspection**
i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces. ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces. iii. Use of paint with anti-graffiti coating. iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED). v. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement. b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include: i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system. ii. Covering with new paint to match the color of the surrounding surface. iii. Replacing with new surfacing (with City permits if required).			
SCA-AES-3: Landscape Plan (#18) a. *Landscape Plan Required* The project applicant shall submit a final Landscape Plan for City review and approval that is consistent with the approved Landscape Plan. The Landscape Plan shall be included with the set of drawings submitted for the construction-related permit and shall comply with the landscape requirements of Chapter 17.124 of the Planning Code. Proposed plants shall be predominantly drought-tolerant. Specification of any street trees shall comply with the Master Street Tree List and Tree Planting Guidelines (which can be viewed at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662.pdf and http://www2.oaklandnet.com/oakca1/groups/pwa/documents/form/oak025595.pdf, respectively), and with any applicable streetscape plan. b. *Landscape Installation*	a. Prior to approval of construction-related permit b. Prior to building permit final c. Prior to approval of construction-related permit	a. Bureau of Planning b. Bureau of Planning c. N/A	a. N/A b. Bureau of Building c. Bureau of Building

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
The project applicant shall implement the approved Landscape Plan unless a bond, cash deposit, letter of credit, or other equivalent instrument acceptable to the Director of City Planning, is provided. The financial instrument shall equal the greater of $2,500 or the estimated cost of implementing the Landscape Plan based on a licensed contractor's bid. c. *Landscape Maintenance* All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. The property owner shall be responsible for maintaining planting in adjacent public rights-of-way. All required fences, walls, and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.			
SCA-AES-4: Lighting (#19) Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties.	Prior to building permit final	N/A	Bureau of Building
Air Quality			
SCA-AIR-1: Dust Controls – Construction Related (#20) The project applicant shall implement all of the following applicable dust control measures during construction of the project: a. Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible. b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). c. 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. d. Limit vehicle speeds on unpaved roads to 15 miles per hour.	During construction	N/A	Bureau of Building

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
e. All demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph. f. All trucks and equipment, including tires, shall be washed off prior to leaving the site. g. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. Enhanced Controls: All "Basic" controls listed above plus the following controls if the project involves: • Extensive site preparation (i.e., the construction site is four acres or more in size); or • Extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export). h. Apply and maintain vegetative ground cover (e.g., hydroseed) or non-toxic soil stabilizers to disturbed areas of soil that will be inactive for more than one month. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.). i. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. j. When working at a site, install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of the site, to minimize wind-blown dust. Windbreaks must have a maximum 50 percent air porosity. k. Post a publicly visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours. l. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.			

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	**Initial Approval**	**Monitoring/ Inspection**
SCA-AIR-2: Criteria Air Pollutant Controls – Construction-Related (#21) The project applicant shall implement all of the following applicable basic control measures for criteria air pollutants during construction of the project as applicable: a. Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points. b. Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations"). c. 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. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed. d. Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand. e. Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings. f. All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.	Basic Controls: During construction Enhanced Controls: Prior to issuance of a construction-related permit	Basic Controls: N/A Enhanced Controls: Bureau of Planning	Basic Controls: Bureau of Building Enhanced Controls: Bureau of Planning

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	**Initial Approval**	**Monitoring/ Inspection**
Enhanced Controls for projects exceeding CEQA thresholds for construction activity: g. *Criteria Air Pollutant Reduction Measures* The project applicant shall retain a qualified air quality consultant to identify criteria air pollutant reduction measures to reduce the project's average daily emissions below 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10. Quantified emissions and identified reduction measures shall be submitted to the City (and the Air District if specifically requested) for review and approval prior to the issuance of building permits and the approved criteria air pollutant reduction measures shall be implemented during construction. h. *Construction Emissions Minimization Plan* The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified criteria air pollutant reduction measures. The Emissions Plan shall be submitted to the City (and the Air District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following: i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all Verified Diesel Emissions Control Strategies (VDECS), the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date. ii. A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.			
SCA-AIR-3: Diesel Particulate Matter Controls-Construction Related (#22) a. *Diesel Particulate Matter Reduction Measures* The project applicant shall implement appropriate measures during construction to reduce potential health risks to sensitive receptors due to exposure to diesel particulate matter (DPM) from construction emissions. The project applicant shall choose **one** of the following methods:	a. Prior to issuance of a construction related permit (i), during construction (ii)	a. Bureau of Planning b. Bureau of Planning	a. Bureau of Building b. Bureau of Building

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with current guidance from the California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment to determine the health risk to sensitive receptors exposed to DPM from project construction emissions. The HRA shall be submitted to the City (and the Air District if specifically requested) for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then DPM reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, DPM reduction measures shall be identified to reduce the health risk to acceptable levels as set forth under subsection b below. Identified DPM reduction measures shall be submitted to the City for review and approval prior to the issuance of building permits and the approved DPM reduction measures shall be implemented during construction. or ii. All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract. b. *Construction Emissions Minimization Plan* (if required by a above) The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified DPM reduction measures (if any). The Emissions Plan shall be submitted to the City (and the Bay Area Air Quality District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following: i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type,	b. Prior to issuance of a construction related permit		

Standard Conditions of Approval/ Mitigation Measures	Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
serial number, make, model, manufacturer, CARB verification number level, and installation date. ii. A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.			
SCA-AIR-4: Exposure to Air Pollution (Toxic Air Contaminants) *(#23)* a. *Health Risk Reduction Measures* The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to exposure to toxic air contaminants. The project applicant shall choose one of the following methods: i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City. The approved risk reduction measures shall be implemented during construction and/or operations as applicable. - or - ii. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City: ▪ Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project	a. Prior to approval of construction-related permit b. Ongoing	a. Bureau of Planning b. N/A	a. Bureau of Building b. Bureau of Building

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that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-16 or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required. ▪ Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph). ▪ Phasing of residential developments when proposed within 500 feet of freeways such that homes nearest the freeway are built last, if feasible. ▪ The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a distribution center, residents shall be located as far away as feasible from a loading dock or where trucks concentrate to deliver goods. ▪ Sensitive receptors shall be located on the upper floors of buildings, if feasible. ▪ Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the following: Pine (Pinus nigra var. maritima), Cypress (X Cupressocyparis leylandii), Hybrid poplar (Populus deltoids X trichocarpa), and Redwood (Sequoia sempervirens). ▪ Sensitive receptors shall be located as far away from truck activity areas, such as loading docks and delivery areas, as feasible. ▪ Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible. ▪ Emissions from diesel trucks shall be reduced through implementing the following measures, if feasible: o Installing electrical hook-ups for diesel trucks at loading docks. o Requiring trucks to use Transportation Refrigeration Units (TRU) that meet Tier 4 emission standards. o Requiring truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels. o Prohibiting trucks from idling for more than two minutes.			

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○ Establishing truck routes to avoid sensitive receptors in the project. A truck route program, along with truck calming, parking, and delivery restrictions, shall be implemented. b. *Maintenance of Health Risk Reduction Measures* The project applicant shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant shall prepare and then distribute to the building manager/operator an operation and maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.			
SCA-AIR-5: Stationary Sources of Air Pollution (Toxic Air Contaminants) (#24). The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to on-site stationary sources of toxic air contaminants. The project applicant shall choose one of the following methods: a. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk associated with proposed stationary sources of pollution in the project. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City. The approved risk reduction measures shall be implemented during construction and/or operations as applicable. - or - b. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for	a. Prior to approval of construction-related permit b. Prior to approval of construction-related permit	a. Bureau of Planning b. Bureau of Planning	a. Bureau of Building b. Bureau of Building

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the construction-related permit or on other documentation submitted to the City: i. Installation of non-diesel fueled generators, if feasible, or; ii. Installation of diesel generators with an EPA-certified Tier 4 engine or engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy, if feasible.			
Cultural Resources			
SCA-CUL-1: Archaeological and Paleontological Resources – Discovery During Construction (#32) Pursuant to CEQA Guidelines Section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented. In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the	During construction	N/A	Bureau of Building

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curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense. In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.			
SCA-CUL-2: Archaeologically Sensitive Areas – Pre-Construction Measures (#33) The project applicant shall implement either Provision A (Intensive Pre-Construction Study) or Provision B (Construction ALERT Sheet) concerning archaeological resources. **Provision A: Intensive Pre-Construction Study.** The project applicant shall retain a qualified archaeologist to conduct a site-specific, intensive archaeological resources study for review and approval by the City prior to soil-disturbing activities occurring on the project site. The purpose of the site-specific, intensive archaeological resources study is to identify early the potential presence of history-period archaeological resources on the project site. At a minimum, the study shall include: a. Subsurface presence/absence studies of the project site. Field studies may include, but are not limited to, auguring and other common methods used to identify the presence of archaeological resources. b. A report disseminating the results of this research. c. Recommendations for any additional measures that could be necessary to mitigate any adverse impacts to recorded and/or inadvertently discovered cultural resources.	Prior to approval of construction-related permit;	Bureau of Building; Bureau of Planning	Bureau of Building

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If the results of the study indicate a high potential presence of historic-period archaeological resources on the project site, or a potential resource is discovered, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction and prepare an ALERT sheet pursuant to Provision B below that details what could potentially be found at the project site. Archaeological monitoring would include briefing construction personnel about the type of artifacts that may be present (as referenced in the ALERT sheet, required per Provision B below) and the procedures to follow if any artifacts are encountered, field recording and sampling in accordance with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation, notifying the appropriate officials if human remains or cultural resources are discovered, and preparing a report to document negative findings after construction is completed if no archaeological resources are discovered during construction. **Provision B: Construction ALERT Sheet.** The project applicant shall prepare a construction "ALERT" sheet developed by a qualified archaeologist for review and approval by the City prior to soil-disturbing activities occurring on the project site. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could be encountered on the project site. Training by the qualified archaeologist shall be provided to the project's prime contractor, any project subcontractor firms (including demolition, excavation, grading, foundation, and pile driving), and utility firms involved in soil-disturbing activities within the project site. The ALERT sheet shall state, in addition to the basic archaeological resource protection measures contained in other standard conditions of approval, all work must stop and the City's Environmental Review Officer contacted in the event of discovery of the following cultural materials: concentrations of shellfish remains; evidence of fire (ashes, charcoal, burnt earth, fire-cracked rocks); concentrations of bones; recognizable Native American artifacts (arrowheads, shell beads, stone mortars [bowls], humanly shaped rock); building foundation remains; trash pits, privies (outhouse holes); floor remains; wells; concentrations of bottles, broken dishes, shoes, buttons, cut animal bones, hardware, household items, barrels, etc.; thick layers of burned building debris (charcoal, nails, fused glass, burned plaster, burned dishes);			

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wood structural remains (building, ship, wharf); clay roof/floor tiles; stone walls or footings; or gravestones. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. The ALERT sheet shall also be posted in a visible location at the project site.			
SCA-CUL-3: Human Remains – Discovery During Construction (#34) Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt and the project applicant shall notify the City and the Alameda County Coroner. If the County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.	During construction	N/A	Bureau of Building
Geology, Soils and Geohazards			
SCA-GEO-1: Construction-Related Permit(s) (#36) The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA-GEO-2: Seismic Hazards Zone (Landslide/Liquefaction) (#39) The project applicant shall submit a site-specific geotechnical report, consistent with California Geological Survey Special Publication 117 (as amended), prepared by a registered geotechnical engineer for City review and approval containing at a minimum a description of the geological and geotechnical conditions at the site, an evaluation of site-specific seismic	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building

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hazards based on geological and geotechnical conditions, and recommended measures to reduce potential impacts related to liquefaction and/or slope stability hazards. The project applicant shall implement the recommendations contained in the approved report during project design and construction.			
Greenhouse Gas Emissions			
SCA-GHG-1: Project Compliance with the Equitable Climate Action Checklist (#41) The project applicant shall implement all the measures in the Equitable Climate Action Plan (ECAP) Consistency Checklist that was submitted during the Planning entitlement phase. a. For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. b. For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be implemented during construction. c. For ECAP Consistency Checklist measures that are operational but not otherwise covered by these SCAs, including but not limited to the requirement for transit passes or additional Transportation Demand Management measures, the applicant shall provide notice of these measures to employees and/or residents and post these requirements in a public place such as a lobby or work area accessible to the employees and/or residents.	a. Prior to approval of construction-related permit. b. During Construction c. Ongoing	a. Bureau of Planning b. Bureau of Planning c. Bureau of Planning	a. Bureau of Planning b. Bureau of Building c. Bureau of Planning
Hazards and Hazardous Materials			
SCA-HAZ-1: Hazardous Materials Related to Construction (#43) The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following: a. Follow manufacture's recommendations for use, storage, and disposal of chemical products used in construction; b. Avoid overtopping construction equipment fuel gas tanks; c. During routine maintenance of construction equipment, properly contain and remove grease and oils;	During construction	N/A	Bureau of Building

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d. Properly dispose of discarded containers of fuels and other chemicals; e. Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program); and f. If soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City and applicable regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.			
SCA-HAZ-2: Hazardous Building Materials and Site Contamination (#44) a. *Hazardous Building Materials Assessment* The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any	a. Prior to approval of demolition, grading, or building permits b. Prior to approval of construction-related permit c. Prior to approval of construction-related permit d. During construction.	a. Bureau of Building b. Applicable regulatory agency with jurisdiction. c. Bureau of Building d. N/A	a. Bureau of Building b. Applicable regulatory agency with jurisdiction. c. Bureau of Building d. Bureau of Building

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proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency. b. *Environmental Site Assessment Required* The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase I report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency. c. *Health and Safety Plan* project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan. d. *Best Management Practices (BMPs) Required for Contaminated Sites* The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential soil and groundwater hazards. These shall include the following: i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal requirements. ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include			

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impermeable barriers to prohibit groundwater and vapor intrusion into the building.			
SCA-HAZ-3: Hazardous Materials Business Plan (#45) The project applicant shall submit a Hazardous Materials Business Plan for review and approval by the City, and shall implement the approved Plan. The approved Plan shall be kept on file with the City and the project applicant shall update the Plan as applicable. The purpose of the Hazardous Materials Business Plan is to ensure that employees are adequately trained to handle hazardous materials and provides information to the Fire Department should emergency response be required. Hazardous materials shall be handled in accordance with all applicable local, state, and federal requirements. The Hazardous Materials Business Plan shall include the following: a. The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids. b. The location of such hazardous materials. c. An emergency response plan including employee training information. d. A plan that describes the manner in which these materials are handled, transported, and disposed.	Prior to building permit final	Oakland Fire Department	Oakland Fire Department
Hydrology and Water Quality			
SCA-HYD-1: Erosion and Sedimentation Control Measures for Construction (#48) The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.	During construction	N/A	Bureau of Building
SCA-HYD-2: State Construction General Permit (#50) The project applicant shall comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant shall submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant shall submit evidence of compliance with Permit requirements to the City.	Prior to approval of construction-related permit	State Water Resources Control Board; evidence of compliance submitted to Bureau of Building	State Water Resources Control Board

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SCA-HYD-3: Source Control Measures to Limit Stormwater Pollution (#53) Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant is encouraged to incorporate appropriate source control measures to limit pollution in stormwater runoff. These measures may include, but are not limited to, the following: a. Stencil storm drain inlets "No Dumping – Drains to Bay;" b. Minimize the use of pesticides and fertilizers; c. Cover outdoor material storage areas, loading docks, repair/maintenance bays and fueling areas; d. Cover trash, food waste, and compactor enclosures; and e. Plumb the following discharges to the sanitary sewer system, subject to City approval: f. Discharges from indoor floor mats, equipment, hood filter, wash racks, and, covered outdoor wash racks for restaurants; g. Dumpster drips from covered trash, food waste, and compactor enclosures; h. Discharges from outdoor covered wash areas for vehicles, equipment, and accessories; i. Swimming pool water, if discharge to on-site vegetated areas is not feasible; and j. Fire sprinkler teat water if discharge to on-site vegetated areas is not feasible.			
SCA-HYD-4: NPDES C.3 Stormwater Requirements for Regulated Projects (#54). a. *Post-Construction Stormwater Management Plan Required* The project applicant shall comply with the requirements of Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The project applicant shall submit a Post-Construction Stormwater Management Plan to the City for review and approval with the project drawings submitted for site improvements, and shall implement the approved Plan during construction. The Post-Construction Stormwater Management Plan shall include and identify the following: i. Location and size of new and replaced impervious surface; ii. Directional surface flow of stormwater runoff;	a. Prior to approval of construction-related permit b. Prior to building permit final	a. Bureau of Planning; Bureau of Building b. Bureau of Building	a. Bureau of Building b. Bureau of Building

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iii. Location of proposed on-site storm drain lines; iv. Site design measures to reduce the amount of impervious surface area; v. Source control measures to limit stormwater pollution; vi. Stormwater treatment measures to remove pollutants from stormwater runoff, including the method used to hydraulically size the treatment measures; and vii. Hydromodification management measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff. b. *Maintenance Agreement Required* The project applicant shall enter into a maintenance agreement with the City, based on the Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement, in accordance with Provision C.3, which provides, in part, for the following: i. The project applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The maintenance agreement shall be recorded at the County Recorder's Office at the applicant's expense.			
Noise			
SCA-NOI-1: Construction Days/Hours (#62) The project applicant shall comply with the following restrictions concerning construction days and hours: a. Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme	During construction	N/A	Bureau of Building

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noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. b. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday. c. No construction is allowed on Sunday or federal holidays. Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area. Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.			
SCA-NOI-2: Construction Noise (#63) The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following: a. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. b. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be	During construction	N/A	Bureau of Building

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hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. c. Applicant shall use temporary power poles instead of generators where feasible. d. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction. e. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.			
SCA-NOI-3: Extreme Construction Noise (#64) *a. Construction Noise Management Plan Required* Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following: i. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings; ii. Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;	a. Prior to approval of construction-related permit b. During construction	a. Bureau of Building b. Bureau of Building	a. Bureau of Building b. Bureau of Building

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iii. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site; iv. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and v. Monitor the effectiveness of noise attenuation measures by taking noise measurements. b. *Public Notification Required* The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.			
SCA-NOI-4: Construction Noise Complaints (#66) The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include: a. Designation of an on-site construction complaint and enforcement manager for the project; b. A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint procedures, and phone numbers for the project complaint manager and City Code Enforcement unit; c. Protocols for receiving, responding to, and tracking received complaints; and d. Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building

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SCA-NOI-5: Exposure to Community Noise (#67). The project applicant shall submit a Noise Reduction Plan prepared by a qualified acoustical engineer for City review and approval that contains noise reduction measures (e.g., sound-rated window, wall, and door assemblies) to achieve an acceptable interior noise level in accordance with the land use compatibility guidelines of the Noise Element of the Oakland General Plan. The applicant shall implement the approved Plan during construction. To the maximum extent practicable, interior noise levels shall not exceed the following: a. 45 dBA: Residential activities, civic activities, hotels b. 50 dBA: Administrative offices; group assembly activities c. 55 dBA: Commercial activities d. 65 dBA: Industrial activities	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building
SCA NOI-6: Operational Noise (#68) Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of Chapter 17.120 of the Oakland Planning Code and Chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.	Ongoing	N/A	Bureau of Building
SCA-NOI-7: Exposure to Vibration (#69) The project applicant shall submit a Vibration Reduction Plan prepared by a qualified acoustical consultant for City review and approval that contains vibration reduction measures to reduce groundborne vibration to acceptable levels per Federal Transit Administration (FTA) standards. The applicant shall implement the approved Plan during construction. Potential vibration reduction measures include, but are not limited to, the following: a. Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a "spring isolation" system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of groundborne vibration to the residences above.	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building

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b. Trenching, which involves excavating soil between the railway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project's structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets [i.e., Styrofoam] or low-density polyethylene).			
Public Services and Recreation			
SCA-PUB-1: Capital Improvements Impact Fee (#73) The project applicant shall comply with the requirements of the City of Oakland Capital Improvements Fee Ordinance (Chapter 15.74 of the Oakland Municipal Code).	Prior to issuance of building permit	Bureau of Building	N/A
Transportation and Circulation			
SCA-TRAN-1: Construction Activity in the Public Right-of-Way (#75) a. *Obstruction Permit Required* The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops. b. *Traffic Control Plan Required* In the event of obstructions to vehicle or bicycle travel lanes, bus stops, or sidewalks, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicyclists, and Bus Facilities in Construction	a. Prior to approval of construction-related permit b. Prior to approval of construction-related permit c. Prior to building permit final	a. Department of Transportation b. Department of Transportation c. N/A	a. Department of Transportation b. Department of Transportation c. Department of Transportation

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Zones. The project applicant shall implement the approved Plan during construction. c. *Repair of City Streets* The project applicant shall repair any damage to the public right-of way, including streets and sidewalks caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.			
SCA-TRAN-2: Bicycle Parking (#76) The project applicant shall comply with the City of Oakland Bicycle Parking Requirements (Chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building
SCA-TRAN-3: Transportation Improvements (#77) The project applicant shall implement the recommended on- and off-site transportation-related improvements contained within the Transportation Impact Review for the project (e.g., signal timing adjustments, restriping, signalization, traffic control devices, roadway reconfigurations, transportation demand management measures, and transit, pedestrian, and bicyclist amenities). The project applicant is responsible for funding and installing the improvements and shall obtain all necessary permits and approvals from the City and/or other applicable regulatory agencies such as, but not limited to, Caltrans (for improvements related to Caltrans facilities) and the California Public Utilities Commission (for improvements related to railroad crossings), prior to installing the improvements. To implement this measure for intersection modifications, the project applicant shall submit Plans, Specifications, and Estimates (PS&E) to the City for review and approval. All elements shall be designed to applicable City standards in effect at the time of construction and all new or upgraded signals shall include these enhancements as required by the City. All other facilities supporting vehicle travel and alternative modes through the intersection shall be brought up to both City standards and ADA standards (according to Federal and State Access Board	Prior to building permit final or as otherwise specified	Bureau of Building; Department of Transportation	Bureau of Building

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guidelines) at the time of construction. Current City Standards call for, among other items, the elements listed below: a. 2070L Type Controller with cabinet accessory b. GPS communication (clock) c. Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile) d. Countdown pedestrian head module switch out e. City Standard ADA wheelchair ramps f. Video detection on existing (or new, if required) g. Mast arm poles, full activation (where applicable) h. Polara Push buttons (full activation) i. Bicycle detection (full activation) j. Pull boxes k. Signal interconnect and communication with trenching (where applicable), or through existing conduit (where applicable), 600 feet maximum l. Conduit replacement contingency m. Fiber switch n. PTZ camera (where applicable) o. Transit Signal Priority (TSP) equipment consistent with other signals along corridor p. Signal timing plans for the signals in the coordination group q. Bi-directional curb ramps (where feasible, and if project is on a street corner) r. Upgrade ramps on receiving curb (where feasible, and if project is on a street corner)			
SCA-TRAN-4: Transportation and Parking Demand Management (#78) a. *Transportation and Parking Demand Management (TDM) Plan Required* The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City. i. The goals of the TDM Plan shall be the following: ▪ Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable. ▪ Achieve the following project vehicle trip reductions (VTR):	a. Prior to approval of planning application b. Prior to building permit final c. Ongoing	a. Bureau of Planning b. Bureau of Building c. Department of Transportation	a. N/A b. Bureau of Building c. Department of Transportation

<table>
<tr><th rowspan="2">Standard Conditions of Approval/ Mitigation Measures</th><th colspan="3">Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring</th></tr>
<tr><th>When Required</th><th>Initial Approval</th><th>Monitoring/ Inspection</th></tr>
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Projects generating 50-99 net new AM or PM peak hour vehicle trips: 10 percent VTR
Projects generating 100 or more net new AM or PM peak hour vehicle trips: 20 percent VTR
Increase pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate.
Enhance the City's transportation system, consistent with City policies and programs.

ii. The TDM Plan should include the following:

Baseline existing conditions of parking and curbside regulations within the surrounding neighborhood that could affect the effectiveness of TDM strategies, including inventory of parking spaces and occupancy if applicable.
Proposed TDM strategies to achieve VTR goals (see below).

iii. For employers with 100 or more employees at the subject site, the TDM Plan shall also comply with the requirements of Oakland Municipal Code Chapter 10.68 Employer-Based Trip Reduction Program.
Iv. The following TDM strategies must be incorporated into a TDM Plan based on a project location or other characteristics. When required, these mandatory strategies should be identified as a credit toward a project's VTR.
<table>
<tr><th>Improvement</th><th>Required by code or when…</th></tr>
<tr><td>Bus boarding bulbs or islands</td><td>▪ A bus boarding bulb or island does not already exist and a bus stop is located along the project frontage; and/or
▪ A bus stop along the project frontage serves a route with 15 minutes or better peak hour service and has a shared bus-bike lane curb</td></tr>
<tr><td>Bus shelter</td><td>▪ A stop with no shelter is located within the project frontage, or
▪ The project is located within 0.10 miles of a flag stop with 25 or more boardings per day</td></tr>
<tr><td>Concrete bus pad</td><td>▪ A bus stop is located along the project frontage and a concrete bus pad does not already exist</td></tr>
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Curb extensions or bulb-outs	▪ Identified as an improvement within site analysis			
Implementation of a corridor-level bikeway improvement	▪ A buffered Class II or Class IV bikeway facility is in a local or county adopted plan within 0.10 miles of the project location; and ▪ The project would generate 500 or more daily bicycle trips			
Implementation of a corridor-level transit capital improvement	▪ A high-quality transit facility is in a local or county adopted plan within 0.25 miles of the project location; and ▪ The project would generate 400 or more peak period transit trips			
Installation of amenities such as lighting; pedestrian-oriented green infrastructure, trees, or other greening landscape; and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.	▪ Always required			
Installation of safety improvements identified in the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.)	▪ When improvements are identified in the Pedestrian Master Plan along project frontage or at an adjacent intersection			
In-street bicycle corral	▪ A project includes more than 10,000 square feet of ground floor retail, is located along a Tier 1 bikeway, and on-street vehicle parking is provided along the project frontages.			
Intersection improvements[a]	▪ Identified as an improvement within site analysis			
New sidewalk, curb ramps, curb and gutter meeting current City and ADA standards	▪ Always required			

Standard Conditions of Approval/ Mitigation Measures		Standard Conditions of Approval and Mitigation Measures Implementation/Monitoring		
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No monthly permits and establish minimum price floor for public parking[b]	▪ If proposed parking ratio exceeds 1:1000 sf. (commercial)			
Parking garage is designed with retrofit capability	▪ Optional if proposed parking ratio exceeds 1:1.25 (residential) or 1:1000 sf. (commercial)			
Parking space reserved for car share	▪ If a project is providing parking and a project is located within downtown. One car share space reserved for buildings between 50 – 200 units, then one car share space per 200 units.			
Paving, lane striping or restriping (vehicle and bicycle), and signs to midpoint of street section	▪ Typically required			
Pedestrian crossing improvements	▪ Identified as an improvement within site analysis			
Pedestrian-supportive signal changes[c]	▪ Identified as an improvement within operations analysis			
Real-time transit information system	▪ A project frontage block includes a bus stop or BART station and is along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better			
Relocating bus stops to far side	▪ A project is located within 0.10 mile of any active bus stop that is currently near-side			
Signal upgrades[d]	▪ Project size exceeds 100 residential units, 80,000 sf. of retail, or 100,000 sf. of commercial; and ▪ Project frontage abuts an intersection with signal infrastructure older than 15 years			
Transit queue jumps	▪ Identified as a needed improvement within operations analysis of a project with frontage along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better			
Trenching and placement of conduit for providing traffic signal interconnect	▪ Project size exceeds 100 units, 80,000 sf. of retail, or 100,000 sf. of commercial; and ▪ Project frontage block is identified for signal interconnect improvements as part of a planned ITS improvement; and			

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	▪ A major transit improvement is identified within operations analysis requiring traffic signal interconnect
Unbundled parking	▪ If proposed parking ratio exceeds 1:1.25 (residential)

[a] Including but not limited to visibility improvements, shortening corner radii, pedestrian safety islands, accounting for pedestrian desire lines.
[b] May also provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
[c] Including but not limited to reducing signal cycle lengths to less than 90 seconds to avoid pedestrian crossings against the signal, providing a leading pedestrian interval, provide a "scramble" signal phase where appropriate.
[d] Including typical traffic lights, pedestrian signals, bike actuated signals, transit-only signals.

v. Other TDM strategies to consider include, but are not limited to, the following:
   i. Inclusion of additional long-term and short-term bicycle parking that meets the design standards set forth in Chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (Chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement.
   ii. Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, on-site signage and bike lane striping.
   iii. Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.
   iv. Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan, the Master Street Tree List and Tree Planting Guidelines (which can be viewed at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662.pdf and http://www2.oaklandnet.com/oakca1/groups/pwa/documents/form/oak025595.pdf, respectively)

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And any applicable streetscape plan. v. Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements. vi. Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency). vii. Provision of a transit subsidy to employees or residents, determined by the project applicant and subject to review by the City, if employees or residents use transit or commute by other alternative modes. viii. Provision of an ongoing contribution to transit service to the area between the project and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle service; and 3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario 3). ix. Guaranteed ride home program for employees, either through 511.org or through separate program. x. Pre-tax commuter benefits (commuter checks) for employees. xi. Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants. xii. On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools. xiii. Distribution of information concerning alternative transportation options. xiv. Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties. xv. Parking management strategies including attendant/valet parking and shared parking spaces. xvi. Requiring tenants to provide opportunities and the ability to work off-site.			

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xvii. Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week). xviii. Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours. xix. The TDM Plan shall indicate the estimated VTR for each strategy, based on published research or guidelines where feasible. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report. b. *TDM Implementation – Physical Improvements* For VTR strategies involving physical improvements, the project applicant shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the project. c. *TDM Implementation – Operational Strategies* For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR achieved by the project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval.			

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The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.			
SCA-TRAN-5: Transportation Impact Fee (#79) The project applicant shall comply with the requirements of the City of Oakland Transportation Impact Fee Ordinance (Chapter 15.74 of the Oakland Municipal Code).	Prior to issuance of building permit	Bureau of Building	N/A
SCA-TRAN-6: Plug-In Electric Vehicle (PEV) Charging Infrastructure (#81) a. *PEV-Ready Parking Spaces* The applicant shall submit, for review and approval of the Building Official and the Zoning Manager, plans that show the location of parking spaces equipped with full electrical circuits designated for future PEV charging (i.e. "PEV-Ready) per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-Ready parking spaces. b. *PEV-Capable Parking Spaces* The applicant shall submit, for review and approval of the Building Official, plans that show the location of inaccessible conduit to supply PEV-capable parking spaces per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-capable parking spaces. c. *ADA-Accessible Spaces* The applicant shall submit, for review and approval of the Building Official, plans that show the location of future accessible EV parking spaces as required under Title 24 Chapter 11B Table 11B-228.3.2.1, and specify plans to construct all future accessible EV parking spaces with appropriate grade, vertical clearance, and accessible path of travel to allow installation of accessible EV charging station(s).	a. Prior to issuance of building permit b. Prior to issuance of building permit c. Prior to issuance of building permit	a. Bureau of Building b. Bureau of Building c. Bureau of Building	a. Bureau of Building b. Bureau of Building c. Bureau of Building
Utilities and Service Systems			

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SCA-UTIL-1: Construction and Demolition Waste Reduction and Recycling (#82) The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations/modifications with construction values of $50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.	Prior to approval of construction-related permit	Public Works Department, Environmental Services Department	Public Works Department, Environmental Services Department
SCA-UTIL-2: Underground Utilities (#83) The project applicant shall place underground all new utilities serving the project and under the control of the project applicant and the City, including all new gas, electric, cable, and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities. The new facilities shall be placed underground along the project's street frontage and from the project structures to the point of service. Utilities under the control of other agencies, such as PG&E, shall be placed underground if feasible. All utilities shall be installed in accordance with standard specifications of the serving utilities.	During construction	N/A	Bureau of Building
SCA-UTIL-3: Recycling Collection and Storage Space (#84) The project applicant shall comply with the City of Oakland Recycling Space Allocation Ordinance (Chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall contain recycling collection and storage areas in compliance with the Ordinance. For residential projects, at least two (2) cubic feet of storage and collection space per residential unit is required, with a minimum of ten (10) cubic feet. For nonresidential projects, at least two (2) cubic feet of storage and collection space per 1,000 square feet of building floor area is required, with a minimum of ten (10) cubic feet.	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building

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SCA-UTIL-4: Green Building Requirements (#85) *a. Compliance with Green Building Requirements During Plan-Check* The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (Chapter 18.02 of the Oakland Municipal Code). i. The following information shall be submitted to the City for review and approval with the application for a building permit: ▪ Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards. ▪ Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit. ▪ Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit. ▪ Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (ii) below. ▪ Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance. ▪ Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit. ▪ Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance. ii. The set of plans in subsection (i) shall demonstrate compliance with the following: ▪ CALGreen mandatory measures ▪ 23 points per the appropriate checklist approved during the Planning entitlement process. ▪ All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision	a. Prior to approval of construction-related permit b. During construction c. Prior to final approval	a. Bureau of Building b. N/A c. Bureau of Planning	a. N/A b. Bureau of Building c. Bureau of Building

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Plan-check application is submitted and approved by the Bureau of Planning that shows the previously approved points that will be eliminated or substituted. ▪ The required green building point minimums in the appropriate credit categories. b. *Compliance with Green Building Requirements During Construction* The project applicant shall comply with the applicable requirements of CALGreen and the Oakland Green Building Ordinance during construction of the project. The following information shall be submitted to the City for review and approval: i. Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit. ii. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance. iii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance. *c. Compliance with Green Building Requirements After Construction* Prior to the finalizing the Building Permit, the Green Building Certifier shall submit the appropriate documentation to City staff and attain the minimum required point level.			
SCA-UTIL-5: Sanitary Sewer System (#87) The project applicant shall prepare and submit a Sanitary Sewer Impact Analysis to the City for review and approval in accordance with the City of Oakland Sanitary Sewer Design Guidelines. The Impact Analysis shall include an estimate of pre-project and post-project wastewater flow from the project site. In the event that the Impact Analysis indicates that the net increase in project wastewater flow exceeds City-projected increases in wastewater flow in the sanitary sewer system, the project applicant shall pay the Sanitary Sewer Impact Fee in accordance with the City's Master Fee Schedule for funding improvements to the sanitary sewer system.	Prior to approval of construction-related permit	Public Works Department, Department of Engineering and Construction	N/A

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SCA-UTIL-6: Storm Drain System (#88) The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA-UTIL-7: Recycled Water (#89) Pursuant to section 16.08.030 of the Oakland Municipal Code, the project applicant shall provide for the use of recycled water in the project for landscape irrigation purposes unless the City determines that there is a higher and better use for the recycled water, the use of recycled water is not economically justified for the project, or the use of recycled water is not financially or technically feasible for the project. Feasible recycled water uses may include, but are not limited to, landscape irrigation, commercial and industrial process use, and toilet and urinal flushing in non-residential buildings. The project applicant shall contact the New Business Office of the East Bay Municipal Utility District (EBMUD) for a recycled water feasibility assessment by the Office of Water Recycling. If recycled water is to be provided in the project, the project drawings submitted for construction-related permits shall include the proposed recycled water system and the project applicant shall install the recycled water system during construction.	Prior to approval of construction-related permit	Bureau of Planning; Bureau of Building	Bureau of Building
SCA-UTIL-8: Water Efficient Landscape Ordinance (WELO) (#90) The project applicant shall comply with California's Water Efficient Landscape Ordinance (WELO) in order to reduce landscape water usage. For any landscape project with an aggregate (total noncontiguous) landscape area equal to 2,500 sq. ft. or less. The project applicant may implement either the Prescriptive Measures or the Performance Measures, of, and in accordance with the California's Model Water Efficient Landscape Ordinance. For any landscape project with an aggregate (total noncontiguous) landscape area over 2,500 sq. ft., the project applicant shall implement the Performance Measures in accordance with the WELO. *Prescriptive Measures:* Prior to construction, the project applicant shall submit documentation showing compliance with Appendix D of California's Model Water Efficient Landscape Ordinance (see website below starting on page 23):	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building

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http://www.water.ca.gov/wateruseefficiency/landscapeordinance/docs/Title%2023%20extract%20-%20Official%20CCR%20pages.pdf *Performance Measures* Prior to construction, the project applicant shall prepare and submit a Landscape Documentation Package for review and approval, which includes the following a. Project Information: i. Date, ii. Applicant and property owner name, iii. Project address, iv. Total landscape area, v. Project type (new, rehabilitated, cemetery, or home owner installed), vi. Water supply type and water purveyor, vii. Checklist of documents in the package, and viii. Applicant signature and date with the statement: "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package." b. Water Efficient Landscape Worksheet i. Hydrozone Information Table ii. Water Budget Calculations with Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use c. Soil Management Report d. Landscape Design Plan e. Irrigation Design Plan, and f. Grading Plan Upon installation of the landscaping and irrigation systems, the Project applicant shall submit a Certificate of Completion and landscape and irrigation maintenance schedule for review and approval by the City. The Certificate of Compliance shall also be submitted to the local water purveyor and property owner or his or her designee.			

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For the specific requirements within the Water Efficient Landscape Worksheet, Soil Management Report, Landscape Design Plan, Irrigation Design Plan and Grading Plan, see the link below. http://www.water.ca.gov/wateruseefficiency/landscapeordinance/docs/Title%2023%20extract%20-%20Official%20CCR%20pages.pdf			
Other Standard Conditions			
SCA-OTHER-1: Public Art for Private Development (#93). The project is subject to the City's Public Art Requirements for Private Development, adopted by Ordinance No. 13275 C.M.S. ("Ordinance"). The public art contribution requirements are equivalent to one-half percent (0.5%) for the "residential" building development costs, and one percent (1.0%) for the "non-residential" building development costs. The contribution requirement can be met through: 1) the installation of freely accessible art at the site; 2) the installation of freely accessible art within one-quarter mile of the site; or 3) satisfaction of alternative compliance methods described in the Ordinance, including, but not limited to, payment of an in-lieu fee contribution. The applicant shall provide proof of full payment of the in-lieu contribution and/or provide plans, for review and approval by the Planning Director, showing the installation or improvements required by the Ordinance prior to issuance of a building permit. Proof of installation of artwork, or other alternative requirement, is required prior to the City's issuance of a final certificate of occupancy for each phase of a project unless a separate, legal binding instrument is executed ensuring compliance within a timely manner subject to City approval.	Payment of in-lieu fees and/or plans showing fulfillment of public art requirement – Prior to Issuance of Building permit Installation of art/cultural space – Prior to Issuance of a Certificate of Occupancy.	Bureau of Planning	Bureau of Building

ATTACHMENT B: CRITERIA FOR USE OF ADDENDUM, PER CEQA GUIDELINES SECTIONS 15162, 15164, AND 15168

Section 15164(a) of CEQA Guidelines states that "a lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." Section 15164(e) states that "a brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR." Section 15168 (c) states that "if the agency finds that pursuant to section 15162, no subsequent EIR would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure as described in the program EIR."

The analysis in the West Oakland Specific Plan (WOSP) EIR is considered in this assessment, pursuant to CEQA Guidelines Section 15162, 15164, and 15168.

1. Proposed Project

As discussed in Chapter II, Project Description, above, the project would introduce residential and mixed uses on the site previously considered for such uses by the WOSP EIR. The project would construct one eight-story building consisting of 222 residential units, and associated residential amenities. The proposed residential units would be consistent with what was described in the Development Program for the 7th Street Opportunity Area as further described within Table 2, Development Buildout Assumptions of the 7th Street Opportunity Area. Based on the site's underlying S-15W zoning, the maximum allowable residential density for the site is 171 units; however, as described above in Chapter II, Project Description, the project proposes to set aside nine percent of the base project units as very-low income units. Under the State Density Bonus law, a project including this level of affordability is entitled to a 30 percent density bonus above the maximum allowable residential density under the City's General Plan and Planning Code standards for the S-15W zone. The project's 222 units is within the amount allowed by zoning with the density bonus provision. The project therefore meets the conditions for an addendum.

2. Conditions for Addendum

None of the following conditions for preparation of a subsequent EIR per Sections 15162(a) and 15168 apply to the project:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

3. Project Consistency with Sections 15162 and 15168 of the CEQA Guidelines

Since certification of the WOSP EIR, no substantial changes have occurred in the circumstances under which the project would be implemented, that would change the severity of the project's physical impacts, as explained in the CEQA Checklist in Chapter V of this document. No new information has emerged that would materially change the analyses or conclusions set forth in the WOSP EIR.

Furthermore, as demonstrated in the CEQA Checklist, the project would not result in any new significant environmental impacts, result in any substantial increases in the significance of previously identified effects, or necessitate implementation of additional or considerably different mitigation measures than those identified in the WOSP EIR, nor render any mitigation

measures or alternatives found not to be feasible, feasible. The effects of the project would be substantially the same as those reported in the WOSP EIR.

The analysis presented in CEQA Checklist, combined with the prior WOSP EIR's analysis, demonstrates that the project would not result in significant impacts that were not previously identified in the WOSP EIR. The project would not result in a substantial increase in the significance of impacts, nor would it contribute considerably to cumulative effects that were not already accounted for in the certified WOSP EIR. Overall, the project's impacts are similar to those identified and discussed in the WOSP EIR, as described in the CEQA Checklist, and the findings reached in the WOSP EIR are applicable.

ATTACHMENT C: PROJECT CONSISTENCY WITH COMMUNITY PLAN OR ZONING, AND PROJECTS PURSUANT TO A SPECIFIC PLAN PER CEQA GUIDELINES SECTION 15182 AND 15183

Section 15182(a) of CEQA Guidelines states that "Certain residential, commercial and mixed-use projects that are consistent with a specific plan . . . are exempt from CEQA." Furthermore, as stated in 15182(b)(1) a residential or mixed use project proximate to transit is exempt from CEQA if a) it is located within a transit priority area as defined in Public Resources Code section 21099(a)(7), b) it is consistent with a specific plan for which an environmental impact report was certified, and c) it is consistent with the general use designation, density, building intensity, and application policies specified for the project area in either a substantiable communities strategy or an alternative planning strategy for which the State Air Resources Board has accepted the determination that the sustainable communities strategy or the alternative planning strategy would achieve the applicable greenhouse gas emissions reduction targets.

Section 15183 (a) of CEQA Guidelines states that "…projects which are consistent with the development density established by the existing zoning, community plan, or general plan policies for which an Environmental Impact Report (EIR) was certified shall not require additional environmental review, except as may be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site."

1. Project

The project would be located within the West Oakland Specific Plan (WOSP) Area. The approximately 0.88-acre (38,000-square-foot) site is comprised of one parcel at 1596 5th Street. The project site is within the S-15W Transit-Oriented Development Commercial zone. The project would redevelop a now-vacant lot and with one multi-family residential mixed-use building, and associated residential amenities. In total, the project would include 222 residential units.

2. Criterion Section 15182(b)(1)(c) and Section 15183(a): General Plan and Zoning Consistency

Section 15182(b)(1)(C) of the CEQA Guidelines states that "…it is consistent with the general use designation, density, building intensity, and application policies specified for the project area in either a substantiable communities strategy or an alternative planning strategy for which the State Air Resources Board has accepted the determination that the sustainable communities strategy or the alternative planning strategy would achieve the applicable greenhouse gas emissions reduction targets."

Section 15183(a) of the CEQA Guidelines states that "…projects which are consistent with the development density established by the existing zoning, community plan, or general plan policies

for which an EIR was certified shall not require additional environmental review, except as may be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site."

As discussed in Chapter I, Introduction, the analysis in the WOSP EIR and LUTE EIR are considered the qualified planning level CEQA analyses for this assessment, pursuant to CEQA Guidelines Section 15183. The WOSP EIR is considered the Specific Plan, pursuant to CEQA Guidelines Section 15182.

3. S-15W Zoning and West Oakland Specific Plan and EIR

As determined by the City of Oakland Bureau of Planning, the land uses contemplated at the proposed bulk and density are permitted in the zoning district in which the project is located and consistent with the West Oakland Specific Plan, as outlined below and described in detail in Chapter III, Project Consistency Assessment:

- In the West Oakland Specific Plan, the project site is located in Subarea 2A of the 7th Street Opportunity Area on site #23. The project is consistent with the plan policies for the 7th Street Opportunity Area, which contemplate higher-density housing, and neighborhood serving retail around the core of the BART Station.
- The S-15W zone outlines a number of development standards, including minimums for height, parking, setbacks, density, and Floor Area Ratio (FAR). The project would use a State Density Bonus law concession to reduce the number of parking spaces, and State Density Bonus law waivers to reduce the open space and minimum court between opposite walls requirements. The project's proposed 222 residential units is within the number of units allowed for the site after applying the Density Bonus allowance.
- The WOSP EIR analyzed the impacts of maximum buildout under existing zoning in the West Oakland Specific Plan area, including the project site.

4. 1998 General Plan Land Use and Transportation Element and EIR

The City of Oakland completed an update of the General Plan Land Use and Transportation Element (LUTE) in March 1998. The LUTE includes the City's current Land Use and Transportation Diagram as well as strategies, policies, and priorities for Oakland's development and enhancement during a two-decade period. The EIR certified for the LUTE is used to simplify the task of preparing environmental documents on later projects that occur because of LUTE implementation.

As determined by the City of Oakland Bureau of Planning, the project's land uses are permitted in the zoning district in which the project is located. This would make the project consistent with the bulk, density, and land uses envisioned for the project site, as outlined below:

- The General Plan land use designations for the site is Community Commercial. The Community Commercial designation is intended to encourage neighborhood center uses and large-scale retail and commercial uses and can be complemented by the addition of urban residential development and compatible mixed-use development. The project which includes market rate and affordable housing, related administrative office, and residential amenities, would be compatible with the existing residential communities. Because the project is consistent with the intent of the land use designations (i.e., compatibility with existing residential communities), the project would be consistent with the General Plan.[125]

5. Conclusion

In accordance with State CEQA Guidelines 15182 and15183, the project qualifies for a Community Plan Exemption, and is pursuant to a Specific Plan because the following findings can be made:

- As demonstrated under Criterion Section 15182(b)(1)(c) and 15183(a): General Plan and Zoning Consistency (above), the project is consistent with the development density established by existing zoning and General Plan policies for the site, and there are no peculiar aspects, other than those evaluated herein, that would increase the severity of any of the previously identified significant cumulative effects in the WOSP EIR.
- Since the project is consistent with the development assumptions for the site as provided under the WOSP EIR and LUTE EIR, the project's potential contribution to cumulatively significant effects has already been addressed. Therefore, consistent with CEQA Guidelines Section 15182(b)(1)(b) and 15183, which allows for streamlined environmental review, this document needs only to consider whether there are project-specific effects peculiar to the project or its site and relies on the streamlining provisions of CEQA Guidelines Section 15182 and 15183 to not re-consider cumulative effects. The project is consistent with the WOSP EIR.
- As described, further in attachment D: Infill Performance Standards, 2b, the project is located is within ½-mile of the West Oakland BART station, a major rail transit stop with frequencies of service intervals of 15 minutes or less during the morning and afternoon peak commute periods. This location also ensures the project will achieve a below average regional per capita vehicle miles travelled. The project, as well as most of downtown Oakland and West Oakland, is located within a transit priority area defined in Public Resources Code 21099(a)(7).Therefore, the project is consistent with Section 15182(b)(1)(a).

[125] State law "does not require precise conformity of a proposed project with the land use designation for a site, or an exact match between the project and the applicable general plan. Instead, a finding of consistency requires only that the proposed project be 'compatible with the objectives, policies, general land uses, and programs specified in' the applicable plan." State of California, 2015. Court of Appeals of California, Fourth District, Division One. Save Our Heritage Organization v. City of San Diego (2015) 237 Cal.App.4th 163, 185-186, 187.

Therefore, the project is eligible for consideration of an exemption under California Public Resources Code Section 21083.3 and Section 15183 of the CEQA Guidelines, as well as consistent with a Specific Plan under Section 15182 of the CEQA Guidelines.

ATTACHMENT D: INFILL PERFORMANCE STANDARDS, PER CEQA GUIDELINES SECTION 15183.3

The following information demonstrates that the project is eligible for permit streamlining pursuant to CEQA Guidelines Section 15183.3 as a qualified infill project.

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		**Eligible?/Notes for Project**
1.	Be located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site's perimeter. For the purpose of this subdivision, "adjoin" means the infill project is immediately adjacent to qualified urban uses, or is only separated from such uses by an improved right-of-way. (CEQA Guidelines Section 15183.3[b][1])	**Yes**. The project site was previously developed for industrial uses, as well as senior housing (which was burnt down). It is now vacant, although a concrete surface covers much of the site. The site adjoins existing qualified urban uses, as described in Chapter II, Project Description, above.
2.	Satisfy the performance Standards provided in Appendix M (CEQA Guidelines Section 15183.3[b][2]) as presented in 2a and 2b below:	
	2a. *Performance Standards Related to Project Design.* All projects must implement **all** of the following:	
	Renewable Energy. *Non-Residential Projects.* – N/A	**Yes.** This performance standard is not applicable. According to Section IV (G) of CEQA Appendix M, for mixed-use projects "…the performance standards in this section that apply to the predominant use shall govern the entire project." Because the predominant use is residential, the project is not required to include on-site renewable power generation.
	Soil and Water Remediation. If the project site is included on any list compiled pursuant to Section 65962.5 of the Government Code, the project shall document how it has remediated the site if remediation is completed. Alternatively, the project shall implement the recommendations provided in a preliminary endangerment assessment or comparable document that identifies remediation appropriate for the site.	**Yes**. As stated in Chapter V.F, Hazards and Hazardous Materials, the project site has been included on the State Water Resources Control Board list of Cleanup Program Sites (the case cleanup was completed and closed as of May 10, 2017, but this list is not compiled pursuant to Section 65962.5. However, the project must still comply with SCA-HAZ-2, which requires a Hazardous Building Materials Assessment, an Environmental Site Assessment Report, a Health and Safety Plan to protect construction workers, and Best Management Practices during construction. SCA-HAZ-2 also requires the project sponsor to implement the

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		**Eligible?/Notes for Project**
		recommendations for remedial actions in the environmental assessments performed for the project site.
	Residential Units Near High-Volume Roadways and Stationary Sources. If a project includes residential units located within 500 feet, or other distance determined to be appropriate by the local agency or air district based on local conditions, of a high volume roadway or other significant sources of air pollution, the project shall comply with any policies and standards identified in the local general plan, specific plan, zoning code, or community risk reduction plan for the protection of public health from such sources of air pollution. If the local government has not adopted such plans or policies, the project shall include measures, such as enhanced air filtration and project design, that the lead agency finds, based on substantial evidence, will promote the protection of public health from sources of air pollution. Those measures may include, among others, the recommendations of the California Air Resources Board, air districts, and the California Air Pollution Control Officers Association.	**Yes**. For projects that include residential units, the BAAQMD recommends evaluating the cumulative health risks to the residents from mobile and stationary sources of TAC emissions within 1,000 feet of the project, which is why we have included this distance in our response rather than 500 feet. Existing sources of TAC emissions identified within 1,000 feet of the project included one stationary sources and one mobile source (the I-880), which was a mobile source included as part of the WOSP EIR. The stationary source is located approximately 380 feet from the project site.[1] The project will comply with the applicable policies and standards that would reduce the exposure of the public to air pollution to acceptable levels, including but not limited to: air quality permits for the proposed emergency diesel generator required by BAAQMD, the relevant strategies from the West Oakland Community Action Plan such as smoking ban at new developments, and the City of Oakland's Standard Condition of Approval (SCA) #20: Dust Controls – Construction Related, SCA #21: Criteria Air Pollutant Controls – Construction Related, SCA #22: Diesel Particulate Matter Controls – Construction Related, SCA #23: Exposure to Air Pollution (TACs), and SCA #24: Stationary Sources of Air Pollution (TACs). In addition, the project will include MERV 13 air filters, which is the most stringent air filtration system for residential development.

[1] Bay Area Air Quality Management District, Tools and Methodologies, Permitted Stationary Source Risk Map, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65, accessed August 19, 2020.

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		**Eligible?/Notes for Project**
	2b. *Additional Performance Standards by Project Type.* In addition to implementing all the features described in criterion 2a above, the project must meet eligibility requirements provided below by project type.[a]	
	Residential. A residential project must meet **<u>one</u>** of the following: A. *Projects achieving below average regional per capita vehicle miles traveled.* A residential project is eligible if it is located in a "low vehicle travel area" within the region; B. *Projects located within ½-mile of an Existing Major Transit Stop or High Quality Transit Corridor.* A residential project is eligible if it is located within ½-mile of an existing major transit stop or an existing stop along a high quality transit corridor; **<u>or</u>** C. *Low – Income Housing.* A residential or mixed-use project consisting of 300 or fewer residential units all of which are affordable to low income households is eligible if the developer of the development project provides sufficient legal commitments to the lead agency to ensure the continued availability and use of the housing units for lower income households, as defined in Section 50079.5 of the Health and Safety Code, for a period of at least 30 years, at monthly housing costs, as determined pursuant to Section 50053 of the Health and Safety Code.	**Yes,** Satisfies A and B. The project is within ½-mile of the West Oakland BART station, a major rail transit stop with frequencies of service intervals of 15 minutes or less during the morning and afternoon peak commute periods. This location also ensures the project will achieve a below average regional per capita vehicle miles travelled.
	Commercial/Retail.	Not Applicable.
	Office Building.	Not Applicable.
	Schools.	Not Applicable.
	Transit.	Not Applicable.
	Small Walkable Community Projects.	Not Applicable.
3.	Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, **<u>except</u>** as provided in CEQA Guidelines Sections 15183.3(b)(3)(A) or (b)(3)(B) below: (b)(3)(A). Only where an infill project is proposed within the boundaries of a metropolitan planning organization for which a sustainable communities strategy or an alternative planning strategy will be, but is not yet in effect, a residential infill project must have a density of at least 20 units per acre, and a retail or commercial infill project must have a floor area ratio of at least 0.75; **<u>or</u>**	**Yes.** The adopted Plan Bay Area (2040) serves as the sustainable communities strategy for the Bay Area, per Senate Bill 375, under California Public Resource Codes Sections 21155, 21155.1, 21155.2, and 21159.28. As defined by Plan Bay Area, Priority Development Areas (PDAs) are areas where new development will support the needs of residents and workers in a pedestrian-friendly environment served by transit. As stated in the West Oakland Specific Plan (WOSP), the West Oakland area is considered a PDA. The project is consistent with the general land use

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		**Eligible?/Notes for Project**
	(b)(3)(B). Where an infill project is proposed outside of the boundaries of a metropolitan planning organization, the infill project must meet the definition of a "small walkable community project" in CEQA Guidelines Section 15183.3(f)(5). (CEQA Guidelines Section 15183.3[b][3])	designation, density, building intensity, and applicable policies specified in the WOSP as described in Chapter III, Project Consistency Assessment.

ATTACHMENT E. GEOTECHNICAL ANALYSIS

GEOTECHNICAL • ENVIRONMENTAL • GEOLOGY • MATERIALS TESTING & INSPECTION • FORENSIC • LABORATORY

SALEM
engineering group, inc.

UPDATE GEOTECHNICAL ENGINEERING INVESTIGATION

PROPOSED 8-STORY MIXED USE RETAIL
AND RESIDENTIAL BUILDING
1396 5TH STREET
WEST OAKLAND, CALIFORNIA

SALEM PROJECT NO. 5-220-0349
JUNE 5, 2020

PREPARED FOR:

MS. JESSICA KANE
THE MICHAELS ORGANIZATION
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PREPARED BY:

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June 5, 2020 Project No. 5-220-0349

Ms. Jessica Kane
The Michaels Organization
2 Cooper Street
Camden, New Jersey 08102

Subject: UPDATE GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED 8-STORY MIXED USE RETAIL AND RESIDENTIAL BUILDING
1396 5TH STREET
WEST OAKLAND, CALIFORNIA

Dear Ms. Kane:

With your request and authorization, SALEM Engineering Group, Inc. (SALEM) has prepared this Update Geotechnical Engineering Investigation report for the proposed 8-Story Mixed Use Retail and Residential Building planned at the subject location. As background, SALEM Engineering Group, prepared a previous geotechnical report for a planned 5 Story Building planned at the site (SALEM Project No. 4-211-0290, dated June 2, 2011). Construction of the 5-Story structure had started around September 2011, however, a fire resulted in a halt of construction requiring demolition of site improvements. As part of the 2011 construction, deep ground improvement elements were installed to mitigate the potential for liquefaction/seismic settlement. Further discussion of the site history is included in the Background Information section of this report.

The accompanying report presents our findings, conclusions, and recommendations regarding the geotechnical aspects of designing and constructing the project as presently proposed. In our opinion, the proposed project is feasible from a geotechnical viewpoint provided our recommendations are incorporated into the design and construction of the project.

We appreciate the opportunity to assist you with this project. Should you have questions regarding this report or need additional information, please contact the undersigned at (559) 271-9700.

Respectfully Submitted,

SALEM ENGINEERING GROUP, INC.

DRAFT

Dean B. Ledgerwood II, CEG
Northern California Geotechnical Manager
CEG 2613

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UPDATE GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED 8-STORY MIXED USE RETAIL
AND RESIDENTIAL BUILDING
1396 5TH STREET
WEST OAKLAND, CALIFORNIA

1. PURPOSE AND SCOPE

This report presents the results of our Update Geotechnical Engineering Investigation for the proposed 8-Story Mixed Use Retail and Residential Building planned at the subject site located in West Oakland, California, as depicted on Figure 1, Vicinity Map.

SALEM Engineering Group, Inc. (SALEM) has completed this geotechnical engineering investigation with the purpose to observe and sample the subsurface conditions encountered at the site and provide conclusions and recommendations relative to the geotechnical aspects of constructing the project as presently proposed. The recommendations presented herein are based on analysis of the data obtained during the investigation and our local experience with similar soil and geologic conditions.

If project details vary significantly from those described herein, SALEM should be contacted to determine the necessity for review and possible revision of this report.

2. SITE LOCATION AND DESCRIPTION

The subject site is located within a vacant lot at 1396 5th Street in West Oakland, California (see Vicinity Map, Figure 1). The overall development was observed to be bound to the north by elevated BART tracks with commercial development beyond; to the west by Mandela Parkway with asphaltic concrete parking beyond; to the south by Kirkham Street with a vacant lot beyond; and to the south by 5th Street with commercial property beyond.

At the time of our field reconnaissance subject site was generally vacant with several refuse bins and cars parked within the lot. The project site area is relatively flat with elevations of about 12 feet above mean sea level (AMSL), based on Google Earth Imagery.

3. BACKGROUND INFORMATION

SALEM Engineering prepared a Geotechnical Investigation report for the subject site, identified by project number 4-211-0290, dated June 2, 2011. The previous report was prepared for a 5-story wood framed structure planned as a senior living center. The previous report identified very loose silty sand soils from the surface to depths of about 25 feet BSG. The near surface very loose materials were underlain by medium dense to very dense silty sand soils to the maximum depth explored of 50 feet BSG. Groundwater was noted at depths of about 2 feet BSG. Liquefaction/seismic settlement analysis performed at the time of the

2011 investigation revealed potentially liquefiable soils from 2 feet to depths of about 20 to 25 feet BSG. Total seismic settlements due to liquefaction were estimated to be around 6 inches. In addition, an estimate of lateral spreading of over 5 feet was reported. Due to the potential for excessive seismic settlement, lateral spreading, and loss of bearing due to shallow liquefiable soils, the previous report recommended mitigation, such as support of foundations on rammed aggregate piers extending to depths of at least 25 feet BSG. A supplemental report entitled "Compaction Grouting Recommendations" dated August 9, 2011 was prepared to supplement the June 2011 geotechnical report. It is our understanding that a portion of the site was not accessible to ground modification equipment due to an overhead utility line (not currently present) along the western site boundary. During initial installation of rammed aggregate piers, layers of soft, organic soils revealed that densification using rammed aggregate piers was not feasible for the project. Therefore, a September 14, 2011 letter, prepared by SALEM included design recommendations for use of grouted aggregate piers to support shallow foundations. It is our understanding the grouted aggregate piers were installed at locations depicted on the Deep Foundation Plan, prepared by SALEM Engineering dated September 22, 2011. Building construction continued on to mid-2012, including framing of the structure. Due to a fire around May/June 2012, the building was a complete loss. The site was demolished. It is our understanding that concrete foundations and pile caps were removed, abandoning the grouted aggregate piers.

The soil borings and laboratory test data included in the previous 2011 geotechnical report were considered as part of this investigation. The 2011 Geotechnical Report and 2011 Deep Foundation Plan is included at the end of this report for reference.

4. PROJECT DESCRIPTION

Based on review of the preliminary site plan provided, it is our understanding that the construction will include an 8-Story Multi Use Retail/Residential building with a plan view area of about 36,000 square feet. It is our understanding the ground floor will be utilized for at-grade parking and office/retail spaces. The remaining 7 floors will comprise of residential units. Based on the proposed construction, it is anticipated the building will be steel framed with concrete walls.

At the time of this report, structural loads or a preliminary foundation layout plan was not provided. When available, SALEM should be provided the opportunity to review the plans.

Based on the relatively flat grade at the project site during our field exploration, it is anticipated that cuts and fills during earthwork will be on the order of 1 to 2 feet to providing a level area for the project area.

In the event that changes occur in the nature or design of the project, the conclusions and recommendations contained in this report will not be considered valid unless the changes are reviewed, and the conclusions of our report are modified. The site location and approximate locations of proposed improvements are shown on the Site Plan, Figure 2.

5. FIELD EXPLORATION

Based on the findings of the previous investigation, the field exploration included four (4) cone penetration tests (CPTs) throughout the site extending to refusal depths ranging from 27 to 43 feet BSG. The findings of the CPT soundings were compared the test boring logs of the 2011 investigation. As reference, the 2011 geotechnical report is included at the end of this report. The CPT's were pushed within or near the proposed building areas at the approximate locations shown on Figure No. 2, Site Plan.

Upon completion the Cone Penetration Tests were grouted in accordance with Alameda County Public Works requirements.

6. FINDINGS AND RESULTS

6.1. Subsurface Soil Conditions

The soils identified in the CPT soundings were generally similar to the findings of the 2011 Geotechnical Investigation. The soils generally included very loose to loose silty sand and poorly graded sand soils from the surface to depths around 18 to 22 feet BSG. Some interbedded layers of clayey sand to sandy lean clay soils were noted within the upper 20 feet BSG. Below depths of 18 to 22 feet BSG, very dense silty sand soils were encountered throughout the depths explored. For a more detailed description of the materials encountered, the Cone Penetration Logs in Appendix A should be consulted.

6.2. Groundwater

Upon completion of the CPT's groundwater was measured at depths around 2 feet BSG. Shallow groundwater depths of 2 to 4 feet BSG were noted in the 2011 Geotechnical Investigation Report.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, localized pumping, and climatic conditions as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

7. GEOLOGIC HAZARDS

7.1. Faulting and Seismicity

Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively moderate to high seismicity. The seismic hazard most likely to impact the site is ground-shaking due to a large earthquake on one of the major active regional faults. Moderate to large earthquakes have affected the area of the subject site within historic time. There are no known active fault traces in the immediate project vicinity.

The project area is not within an Alquist-Priolo Special Studies Zone and will not require a special site investigation by an Engineering Geologist. Soils on site are classified as Site Class D in accordance with Chapter 16 of the California Building Code. The proposed structures are determined to be in Seismic Design Category D.

To determine the distance of known active faults within 100 miles of the site, we used the United States Geological Survey (USGS) web-based application *2008 National Seismic Hazard Maps - Fault Parameters*.

Site latitude is 37.8039° North; site longitude is -122.2932° West. The ten closest active faults are summarized below in Table 8.1.

TABLE 8.1
REGIONAL FAULT SUMMARY

Fault Name	Distance to Site (miles)	Maximum Earthquake Magnitude, M_w
Hayward-Rodgers Creek	4.5	6.6
San Andreas	13.5	7.7
Mount Diablo Thrust	14.8	6.7
Calaveras	15.5	7.0
San Gregorio	17.5	7.5
Green Valley	17.8	6.8
West Napa	25.0	6.7
Monte Vista Shannon	25.4	6.5
Greenville	25.7	7.0
Great Valley 5	28.5	6.5

The faults tabulated above and numerous other faults in the region are sources of potential ground motion. However, earthquakes that might occur on other faults throughout California are also potential generators of significant ground motion and could subject the site to intense ground shaking.

7.2. Surface Fault Rupture

The site is not within a currently established State of California Earthquake Fault Zone for surface fault rupture hazards. No active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

7.3. Ground Shaking

Based on the 2016 CBC, a Site Class D (stiff soil) was selected for the site based on soil conditions with standard penetration resistance, N-values, averaging between 15 and 50 blows per foot. Table 9.6.1 includes design seismic coefficients and spectral response parameters, based on the 2016 California Building Code (CBC) for the project foundation design.

Based on Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps, the estimated design peak ground acceleration adjusted for site class effects (PGA_M) was determined to be 0.713g (based on both probabilistic and deterministic seismic ground motion).

7.4. Liquefaction

Soil liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction are: moderate to strong ground shaking (seismic source), relatively clean, loose granular soils (primarily poorly graded sands and

silty sands), and saturated soil conditions (shallow groundwater). Due to the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile.

Based on review of the Earthquake Zones of Required Investigation Oakland West Quadrangle, prepared by CGS, the site is located within an area of mapped liquefaction potential.

A seismic hazard, which could cause damage to the proposed development during seismic shaking, is the post-liquefaction settlement of the liquefied sands. As such, the potential for soil liquefaction during a seismic event was evaluated using the Liquefy Pro computer program (version V.5) developed by CivilTech Corporation and utilizing data obtained from the CPT's conducted as part of this investigation. For the analysis, a maximum earthquake magnitude of 7.5 M_w, a peak horizontal ground surface acceleration of 0.713g (PGA_m), and a groundwater depth of 2 feet below site grade. The maximum earthquake magnitude was derived from deaggregation of seismic sources obtained using the USGS 2008 Interactive Deaggregation website (http://geohazards.usgs.gov/deaggint/2008/).

Based on our analysis, total seismic settlements of about 2 inches and differential seismic settlement of about 1.25 inches in 40 feet would be anticipated due to a design level seismic event.

Furthermore, potentially liquefiable layers were identified between depths of about 2 and 20 feet BSG. Based on the DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction Hazards in California, Figures 7.12 and 7.14, and the results of our analysis there is a potential for loss of bearing and surface manifestations such as sand boils and ground cracking. Therefore, support of the proposed structure using conventional shallow spread foundations without ground improvement is not considered feasible. As noted in the background section of this report, grouted aggregate columns extending to depths of 20 to 25 feet BSG were installed within the site below foundations planned as part of the previously planned 5 story building. It is anticipated that building foundations for the proposed new building will have greater loads and the foundation layout will not match that of the previous foundation plan.

It is anticipated, that the site will require additional ground improvement modification, such as soil-cement columns, to further mitigate the potential for liquefaction and loss of bearing to impact the site. Additional exploration should be performed to determine if the existing ground improvement elements were 1) damaged as part of the previous site demolition activities, and 2) to determine if the structural capacity of these improvements are adequate for the new building loads. Prior to evaluation of the existing ground improvement elements, the structural engineer should be consulted to determine areas where significant loading will occur and a deep ground improvement contractor should be consulted to determine the most appropriate method of supplemental ground improvement. At a minimum, deep ground improvement such as soil cement columns, should extend to depths of at least 25 feet BSG.

The recommendations included in this report assume evaluation of the existing ground improvement elements and installation of supplemental ground improvement will be performed to reduce the potential for settlement due to liquefaction.

7.5. Lateral Spreading

Lateral spreading is a phenomenon in which soils move laterally during seismic shaking and is often associated with liquefaction. The amount of movement depends on the soil strength, duration and intensity of

seismic shaking, topography, and free face geometry. Based on review of the previous report, lateral spreading of up to 5 feet may occur within the vicinity of the site. However, provided the building is supported on deep ground improvement elements (such as soil-cement columns), the effects of lateral spreading to impact the site would be considered low.

7.6. Landslides

There are no known landslides at the site, nor is the site in the path of any known or potential landslides. We do not consider the potential for a landslide to be a hazard to this project.

7.7. Tsunamis and Seiches

Based on review of the Tsunami Inundation for Emergency Planning, State of California County of Alameda, Oakland West Quadrangle Map, dated July 31, 2009, the site is not located within a mapped tsunami inundation area. However, the mapped tsunami inundation area was noted approximate 100 feet west/southwest of the site.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1. General Conclusions

8.1.1 Based upon the data collected during this investigation, and from a geotechnical engineering standpoint, it is our opinion that the site is suitable for the proposed construction of improvements at the site as planned, provided the recommendations contained in this report are incorporated into the project design and construction. Conclusions and recommendations provided in this report are based on our review of available literature, analysis of data obtained from our field exploration and laboratory testing program, and our understanding of the proposed development at this time.

8.1.2 The primary geotechnical concern for the site is the potential for differential seismic settlement. Areas not supported on deep foundations or deep ground improvement elements such as grouted aggregate piers or soil cement columns, would be subject to seismic settlements up to 2 inches. Differential seismic settlement of areas mitigated by deep ground improvement and unmitigated areas would be subject to up to 2 inches of differential seismic settlement. In order to mitigate the potential effects of liquefaction/seismic settlement, the structure design should include a quasi-rigid concrete slab on grade, designed to span deep ground improvement elements and concentrated line and spread foundations supported directly over deep ground improvement elements. Deep ground improvement such as soil cement columns would be considered acceptable for the site. Consultation between the structural engineer, a deep ground improvement contractor, and SALEM Engineering should occur to determine the most appropriate ground improvement method based on the foundation layout and existing ground improvement elements. In addition, SALEM recommends the existing deep ground improvement elements be exposed and load tested to verify the piers meet the minimum load capacity required by the structural engineer. In the event that the existing piers fail to meet the minimum load capacity required, additional ground improvement measures, such as deep grout compaction may be required. The top of new ground improvement elements should match existing deep ground improvement piers to remain.

8.1.3 The soils generally included very loose to loose silty sand and poorly graded sand soils from the surface to depths around 18 to 22 feet BSG. Some interbedded layers of clayey sand to sandy lean clay soils were noted within the upper 20 feet BSG. Below depths of 18 to 22 feet BSG, very dense silty sand soils were encountered throughout the depths explored.

8.1.4 Groundwater was encountered within our test borings conducted during this investigation as shallow as a depth of 2 feet BSG. Due to the shallow depth to groundwater, the Contractor should anticipate dewatering and/or subgrade stabilization may be required for utility installations.

8.1.5 Provided the recommendations for deep ground improvement and evaluation of existing ground improvement elements are performed, the site is considered suitable for support of the structure over foundations designed to be supported on the ground improvement elements and slabs designed to span support between ground improvement elements.

8.1.6 Based on review of the previous report, the on-site soils exhibit moderate potential for sulfate attack to concrete is reported to be moderate (soluble sulfate 83 to 696 mg/kg). Therefore, type II cement and a water cement ratio of 0.5 is recommended for concrete mix design. In addition, the soils would be considered to have a moderate potential for corrosion to buried steel. A concrete cover of 3 inches is recommended between soil and reinforcing steel

8.1.7 All references to relative compaction and optimum moisture content in this report are based on ASTM D 1557 (latest edition).

8.1.8 We should be retained to review the project plans as they develop further, provide engineering consultation as-needed, and perform geotechnical observation and testing services during construction.

8.2. Surface Drainage

8.2.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change to important engineering properties. Proper drainage should be maintained at all times.

8.2.2 The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than 5 percent for a minimum distance of 10 feet. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2 percent away from the building and drainage gradients maintained to carry all surface water to collection facilities and off site. These grades should be maintained for the life of the project. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed.

8.2.3 Roof drains should be installed with appropriate downspout extensions out-falling on splash blocks so as to direct water a minimum of 5 feet away from the structures or be connected to the storm drain system for the development.

8.2.4. Due to the shallow depth to groundwater, on-site stormwater disposal is not considered feasible.

8.3. Site Grading

8.3.1 A representative of our firm should be present during all site clearing and grading operations to test and/or observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Geotechnical Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section as well as other portions of this report.

8.3.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance.

8.3.3 Site demolition activities shall include removal of all surface obstructions not intended to be incorporated into final site design. In addition, undocumented fill, underground buried structures, and/or utility lines (if any), existing foundation elements, etc., encountered during demolition and construction should be properly removed and the resulting excavations backfilled with Engineered Fill. After demolition activities, it is recommended that disturbed soils be removed and/or replaced with compacted engineered fill soils.

8.3.4 Excavations or depressions resulting from site clearing/demolition operations, or other existing excavations or depressions, should be restored with Engineered Fill in accordance with the recommendations of this report.

8.3.5 Surface vegetation consisting of grasses and other similar vegetation should be removed by stripping to a sufficient depth to remove organic-rich topsoil. The upper 2 to 4 inches of the soils containing, vegetation, roots and other objectionable organic matter encountered at the time of grading should be stripped and removed from the surface. Deeper stripping may be required in localized areas. The stripped vegetation will not be suitable for use as Engineered Fill or within 5 feet of building pads. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas or exported from the site.

8.3.6 Structural building pad areas and over-build zone should be considered as areas extending a minimum of 5 feet horizontally beyond the outside dimensions of buildings, including footings and non-cantilevered overhangs carrying structural loads. Ground modification should extend to a minimum of 5 feet beyond foundations or to the property line, whichever is less.

8.3.7 This report recommends ground modification throughout the building and over-build zone (5 feet beyond foundations). Foundations may be supported directly over the deep ground improvement elements. Over-excavation within the building and over-build zone should extend to the top of the deep foundation element. The exposed subgrade should be scarified, moisture conditioned to slightly above optimum, and compacted as engineered fill. The resultant excavation should be backfilled with on-site or imported fill soils, placed in controlled lifts and compacted as engineered fill.

8.3.8 Areas of exterior concrete slabs on grade located outside the building pad over-build zone, should be prepared by scarification to 12 inches below preconstruction site grade or 12 inches below the bottoms of slab on grade, whichever is greater. The zone of scarification should extend a minimum of 3 feet beyond these improvements. The bottom of excavation should be scarified 12 inches, moisture conditioned to slightly above optimum moisture content and compacted as engineered fill.

Exterior concrete slabs on grade should be supported on a minimum of 4 inches of Class 2 aggregate base compacted to 95 percent relative compaction over subgrade soils prepared as recommended above.

8.3.9 Areas of proposed asphaltic concrete and portland cement concrete pavements should be prepared by over-excavation to a minimum of 12 inches below preconstruction site grade or 12 inches below the bottom of proposed pavement section. The zone of over-excavation should extend to a minimum of 3 feet beyond these improvements. The bottom of excavation should be scarified 8 inches, moisture conditioned to slightly above optimum moisture content and compacted as engineered fill. The upper 12 inches below pavements should be compacted to 95 percent relative compaction (ASTM D1557).

8.3.10 Areas to receive engineered fill outside the building pad over-build zone, should be prepared by scarification of the upper 12 inches below existing grade or 12 inches below the recommended base section, whichever is greater. These soils should be moisture conditioned to between 1 to 4 percent above optimum and compacted as engineered fill.

8.3.11 An integral part of satisfactory fill placement is the stability of the placed lift of soil. If placed materials exhibit excessive instability as determined by a SALEM field representative, the lift will be considered unacceptable and shall be remedied prior to placement of additional fill material. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

8.3.12 The most effective site preparation alternatives will depend on site conditions prior to grading. We should evaluate site conditions and provide supplemental recommendations immediately prior to grading, if necessary.

8.3.13 Based on the depth to groundwater encountered (1 to 2 feet BSG) and overly moist soils, free groundwater should be anticipated. The Contractor should anticipate the need for dewatering and stabilization for all excavations extending greater than about 5 feet BSG. Groundwater and soil moisture conditions could be significantly different during the wet season (typically winter and spring) as surface soil becomes wet; perched groundwater conditions may develop. Grading during this time period will likely encounter wet materials resulting in possible excavation and fill placement difficulties. Project site winterization consisting of placement of aggregate base and protecting exposed soils during construction should be performed. If the construction schedule requires grading operations during the wet season, we can provide additional recommendations as conditions warrant.

8.3.14 Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material or placement of crushed rocks or aggregate base material; or mixing the soil with an approved lime or cement product.

The most common remedial measure of stabilizing the bottom of the excavation due to wet soil condition is to reduce the moisture of the soil to near the optimum moisture content by having the subgrade soils scarified and aerated or mixed with drier soils prior to compacting. However, the drying process may require an extended period of time and delay the construction operation. To expedite the stabilizing process, crushed rock may be utilized for stabilization provided this method is approved by the owner for the cost purpose.

If the use of crushed rock is considered, it is recommended that the upper soft and wet soils be replaced by 12 to 30 inches of ¾-inch to 1-inch crushed rocks. The thickness of the rock layer depends on the severity of the soil instability. The recommended 12 to 30 inches of crushed rock material will provide a stable platform. It is further recommended that lighter compaction equipment be utilized for compacting the crushed rock. All open graded crushed rock/gravel should be fully encapsulated with a geotextile fabric (such as Mirafi 140N) to minimize migration of soil particles into the voids of the crushed rock. Although it is not required, the use of geogrid (e.g. Tensar BX 1100, BX 1200 or TX 160) below the crushed rock will enhance stability and reduce the required thickness of crushed rock necessary for stabilization.

In addition, chemical drying of the bottom of the excavation and engineered fill soils could be considered. For bidding purposes, the Contractor may assume 5 percent high calcium quicklime for chemical stabilization/drying of on-site soils. The actual application rate will need to be adjusted based on conditions encountered during grading.

Our firm should be consulted prior to implementing remedial measures to provide appropriate recommendations.

8.4. Soil and Excavation Characteristics

8.4.1 Based on the soil conditions encountered in our borings and CPTs, the onsite soils can be excavated with conventional excavation equipment.

8.4.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations to maintain safety and maintain the stability of adjacent existing improvements. Temporary excavations are further discussed in a later Section of this report.

8.4.3 Although not encountered, due to the current site development and previously prepared pads (commercial development), undocumented fill material may be encountered throughout the site. This report includes recommendations that all abandoned subsurface structures, and undocumented fill material, be fully removed and/or compacted as engineered fill.

8.4.4 The near surface soils identified as part of our investigation are, generally, very moist to overly saturated due to the absorption characteristics of the soil. Due to the overly moist soils, earthwork operations will likely require stabilization of the bottom of excavation. Furthermore, shallow groundwater should be anticipated at depths greater than 1 foot BSG. Excavations will require dewatering and stabilization. Exposed native soils exposed as part of site grading operations shall not be allowed to dry out and should be kept continuously moist prior to placement of subsequent fill.

8.5. Materials for Fill

8.5.1 On-site soils are considered suitable for use as engineered fill provided these soils do not contain deleterious matter, organic material, or material larger than 3 inches in maximum dimension.

8.5.2 Imported Engineered Fill soil, should be well-graded, low-to-non-expansive slightly cohesive silty sand or sandy silt. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil

will allow the surface water to drain into the expansive clayey soils below, which may result in unacceptable swelling. This material should be approved by the Engineer prior to use and should typically possess the soil characteristics summarized below in Table 8.5.2.

TABLE 8.5.2
IMPORT FILL REQUIREMENTS

Percent Passing 3-inch Sieve	100
Percent Passing No.4 Sieve	75-100
Percent Passing No 200 Sieve	15-40
Maximum Plasticity Index	15
Organic Content, Percent by Weight	Less than 3%
Maximum Expansion Index (ASTM D4829)	20

Prior to importing the Contractor should demonstrate to the Owner that the proposed import meets the requirements for import fill specified in this report. In addition, the material should be verified by the Contractor that the soils do not contain any environmental contaminates as regulated by local, state, or federal agencies, as applicable

8.5.3 All Engineered Fill (including scarified ground surfaces and backfill) should be placed in lifts no thicker than will allow for adequate bonding and compaction (typically 6 to 8 inches in loose thickness).

8.5.4 On-Site soils used as engineered fill soils should moisture conditioned to slightly above optimum moisture content and compacted to at least 92 percent relative compaction (ASTM D1557).

8.5.5 Import Engineered Fill, if selected, should be placed, moisture conditioned to slightly above optimum moisture content, and compacted to at least 92 percent relative compaction (ASTM D1557).

8.5.6 The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since they have complete control of the project site.

8.5.7 Environmental characteristics and corrosion potential of import soil materials should also be considered.

8.5.8 Proposed import materials should be sampled, tested, and approved by SALEM prior to its transportation to the site.

8.5.9 Aggregate base material should meet the requirements of a Caltrans Class 2 Aggregate Base. Aggregate base placed within the building pad should be non-recycled. The aggregate base material should conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ¾-inch or 1½-inches maximum size. The aggregate base material should be compacted to a minimum relative compaction of 95 percent based ASTM D1557. The aggregate base material should be spread in layers not exceeding 6 inches and each layer of aggregate material course should be tested and approved by the Soils Engineer prior to the placement of successive layers

8.6. Seismic Design Criteria

8.6.1 For seismic design of the structures, and in accordance with the seismic provisions of the 2019 CBC, our recommended parameters are shown below. These parameters were determined using Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps by location website (https://seismicmaps.org/), in accordance with the 2019 CBC. The Site Class was determined based on the soils encountered during our field exploration.

TABLE 8.6.1
2019 CBC SEISMIC DESIGN PARAMETERS

Seismic Item	Symbol	Value	2016 ASCE 7 or 2019 CBC Reference
Site Coordinates (Datum = NAD 83)		37.8039 Lat -122.2932 Lon	
Site Class	--	D	ASCE 7 Table 20.3
Soil Profile Name	--	Stiff Soil	ASCE 7 Table 20.3
Risk Category	--	II	CBC Table 1604.5
Site Coefficient for PGA	F_{PGA}	1.1	ASCE 7 Table 11.8-1
Peak Ground Acceleration (adjusted for Site Class effects)	PGA_M	0.714 g	ASCE 7 Equation 11.8-1
Seismic Design Category	SDC	D	ASCE 7 Table 11.6-1 & 2
Mapped Spectral Acceleration (Short period - 0.2 sec)	S_S	1.541 g	CBC Figure 1613.3.1(1-8)
Mapped Spectral Acceleration (1.0 sec. period)	S_1	0.600 g	CBC Figure 1613.3.1(1-8)
Site Class Modified Site Coefficient	F_a	1.000	CBC Table 1613.2.3(1)
Site Class Modified Site Coefficient	F_v	2.00*	CBC Table 1613.2.3(2)
MCE Spectral Response Acceleration (Short period - 0.2 sec) $S_{MS} = F_a S_S$	S_{MS}	1.541 g	CBC Equation 16-36
MCE Spectral Response Acceleration (1.0 sec. period) $S_{M1} = F_v S_1$	S_{M1}	1.200 g*	CBC Equation 16-37
Design Spectral Response Acceleration $S_{DS}=⅔S_{MS}$ (short period - 0.2 sec)	S_{DS}	1.027 g	CBC Equation 16-38
Design Spectral Response Acceleration $S_{D1}=⅔S_{M1}$ (1.0 sec. period)	S_{D1}	0.800 g*	CBC Equation 16-39
Short Period Transition Period (S_{D1}/S_{DS}), Seconds	T_S	0.779	ASCE 7-16, Section 11.4.6
Long Period Transition period (seconds)	T_L	8	ASCE 7-16, Figures 22-14 through 22-17

Note: * Determined per ASCE Table 11.4.-2 for use in calculating T_S only

Site Specific Ground Motion Analysis was not included in the scope of this investigation. Per ASCE 11.1.48, Structures on Site Class D, with S_1 greater than or equal to 0.2 may require Site Specific Ground Motion Analysis. However, a site specific ground motion analysis may not be required based on Exceptions listed in ASCE 11.1.48. The Structural Engineer should verify whether Exception No. 2 of ASCE 7-16, Section 11.1.48 is valid for the site. In the event a site specific ground motion analysis is required, SALEM should be contacted for these services.

8.6.2 Conformance to the criteria in the above table for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

8.7. Shallow Foundations

8.7.1 The following recommendations have been prepared for shallow spread foundations. Shallow spread foundations are considered suitable for the planned building provided ground modification (rammed aggregate piers) are constructed to reduce the potential for loss of bearing.

8.7.2 Shallow foundations supported on ground modification, as recommended in this report may be designed based on total and differential static settlement of 1 inch and ½ inch in 40 feet, respectively.

8.7.3 The bearing wall footings considered for the structure should be continuous with a minimum width of 18 inches and extend to a minimum depth of 24 inches below the lowest adjacent grade or 24inches below the bottom of slab on grade, whichever is greater. Isolated column footings should have a minimum width of 18 inches and extend a minimum depth of 24 inches below the lowest adjacent grade.

8.7.4 Footing concrete should be placed into neat excavation. The footing bottoms shall be maintained free of loose and disturbed soil.

8.7.5 Foundations supported on engineered fill as recommended in this report may be designed based on an allowable bearing capacity of 4,000 pounds per square foot. This value may be increased by one-third for wind and seismic loading.

8.7.6 Resistance to lateral footing displacement can be computed using an allowable coefficient of friction factor of 0.30 acting between the base of foundations and the supporting native subgrade.

8.7.7 Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot acting against the appropriate vertical native footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. An increase of one-third is permitted when using the alternate load combination in Section 1605.3.2 of the 2016 CBC that includes wind or earthquake loads.

8.7.8 Underground utilities running parallel to footings should not be constructed in the zone of influence of footings. The zone of influence may be taken to be the area beneath the footing and within a 1:1 plane extending out and down from the bottom edge of the footing.

8.7.9 The foundation subgrade should be sprinkled as necessary to maintain a moist condition without significant shrinkage cracks as would be expected in any concrete placement. Prior to placing rebar reinforcement, foundation excavations should be evaluated by a representative of SALEM for

appropriate support characteristics and moisture content. Moisture conditioning may be required for the materials exposed at footing bottom, particularly if foundation excavations are left open for an extended period.

8.7.10 Flexible utility connections should be used for all utilities entering the building pad area.

8.8. Interior Concrete Slabs-on-Grade

8.8.1 Slab thickness and reinforcement should be determined by the structural engineer based on the anticipated loading. We recommend that non-structural slabs-on-grade be at least 6 inches thick and underlain by four (4) inches of class 2 aggregate base over 24 inches of imported non expansive engineered fill over the depth of engineered fill extending to the top of the ground improvement elements.

8.8.2 Concrete slabs should be reinforced to span the distance between deep ground improvement elements. The structural engineer should determine the minimum reinforcing required for interior slabs on grade. We recommend reinforcing slabs, at a minimum, with No. 3 reinforcing bars placed 18 inches on center, each way.

8.8.3 The spacing of crack control joints should be designed by the project structural engineer. In order to regulate cracking of the slabs, we recommend that full depth construction joints or control joints be provided at a maximum spacing of 15 feet in each direction for 5-inch thick slabs and 12 feet for 4-inch thick slabs.

8.8.4 Crack control joints should extend a minimum depth of one-fourth the slab thickness and should be constructed using saw-cuts or other methods as soon as practical after concrete placement. The exterior floors should be poured separately in order to act independently of the walls and foundation system.

8.8.5 It is recommended that the utility trenches within the structure be compacted, as specified in our report, to minimize the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the structures is recommended.

8.8.6 Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To minimize moisture vapor intrusion, it is recommended that a vapor retarder be installed in accordance with manufacturer's recommendations and/or ASTM guidelines, whichever is more stringent. In addition, ventilation of the structure is recommended to reduce the accumulation of interior moisture.

8.8.7 In areas where it is desired to reduce floor dampness where moisture-sensitive coverings, coatings, underlayments, adhesives, moisture sensitive goods, humidity controlled environments, or climate cooled environments are anticipated, construction should have a suitable waterproof vapor retarder (a minimum of 15 mils thick, is recommended, polyethylene vapor retarder sheeting, Raven Industries "VaporBlock 15, Stego Industries 15 mil "StegoWrap" or W.R. Meadows Sealtight 15 mil "Perminator") incorporated into the floor slab design. The water vapor retarder should be a decay resistant material complying with ASTM E96 or ASTM E1249 not exceeding 0.01 perms, ASTM E154 and ASTM E1745 Class A. The vapor retarder should, maintain the recommended permeance **after** conditioning tests per ASTM E1745. The vapor barrier should be placed between

the concrete slab and the compacted granular aggregate subbase material. The water vapor retarder (vapor barrier) should be installed in accordance with ASTM Specification E 1643-18.

8.8.8 The concrete may be placed directly on vapor retarder. The vapor retarder should be inspected prior to concrete placement. Cut or punctured retarder should be repaired using vapor retarder material lapped 6 inches beyond damaged areas and taped. Extend vapor retarder over footings and seal to foundation wall or slab at an elevation consistent with the top of the slab or terminate at impediments such as water stops or dowels. Seal around penetrations such as utilities or columns in order to create a monolithic membrane between the surface of the slab and moisture sources below the slab as well as at the slab perimeter.

8.8.9 Avoid use of stakes driven through the vapor retarder.

8.8.10 The recommendations of this report are intended to reduce the potential for cracking of slabs due to soil movement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to soil movement. This is common for project areas that contain expansive soils since designing to eliminate potential soil movement is cost prohibitive. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

8.8.11 Proper finishing and curing should be performed in accordance with the latest guidelines provided by the American Concrete Institute, Portland Cement Association, and ASTM.

8.9. Exterior Slabs on Grade

8.9.1 The following recommendations are intended for lightly loaded exterior slabs on grade not subject to vehicular traffic. Slab thickness and reinforcement should be determined by the structural engineer based on the anticipated loading.

We recommend that non-structural slabs-on-grade be at least 4 inches thick and underlain by 6 inches of class 2 aggregate base over over the depth of engineered fill recommended in section 9.3 of this report.

8.9.2 The spacing of crack control joints should be designed by the project structural engineer. In order to regulate cracking of the slabs, we recommend that full depth construction joints or control joints be provided at a maximum spacing of 15 feet in each direction for 5-inch thick slabs and 12 feet for 4-inch thick slabs.

8.9.3 Crack control joints should extend a minimum depth of one-fourth the slab thickness and should be constructed using saw-cuts or other methods as soon as practical after concrete placement.

8.9.4 Proper finishing and curing should be performed in accordance with the latest guidelines provided by the American Concrete Institute, Portland Cement Association, and ASTM.

8.10. Lateral Earth Pressures and Frictional Resistance

8.10.1. Active, at-rest and passive unit lateral earth pressures against footings and walls are summarized in the table below:

Lateral Pressure Conditions	Soil Equivalent Fluid Pressure
Active Pressure, Drained, pcf	40
At-Rest Pressure, Drained, pcf	60
Allowable Passive Pressure, pcf	250
Allowable Coefficient of Friction	0.30
Minimum Wet Unit Weight (lbs/ft^3) [γ_{min}]	100
Maximum Wet Unit Weight (lbs/ft^3) [γ_{max}]	130

8.10.2. Active pressure applies to walls, which are free to rotate. At-rest pressure applies to walls, which are restrained against rotation. The preceding lateral earth pressures assume sufficient drainage behind retaining walls to prevent the build-up of hydrostatic pressure. The top one-foot of adjacent subgrade should be deleted from the passive pressure computation.

8.10.3. The allowable parameters include a safety factor of 1.5 and can be used in design for direct comparison of resisting loads against lateral driving loads.

8.10.4. If combined passive and frictional resistance is used in design, a 50 percent reduction in frictional resistance is recommended.

8.10.5. For lateral stability against seismic loading conditions, we recommend a minimum safety factor of 1.1.

8.10.6. For dynamic seismic lateral loading the following equation shall be used:

Dynamic Seismic Lateral Loading Equation
Dynamic Seismic Lateral Load = $\frac{3}{8}\gamma K_h H^2$
Where: γ = Maximum In-Place Soil Density (Section 8.10.1 above)
K_h = Horizontal Acceleration = $\frac{2}{3}PGA_M$ (Section 8.6.1 above)
H = Wall Height

8.11. Temporary Excavations

8.11.1. We anticipate that the majority of the dense site soils will be classified as Cal-OSHA "Type B" soil when encountered in excavations during site development and construction. If the subgrade becomes unstable due to excessive moisture, the excavations should conform to Cal-OSHA "Type C" soil. Excavation sloping, benching, the use of trench shields, and the placement of trench spoils should conform to the latest applicable Cal-OSHA standards. The contractor should have a Cal-OSHA-approved "competent person" onsite during excavation to evaluate trench conditions and make appropriate recommendations where necessary.

8.11.2. It is the contractor's responsibility to provide sufficient and safe excavation support as well as protecting nearby utilities, structures, and other improvements which may be damaged by earth movements. All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load.

8.11.3. Temporary excavations and slope faces should be protected from rainfall and erosion. Surface runoff should be directed away from excavations and slopes.

8.11.4. Open, unbraced excavations in undisturbed soils should be made according to the slopes presented in the following table:

RECOMMENDED EXCAVATION SLOPES

Depth of Excavation (ft)	Slope (Horizontal : Vertical)
0-5	1:1
5-10	1½:1
10-15	2:1

8.11.5. If, due to space limitation, excavations near existing structures are performed in a vertical position, braced shorings or shields may be used for supporting vertical excavations. Therefore, in order to comply with the local and state safety regulations, a properly designed and installed shoring system would be required to accomplish planned excavations and installation. A Specialty Shoring Contractor should be responsible for the design and installation of such a shoring system during construction.

8.11.6. Braced shorings should be designed for a maximum pressure distribution of 30H, (where H is the depth of the excavation in feet). The foregoing does not include excess hydrostatic pressure or surcharge loading. Fifty percent of any surcharge load, such as construction equipment weight, should be added to the lateral load given herein. Equipment traffic should concurrently be limited to an area at least 3 feet from the shoring face or edge of the slope.

8.11.7. The excavation and shoring recommendations provided herein are based on soil characteristics derived from the borings within the area. Variations in soil conditions will likely be encountered during the excavations. SALEM Engineering Group, Inc. should be afforded the opportunity to provide field review to evaluate the actual conditions and account for field condition variations not otherwise anticipated in the preparation of this recommendation. Slope height, slope inclination, or

excavation depth should in no case exceed those specified in local, state, or federal safety regulation, (e.g. OSHA) standards for excavations, 29 CFR part 1926, or Assessor's regulations.

8.12. Underground Utilities

8.12.1. Underground utility trenches should be backfilled with properly compacted material. The material excavated from the trenches should be adequate for use as backfill provided it does not contain deleterious matter, vegetation or rock larger than 3 inches in maximum dimension. Trench backfill should be placed in loose lifts not exceeding 8 inches and compacted to at least 92 percent relative compaction at or above optimum moisture content. The upper 12 inches of trench backfill within asphalt or concrete paved areas shall be moisture conditioned to at or above optimum moisture content and compacted to at least 95 percent relative compaction.

8.12.2. Bedding and pipe zone backfill typically extends from the bottom of the trench excavations to approximately 12 inches above the crown of the pipe. Pipe bedding, haunches and initial fill extending to 1 foot above the pipe should consist of a clean well graded sand with 100 percent passing the #4 sieve, a maximum of 15 percent passing the #200 sieve, and a minimum sand equivalent of 20.

8.12.3. Due to the depth of groundwater encountered (2 feet BSG) dewatering and/or stabilization of bottom of trench excavations should be anticipated. If unstable soils are encountered, additional removal of about 12 inches of unstable soils followed by replacement with a class 2 aggregate base material may be considered. Stabilization with open graded gravel or crushed rock would be required to be fully encapsulated in a geotextile fabric such as Mirafi 140N. In addition, if feasible, utility trenches may be backfilled with a 2-sack sand cement slurry.

8.12.4. It is suggested that underground utilities crossing beneath new or existing structures be plugged at entry and exit locations to the building or structure to prevent water migration. Trench plugs can consist of on-site clay soils, if available, or sand cement slurry. The trench plugs should extend 2 feet beyond each side of individual perimeter foundations.

8.12.5. The contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

8.13. Pavement Design

8.13.1 During grading subgrade samples should be tested to verify the recommendations included in this report remain valid. The pavement design recommendations provided herein are based on the State of California Department of Transportation (CALTRANS) design manual. Based on the findings of the previous report, an R-value of 12 was selected for design.

8.13.2 The asphaltic concrete (flexible pavement) is based on a 20-year pavement life utilizing traffic indexes of ranging from 4.0 to 7.0. The Civil Engineer should select the appropriate pavement section based on the anticipated traffic loading. The following table shows the recommended pavement sections for various traffic indices.

TABLE 8.13.2
ASPHALT CONCRETE PAVEMENT THICKNESSES

Traffic Index	Asphaltic Concrete, (inches)	Class 2 Aggregate Base, (inches)*	Compacted Subgrade, (inches)*
4.0	2.5	6.0	12.0
5.0	2.5	9.5	12.0
6.0	3.0	12.0	12.0
7.0	4.0	14.0	12.0

95% compaction based on ASTM D1557 Test Method

8.13.3 The following recommendations are for Portland Cement Concrete pavement sections.

TABLE 8.13.3
PORTLAND CEMENT CONCRETE PAVEMENT THICKNESSES

Traffic Index	Portland Cement Concrete, (inches)*	Class 2 Aggregate Base, (inches)**	Compacted Subgrade. (inches)**
4.0	5.0	4.0	12.0
5.0	5.5	4.0	12.0
6.0	6.5	6.0	12.0
7.0	7.0	6.0	12.0

**** Minimum Compressive Strength of 4,000 psi***
***** 95% compaction based on ASTM D1557 Test Method***

8.13.4 Asphalt concrete should conform to Section 39 of Caltrans' latest Standard Specifications for ½ inch Hot Mix Asphalt (HMA) Type A or B.

8.13.5 Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. Any buried structures encountered during construction should be properly removed and backfilled.

8.13.6 Buried structures encountered during construction should be properly removed/rerouted and the resulting excavations backfilled. It is suspected that demolition activities of the existing pavement will disturb the upper soils. After demolition activities, it is recommended that disturbed soils within pavement areas be removed and/or compacted as engineered fill.

8.13.7 An integral part of satisfactory fill placement is the stability of the placed lift of soil. Prior to placement of aggregate base, the subgrade soils should be proof-rolled by a loaded water truck (or equivalent) to verify no deflections of greater than ½ inch occur. If placed materials exhibit excessive instability as determined by a SALEM field representative, the lift will be considered unacceptable and shall be remedied prior to placement of additional fill material. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

8.13.8 A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material.

9. PLAN REVIEW, CONSTRUCTION OBSERVATION AND TESTING

9.1. Plan and Specification Review

10.1.1 SALEM should review the project plans and specifications prior to final design submittal to assess whether our recommendations have been properly implemented and evaluate if additional analysis and/or recommendations are required.

9.2. Construction Observation and Testing Services

10.2.1 The recommendations provided in this report are based on the assumption that we will continue as Geotechnical Engineer of Record throughout the construction phase. It is important to maintain continuity of geotechnical interpretation and confirm that field conditions encountered are similar to those anticipated during design. If we are not retained for these services, we cannot assume any responsibility for others interpretation of our recommendations, and therefore the future performance of the project.

10.2.2 SALEM should be present at the site during site preparation to observe site clearing, preparation of exposed surfaces after clearing, and placement, treatment and compaction of fill material.

10.2.3 SALEM's observations should be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. Moisture content of footings and slab subgrade should be tested immediately prior to concrete placement. SALEM should observe foundation excavations prior to placement of reinforcing steel or concrete to assess whether the actual bearing conditions are compatible with the conditions anticipated during the preparation of this report.

10. LIMITATIONS AND CHANGED CONDITIONS

The analyses and recommendations submitted in this report are based upon the data obtained from the test borings drilled at the approximate locations shown on the Site Plan, Figure 1. The report does not reflect variations which may occur between borings. The nature and extent of such variations may not become evident until construction is initiated.

If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-site observations during the excavation period and noting the characteristics of such variations. The findings and recommendations presented in this report are valid as of the present and for the proposed construction. If site conditions change due to natural processes or human intervention on the property or adjacent to the site, or changes occur in the nature or design of the project, or if there is a substantial time lapse between the submission of this report and the start of the work at the site, the conclusions and recommendations contained in our report will not be considered valid unless the changes are reviewed by SALEM and the conclusions of our report are modified or verified in writing. The validity of the recommendations contained in this report is also dependent upon an adequate testing and observations

program during the construction phase. Our firm assumes no responsibility for construction compliance with the design concepts or recommendations unless we have been retained to perform the on-site testing and review during construction. SALEM has prepared this report for the exclusive use of the owner and project design consultants.

SALEM does not practice in the field of corrosion engineering. It is recommended that a qualified corrosion engineer be consulted regarding protection of buried steel or ductile iron piping and conduit or, at a minimum, that manufacturer's recommendations for corrosion protection be closely followed. Further, a corrosion engineer may be needed to incorporate the necessary precautions to avoid premature corrosion of concrete slabs and foundations in direct contact with native soil. The importation of soil and or aggregate materials to the site should be screened to determine the potential for corrosion to concrete and buried metal piping. The report has been prepared in accordance with generally accepted geotechnical engineering practices in the area. No other warranties, either express or implied, are made as to the professional advice provided under the terms of our agreement and included in this report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 271-9700.

Respectfully Submitted,

DRAFT

Dean B. Ledgerwood II, CEG
Northern California Geotechnical Manager
CEG 2613

DRAFT

R. Sammy Salem, MS, PE, GE
Principal Managing Engineer
RCE 52762 / RGE 2549

APPENDIX

A

APPENDIX A

FIELD EXPLORATION

Fieldwork for our investigation was conducted on May 12, 2020 and included a site visit, subsurface exploration, and soil sampling. The locations of the exploratory borings are shown on the Site Plan, Figure 1. CPT logs for our exploration are presented in figures following the text in this appendix. CPTs were located in the field using existing reference points. Therefore, actual boring locations may deviate slightly.

APPENDIX

B

APPENDIX B

Previous Geotechnical Investigation Report

And Previous Foundation Layout Plan

APPENDIX

C

APPENDIX C
GENERAL EARTHWORK AND PAVEMENT SPECIFICATIONS

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

1.0 SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including, but not limited to, the furnishing of all labor, tools and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans and disposal of excess materials.

2.0 PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of SALEM Engineering Group, Incorporated, hereinafter referred to as the Soils Engineer and/or Testing Agency. Attainment of design grades, when achieved, shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary adjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer, or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

3.0 TECHNICAL REQUIREMENTS: All compacted materials shall be densified to no less that 92 percent of relative compaction (based on ASTM D1557 Test Method (latest edition), or as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

4.0 SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the Geotechnical Engineering Report. The Contractor shall make his own interpretation of the data contained in the Geotechnical Engineering Report and the Contractor shall not be relieved of liability for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

5.0 DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or wind-blown materials attributable to his work. Site preparation shall consist of site clearing and grubbing and preparation of foundation materials for receiving fill.

6.0 CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter and all other matter determined by the Soils Engineer to be deleterious. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed improvement areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots greater than 1 inch in diameter. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations is not permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

7.0 SUBGRADE PREPARATION: Surfaces to receive Engineered Fill and/or building or slab loads shall be prepared as outlined above, scarified to a minimum of 12 inches, moisture-conditioned as necessary, and compacted to 92 percent relative compaction.

Loose soil areas and/or areas of disturbed soil shall be moisture-conditioned as necessary and compacted to 92 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any fill material.

8.0 EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

9.0 FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence or approval of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills, provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

10.0 PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. Compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer. Both cut and fill shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

11.0 SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill

operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill is as specified.

12.0 DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term “Standard Specifications”: hereinafter referred to, is the most recent edition of the Standard Specifications of the State of California, Department of Transportation. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as determined by ASTM D1557 Test Method (latest edition).

13.0 PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent based upon ASTM D1557. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

14.0 AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ¾-inch or 1½-inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent based upon ASTM D1557. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

15.0 AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 Subbase material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent based on ASTM D1557, and it shall be spread and compacted in accordance with the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

16.0 ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10, unless otherwise stipulated or local conditions warrant more stringent grade. The mineral aggregate shall be Type A or B, ½ inch maximum size, medium grading, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning, and mixing of the materials shall conform to Section 39. The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric Las Vegasrature is below 50 degrees F. The surfacing shall be rolled with a combination steel-wheel and pneumatic rollers, as described in the Standard Specifications. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

ATTACHMENT F. GREENHOUSE GAS ANALYSIS; CalEEMod

Red Star Senior Housing v2

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	222.00	Dwelling Unit	2.00	197,200.00	556
High Turnover (Sit Down Restaurant)	1.60	1000sqft	0.00	1,600.00	0
Enclosed Parking with Elevator	44.00	Space	0.00	18,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	294	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Red Star Senior Housing v2 - Alameda County, Annual

Project Characteristics - CO2 intensity factor updated to PGE's most recent (2016) value

Land Use - Land use square footage based on site plan. Residentia square footage includes amenities.

Off-road Equipment - Geotech report recommended deep ground improvement such as soil cement columns. A drill rig was added to assume pile driving would be required.

Grading - It is anticipated and cuts and fills during earthwork will be on the order of 1 to 2 feet. Assume 2 feet of cuts and imported fills would be required on entire site, i.e., 3 kcy.

Vehicle Trips - For GHG emissions purpose, only non-transportation emissions are evaluated.

Woodstoves - Assume no woodstoves or fireplaces would be built.

Energy Use - Energy intensity updated to 2019 Title 24 code

Water And Wastewater - EBMUD would provide wastewater treatment for the site and have 100 percent aerobic process.

Solid Waste - Solid waste generation rate reduced by 49 percent and 33 percent for residential and commercial land uses, specific to city of Oakland

Stationary Sources - Emergency Generators and Fire Pumps - Assume a 1000-kW diesel emergency generator would be used because the building is more than 75 feet tall.

Energy Mitigation -

Water Mitigation - CALGreen Code requires 20 per cent indoor water use reduction

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	741.44	572.00
tblEnergyUse	LightingElect	5.34	3.11
tblEnergyUse	T24E	426.45	380.80
tblEnergyUse	T24E	2.67	2.38
tblFireplaces	NumberGas	33.30	0.00
tblFireplaces	NumberNoFireplace	8.88	0.00
tblFireplaces	NumberWood	37.74	0.00
tblGrading	MaterialExported	0.00	3,000.00
tblGrading	MaterialImported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	222,000.00	197,200.00
tblLandUse	LandUseSquareFeet	17,600.00	18,300.00
tblLandUse	LotAcreage	5.84	2.00

tblLandUse	LotAcreage	0.04	0.00
tblLandUse	LotAcreage	0.40	0.00
tblLandUse	Population	635.00	556.00
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblSolidWaste	SolidWasteGenerationRate	102.12	51.90
tblSolidWaste	SolidWasteGenerationRate	19.04	12.80
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,341.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00

tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	4.44	0.00
tblWoodstoves	NumberNoncatalytic	4.44	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.7029	2.3514	2.1915	5.2500e-003	0.1752	0.1000	0.2751	0.0500	0.0953	0.1453	0.0000	460.1648	460.1648	0.0590	0.0000	461.6398
Maximum	**1.7029**	**2.3514**	**2.1915**	**5.2500e-003**	**0.1752**	**0.1000**	**0.2751**	**0.0500**	**0.0953**	**0.1453**	**0.0000**	**460.1648**	**460.1648**	**0.0590**	**0.0000**	**461.6398**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.7029	2.3514	2.1915	5.2500e-003	0.1752	0.1000	0.2751	0.0500	0.0953	0.1453	0.0000	460.1645	460.1645	0.0590	0.0000	461.6395
Maximum	**1.7029**	**2.3514**	**2.1915**	**5.2500e-003**	**0.1752**	**0.1000**	**0.2751**	**0.0500**	**0.0953**	**0.1453**	**0.0000**	**460.1645**	**460.1645**	**0.0590**	**0.0000**	**461.6395**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.8569	0.8569
2	4-1-2021	6-30-2021	0.7124	0.7124
3	7-1-2021	9-30-2021	0.7202	0.7202
		Highest	0.8569	0.8569

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9675	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584
Energy	0.0119	0.1025	0.0491	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	256.3367	256.3367	0.0159	4.9900e-003	258.2210
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	13.1335	0.0000	13.1335	0.7762	0.0000	32.5377
Water						0.0000	0.0000		0.0000	0.0000	5.2893	14.0535	19.3428	0.0196	0.0118	23.3457
Total	**1.0344**	**0.3675**	**1.8399**	**1.0000e-003**	**0.0000**	**0.0254**	**0.0254**	**0.0000**	**0.0254**	**0.0254**	**18.4228**	**298.6161**	**317.0389**	**0.8179**	**0.0168**	**342.4848**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9675	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584
Energy	0.0119	0.1025	0.0491	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	256.3367	256.3367	0.0159	4.9900e-003	258.2210
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	13.1335	0.0000	13.1335	0.7762	0.0000	32.5377
Water						0.0000	0.0000		0.0000	0.0000	4.2314	12.0969	16.3283	0.0158	9.4500e-003	19.5380
Total	**1.0344**	**0.3675**	**1.8399**	**1.0000e-003**	**0.0000**	**0.0254**	**0.0254**	**0.0000**	**0.0254**	**0.0254**	**17.3649**	**296.6595**	**314.0244**	**0.8140**	**0.0144**	**338.6771**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.74**	**0.66**	**0.95**	**0.47**	**13.95**	**1.11**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/1/2021	5	2	
3	Grading	Grading	2/2/2021	2/5/2021	5	4	
4	Building Construction	Building Construction	2/6/2021	11/12/2021	5	200	
5	Paving	Paving	11/13/2021	11/26/2021	5	10	
6	Architectural Coating	Architectural Coating	11/27/2021	12/10/2021	5	10	

Acres of Grading (Site Preparation Phase): 3

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 399,330; Residential Outdoor: 133,110; Non-Residential Indoor: 2,400; Non-Residential Outdoor: 800; Striped Parking Area: 1,098 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45
Site Preparation	Bore/Drill Rigs	1	8.00	221	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	168.00	27.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**		**0.0104**	**0.0104**		**9.7100e-003**	**9.7100e-003**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1000e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8820	0.8820	2.0000e-005	0.0000	0.8825
Total	**4.2000e-004**	**3.0000e-004**	**3.1000e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8820**	**0.8820**	**2.0000e-005**	**0.0000**	**0.8825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**		**0.0104**	**0.0104**		**9.7100e-003**	**9.7100e-003**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1000e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8820	0.8820	2.0000e-005	0.0000	0.8825
Total	**4.2000e-004**	**3.0000e-004**	**3.1000e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8820**	**0.8820**	**2.0000e-005**	**0.0000**	**0.8825**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9300e-003	0.0000	1.9300e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8000e-003	0.0213	0.0128	3.0000e-005		7.9000e-004	7.9000e-004		7.3000e-004	7.3000e-004	0.0000	2.9801	2.9801	9.6000e-004	0.0000	3.0042
Total	**1.8000e-003**	**0.0213**	**0.0128**	**3.0000e-005**	**1.9300e-003**	**7.9000e-004**	**2.7200e-003**	**2.2000e-004**	**7.3000e-004**	**9.5000e-004**	**0.0000**	**2.9801**	**2.9801**	**9.6000e-004**	**0.0000**	**3.0042**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-003	0.1011	0.0188	2.9000e-004	6.3500e-003	3.1000e-004	6.6600e-003	1.7500e-003	3.0000e-004	2.0400e-003	0.0000	28.3516	28.3516	1.4100e-003	0.0000	28.3867
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0679	0.0679	0.0000	0.0000	0.0679
Total	**3.0300e-003**	**0.1011**	**0.0190**	**2.9000e-004**	**6.4300e-003**	**3.1000e-004**	**6.7400e-003**	**1.7700e-003**	**3.0000e-004**	**2.0600e-003**	**0.0000**	**28.4194**	**28.4194**	**1.4100e-003**	**0.0000**	**28.4546**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9300e-003	0.0000	1.9300e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8000e-003	0.0213	0.0128	3.0000e-005		7.9000e-004	7.9000e-004		7.3000e-004	7.3000e-004	0.0000	2.9801	2.9801	9.6000e-004	0.0000	3.0041
Total	**1.8000e-003**	**0.0213**	**0.0128**	**3.0000e-005**	**1.9300e-003**	**7.9000e-004**	**2.7200e-003**	**2.2000e-004**	**7.3000e-004**	**9.5000e-004**	**0.0000**	**2.9801**	**2.9801**	**9.6000e-004**	**0.0000**	**3.0041**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-003	0.1011	0.0188	2.9000e-004	6.3500e-003	3.1000e-004	6.6600e-003	1.7500e-003	3.0000e-004	2.0400e-003	0.0000	28.3516	28.3516	1.4100e-003	0.0000	28.3867
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0679	0.0679	0.0000	0.0000	0.0679
Total	**3.0300e-003**	**0.1011**	**0.0190**	**2.9000e-004**	**6.4300e-003**	**3.1000e-004**	**6.7400e-003**	**1.7700e-003**	**3.0000e-004**	**2.0600e-003**	**0.0000**	**28.4194**	**28.4194**	**1.4100e-003**	**0.0000**	**28.4546**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0131	0.0000	0.0131	6.7300e-003	0.0000	6.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6500e-003	0.0404	0.0195	4.0000e-005		1.8300e-003	1.8300e-003		1.6800e-003	1.6800e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**3.6500e-003**	**0.0404**	**0.0195**	**4.0000e-005**	**0.0131**	**1.8300e-003**	**0.0149**	**6.7300e-003**	**1.6800e-003**	**8.4100e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	**6.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1357**	**0.1357**	**0.0000**	**0.0000**	**0.1358**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0131	0.0000	0.0131	6.7300e-003	0.0000	6.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6500e-003	0.0404	0.0195	4.0000e-005		1.8300e-003	1.8300e-003		1.6800e-003	1.6800e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**3.6500e-003**	**0.0404**	**0.0195**	**4.0000e-005**	**0.0131**	**1.8300e-003**	**0.0149**	**6.7300e-003**	**1.6800e-003**	**8.4100e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	**6.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1357**	**0.1357**	**0.0000**	**0.0000**	**0.1358**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.6028	1.4563	2.5000e-003		0.0817	0.0817		0.0783	0.0783	0.0000	207.6487	207.6487	0.0409	0.0000	208.6701
Total	**0.2045**	**1.6028**	**1.4563**	**2.5000e-003**		**0.0817**	**0.0817**		**0.0783**	**0.0783**	**0.0000**	**207.6487**	**207.6487**	**0.0409**	**0.0000**	**208.6701**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3600e-003	0.2888	0.0612	7.4000e-004	0.0177	6.0000e-004	0.0183	5.1300e-003	5.8000e-004	5.7100e-003	0.0000	70.7321	70.7321	3.8800e-003	0.0000	70.8292
Worker	0.0537	0.0382	0.4004	1.2600e-003	0.1328	8.9000e-004	0.1337	0.0353	8.2000e-004	0.0362	0.0000	113.9834	113.9834	2.7200e-003	0.0000	114.0515
Total	**0.0620**	**0.3270**	**0.4616**	**2.0000e-003**	**0.1506**	**1.4900e-003**	**0.1521**	**0.0405**	**1.4000e-003**	**0.0419**	**0.0000**	**184.7155**	**184.7155**	**6.6000e-003**	**0.0000**	**184.8807**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.6028	1.4563	2.5000e-003		0.0817	0.0817		0.0783	0.0783	0.0000	207.6485	207.6485	0.0409	0.0000	208.6698
Total	**0.2045**	**1.6028**	**1.4563**	**2.5000e-003**		**0.0817**	**0.0817**		**0.0783**	**0.0783**	**0.0000**	**207.6485**	**207.6485**	**0.0409**	**0.0000**	**208.6698**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3600e-003	0.2888	0.0612	7.4000e-004	0.0177	6.0000e-004	0.0183	5.1300e-003	5.8000e-004	5.7100e-003	0.0000	70.7321	70.7321	3.8800e-003	0.0000	70.8292
Worker	0.0537	0.0382	0.4004	1.2600e-003	0.1328	8.9000e-004	0.1337	0.0353	8.2000e-004	0.0362	0.0000	113.9834	113.9834	2.7200e-003	0.0000	114.0515
Total	**0.0620**	**0.3270**	**0.4616**	**2.0000e-003**	**0.1506**	**1.4900e-003**	**0.1521**	**0.0405**	**1.4000e-003**	**0.0419**	**0.0000**	**184.7155**	**184.7155**	**6.6000e-003**	**0.0000**	**184.8807**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3200e-003	0.0532	0.0589	9.0000e-005		2.9100e-003	2.9100e-003		2.6900e-003	2.6900e-003	0.0000	7.7524	7.7524	2.4600e-003	0.0000	7.8138
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.3200e-003**	**0.0532**	**0.0589**	**9.0000e-005**		**2.9100e-003**	**2.9100e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**7.7524**	**7.7524**	**2.4600e-003**	**0.0000**	**7.8138**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.7000e-004	1.7900e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5089	0.5089	1.0000e-005	0.0000	0.5092
Total	**2.4000e-004**	**1.7000e-004**	**1.7900e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5089**	**0.5089**	**1.0000e-005**	**0.0000**	**0.5092**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3200e-003	0.0532	0.0589	9.0000e-005		2.9100e-003	2.9100e-003		2.6900e-003	2.6900e-003	0.0000	7.7524	7.7524	2.4600e-003	0.0000	7.8138
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.3200e-003**	**0.0532**	**0.0589**	**9.0000e-005**		**2.9100e-003**	**2.9100e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**7.7524**	**7.7524**	**2.4600e-003**	**0.0000**	**7.8138**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.7000e-004	1.7900e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5089	0.5089	1.0000e-005	0.0000	0.5092
Total	**2.4000e-004**	**1.7000e-004**	**1.7900e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5089**	**0.5089**	**1.0000e-005**	**0.0000**	**0.5092**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**1.4014**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.0500e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1534	1.1534	3.0000e-005	0.0000	1.1541
Total	**5.4000e-004**	**3.9000e-004**	**4.0500e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1534**	**1.1534**	**3.0000e-005**	**0.0000**	**1.1541**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**1.4014**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.0500e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1534	1.1534	3.0000e-005	0.0000	1.1541
Total	**5.4000e-004**	**3.9000e-004**	**4.0500e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1534**	**1.1534**	**3.0000e-005**	**0.0000**	**1.1541**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Enclosed Parking with Elevator	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
High Turnover (Sit Down Restaurant)	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	138.5720	138.5720	0.0137	2.8300e-003	139.7565
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	138.5720	138.5720	0.0137	2.8300e-003	139.7565
NaturalGas Mitigated	0.0119	0.1025	0.0491	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	117.7647	117.7647	2.2600e-003	2.1600e-003	118.4645
NaturalGas Unmitigated	0.0119	0.1025	0.0491	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	117.7647	117.7647	2.2600e-003	2.1600e-003	118.4645

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.93816e+006	0.0105	0.0893	0.0380	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4274	103.4274	1.9800e-003	1.9000e-003	104.0420
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	268672	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	14.3374	14.3374	2.7000e-004	2.6000e-004	14.4226
Total		**0.0119**	**0.1025**	**0.0491**	**6.5000e-004**		**8.2200e-003**	**8.2200e-003**		**8.2200e-003**	**8.2200e-003**	**0.0000**	**117.7647**	**117.7647**	**2.2500e-003**	**2.1600e-003**	**118.4645**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.93816e+006	0.0105	0.0893	0.0380	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4274	103.4274	1.9800e-003	1.9000e-003	104.0420
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	268672	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	14.3374	14.3374	2.7000e-004	2.6000e-004	14.4226
Total		**0.0119**	**0.1025**	**0.0491**	**6.5000e-004**		**8.2200e-003**	**8.2200e-003**		**8.2200e-003**	**8.2200e-003**	**0.0000**	**117.7647**	**117.7647**	**2.2500e-003**	**2.1600e-003**	**118.4645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	889532	118.6245	0.0117	2.4200e-003	119.6385
Enclosed Parking with Elevator	107238	14.3009	1.4100e-003	2.9000e-004	14.4231
High Turnover (Sit Down Restaurant)	42342.4	5.6466	5.6000e-004	1.2000e-004	5.6949
Total		**138.5720**	**0.0137**	**2.8300e-003**	**139.7565**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	889532	118.6245	0.0117	2.4200e-003	119.6385
Enclosed Parking with Elevator	107238	14.3009	1.4100e-003	2.9000e-004	14.4231
High Turnover (Sit Down Restaurant)	42342.4	5.6466	5.6000e-004	1.2000e-004	5.6949
Total		**138.5720**	**0.0137**	**2.8300e-003**	**139.7565**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9675	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584
Unmitigated	0.9675	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7776					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0499	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584
Total	**0.9675**	**0.0190**	**1.6506**	**9.0000e-005**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**2.6934**	**2.6934**	**2.6000e-003**	**0.0000**	**2.7584**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7776					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0499	0.0190	1.6506	9.0000e-005		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	2.6934	2.6934	2.6000e-003	0.0000	2.7584
Total	**0.9675**	**0.0190**	**1.6506**	**9.0000e-005**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**2.6934**	**2.6934**	**2.6000e-003**	**0.0000**	**2.7584**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.3283	0.0158	9.4500e-003	19.5380
Unmitigated	19.3428	0.0196	0.0118	23.3457

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	14.4642 / 9.11873	18.8387	0.0190	0.0114	22.7127
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0.485654 / 0.0309992	0.5041	6.2000e-004	3.8000e-004	0.6331
Total		**19.3428**	**0.0196**	**0.0118**	**23.3457**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	11.5714 / 9.11873	15.9222	0.0153	9.1400e-003	19.0286
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0.388523 / 0.0309992	0.4062	5.0000e-004	3.0000e-004	0.5094
Total		**16.3283**	**0.0158**	**9.4400e-003**	**19.5380**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.1335	0.7762	0.0000	32.5377
Unmitigated	13.1335	0.7762	0.0000	32.5377

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	51.9	10.5352	0.6226	0.0000	26.1006
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	12.8	2.5983	0.1536	0.0000	6.4371
Total		**13.1335**	**0.7762**	**0.0000**	**32.5377**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	51.9	10.5352	0.6226	0.0000	26.1006
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	12.8	2.5983	0.1536	0.0000	6.4371
Total		**13.1335**	**0.7762**	**0.0000**	**32.5377**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	1341	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Total	**0.0550**	**0.2460**	**0.1403**	**2.6000e-004**		**8.0900e-003**	**8.0900e-003**		**8.0900e-003**	**8.0900e-003**	**0.0000**	**25.5325**	**25.5325**	**3.5800e-003**	**0.0000**	**25.6219**

11.0 Vegetation

ATTACHMENT G: TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN AND TRANSPORTATION IMPACT REVIEW

FEHR PEERS

Draft Memorandum

Date: February 18, 2021

To: Emilie Wolfson, Urban Planning Partners

From: Jordan Brooks and Sam Tabibnia, Fehr & Peers

Subject: 1396 5th Street – Transportation and Parking Demand Management Plan

Ok20-0365

The proposed 1396 5th Street project is required to prepare a Transportation and Parking Demand Management (TDM) Plan per the *City of Oakland's Transportation Impact Review Guidelines* and the City's Standard Conditions of Approval. Since the Project would generate more than 50 net new peak hour trips, the goal of the TDM Plan is to achieve a 10 percent vehicle trip reduction (VTR). This memorandum describes the project and setting and lists the mandatory TDM strategies that the project shall implement to achieve the 10 percent VTR.

Project Description

The proposed project would be located adjacent to the West Oakland BART Station, bounded by the BART tracks to the north, Kirkham Street to the east, 5th Street to the south, and Mandela Parkway to the west. Based on the project site plan dated January 1, 2021, the project would consist of 222 multi-family dwelling units on a currently vacant site. The project would include a ground-level garage accommodating 41 parking spaces with a full-access driveway on Kirkham Street.

Project Location

The project would be located in West Oakland, near a dense employment area and within walking distance of neighborhood-serving services, retail, and restaurants. The project is adjacent to the West Oakland BART Station and about 0.1 miles from frequent bus service at the BART Station (Routes 14 and 62, with 15-minute peak headways).

The project's proximity to regional transit, employment centers, and other neighborhood amenities is likely to result in relatively high rates of walking, bicycling, and transit use by residents and visitors. This is evidenced in part by the travel patterns of the area's existing residents. Based on US Census data, **Table 1** summarizes the commute mode split for residents in surrounding census tracts and **Table 2** summarizes vehicle ownership for households with employed residents. Although 62

percent of households have one or more vehicles at home, only 51 percent of employed residents drive to work, while 33 percent take public transit, and ten percent either walk or bike to work.

As documented in the project Transportation Impact Review Memorandum, the number of automobile trips generated by the project is estimated to be slightly more than half of trips generated- by a typical suburban residential development, as shown in **Table 3**. The trip generation accounts for the reduction in automobile trips due to the project location near BART.

Table 1: Journey to Work for Employed Residents in Nearby Census Tracts

Transportation Mode	Percent of Employed Residents
Drive Alone	44%
Carpool	7%
Public Transportation	33%
Bicycle	5%
Walk	5%
Work from Home	6%
Total	**100%**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates, Census Tracts 4018, 4022, 4024, 4025, and 4105, Table B08006.

Table 2: Vehicle Ownership for Renter Households in Nearby Census Tracts

Vehicles Available	Percent of Renter Households
No vehicle available	39%
1 vehicle available	43%
2 vehicles available	14%
3+ vehicles available	5%
Total	**100%**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates, Census Tracts 4018, 4022, 4024, 4025, and 4105, Table B25044.

Table 3: Project Trip Generation Summary

Mode	Mode Share Adjustment Factors[1]	Daily	AM Peak Hour	PM Peak Hour
Automobile	0.531	640	42	52
Transit	0.297	360	23	29
Bike	0.051	60	4	5
Walk	0.105	130	8	10
	Total Trips	**1,190**	**77**	**96**

Notes:

1. Based on *City of Oakland TIRG*, for an urban environment within 0.5 miles of a BART station.

Source: Fehr & Peers, 2020.

Mandatory TDM Strategies

This section describes the mandatory strategies that shall be implemented as part of the project. These strategies shall be directly implemented by the project applicant and building management. The City of Oakland Standard Conditions of Approval lists infrastructure and operational strategies that must be incorporated into a TDM plan based on project location and other characteristics. **Table 4** presents these strategies and indicates their applicability to the proposed project.

Table 5 describes all mandatory TDM strategies that apply to the project, as well as the effectiveness of each strategy primarily based on research compiled in Quantifying Greenhouse Gas Mitigation Measures (California Air Pollution Control Officers Association [CAPCOA], August 2010). The CAPCOA report is a resource for local agencies to quantify the benefit, in terms of reduced travel demand, of implementing various TDM strategies.

The mandatory strategies in Table 5 are generally targeted at project residents. While some of the mandatory strategies would also affect the travel behavior of residential visitors, this group are not directly targeted with TDM programs because these visitors would likely not be aware of TDM programs or visit frequently enough to make them cost effective.

The VTR estimates in Table 5 represent conservative assumptions about potential trip reduction at the low end of the range. It is expected that the high end of the VTR range would be achieved with this TDM plan due to the project location adjacent to BART and the limited on-site parking supply.

Table 4: Application of TDM Plan Components

TDM Strategy	Required When	Required for Proposed Project?
Bus boarding bulbs or islands	• A bus boarding bulb or island does not already exist, and a bus stop is located along the project frontage; and/or • A bus stop along the project frontage serves a route with 15 minutes or better peak hour service and has a shared bus-bike lane curb	No, a bus stop is not located along the project frontage
Bus shelter	• A stop with no shelter is located within the project frontage, or • The project is located within 0.10 miles of a flag stop with 25 or more boardings per day	No, a bus stop is not located along the project frontage, and the existing and planned bus stops within 0.10 miles of the project where a shelter can be accommodated already have a shelter or will have a shelter installed as part of the West Oakland BART Station TOD project
Concrete bus pad	• A bus stop is located along the project frontage and a concrete bus pad does not already exist	No, a bus stop is not located along the project frontage
Curb extensions or bulb-outs	• Identified as an improvement within site analysis	**Yes, the project would provide bulb-out at the intersections adjacent to the project site**
Implementation of a corridor-level bikeway improvement	• A buffered Class 2 or Class 4 bikeway facility is in a local or county adopted plan within 0.10 miles of the project location; and • The project would generate 500 or more daily bicycle trips	No, the project would not generate 500 or more daily bicycle trips
Implementation of a corridor-level transit capital improvement	• A high-quality transit facility is in a local or county adopted plan within 0.25 miles of the project location; and • The project would generate 400 or more peak period transit trips	No, the project would not generate 400 or more peak period transit trips
Installation of amenities such as lighting; pedestrian-oriented green infrastructure, trees, or other greening landscape; and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan	• Always required	**Yes, the project would upgrade the pedestrian amenities adjacent to the site**

Table 4: Application of TDM Plan Components

TDM Strategy	Required When	Required for Proposed Project?
Installation of safety improvements identified in the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.)	• When improvements are identified in the Pedestrian Master Plan along project frontage or at an adjacent intersection	**No, improvements are not identified in the Pedestrian Master Plan, but the project would provide bulb-outs and directional curb ramps at intersections adjacent to the project**
In-street bicycle corral	• A project includes more than 10,000 square feet of ground floor retail, is located along a Tier 1 bikeway, and on-street vehicle parking is provided along the project frontages.	No, the project does not include any ground floor retail
Intersection improvements, including but not limited to visibility improvements, shortening corner radii, pedestrian safety islands, accounting for pedestrian desire lines.	• Identified as an improvement within site analysis	**Yes, the project would provide bulb-outs and directional curb ramps at the intersections adjacent to the project**
New sidewalk, curb ramps, curb and gutter meeting current City and ADA standards	• Always required	**Yes, the project would upgrade the sidewalks along project frontage, and provide bulb-outs and directional curb ramps at the intersections adjacent to the project**
No monthly permits and establish minimum price floor for public parking	• If proposed parking ratio exceeds 1:1000 sf (commercial)	No, the project would not provide off-street commercial parking
Parking garage is designed with retrofit capability	• Optional if proposed parking ratio exceeds 1:1.25 (residential) or 1:1000 sf (commercial)	No, residential parking ratio is less than 1.25 and no off-street commercial parking is provided
Parking space reserved for car share	• If a project is providing parking and a project is located within downtown. One car share space reserved for buildings between 50 – 200 units, then one car share space per 200 units.	**No, the project is not located in a downtown zone, but the project would offer to provide parking for one car-share vehicle**
Paving, lane striping or restriping (vehicle and bicycle), and signs to midpoint of street section	• Typically required	**Yes, the project would update the paving and striping along the project frontage to midpoint of street section**

Table 4: Application of TDM Plan Components

TDM Strategy	Required When	Required for Proposed Project?
Pedestrian crossing improvements, pedestrian-supportive signal changes, including but not limited to reducing signal cycle lengths to less than 90 seconds to avoid pedestrian crossings against the signal, providing a leading pedestrian interval, provide a "scramble" signal phase where appropriate.	• Identified as an improvement within site analysis • Identified as an improvement within operations analysis	No, the signal adjacent to the project already has a cycle less than 90 second. No signal improvements identified in the site analysis.
Real-time transit information system	• A project frontage block includes a bus stop or BART station and is along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	**Yes, included in the TDM Plan**
Relocating bus stops to far side	• A project is located within 0.10 mile of any active bus stop that is currently near-side	No, the project is located more than 0.1 miles from a near-side bus stop
Signal upgrades, including typical traffic lights, pedestrian signals, bike actuated signals, transit only signals	• Project size exceeds 100 residential units, 80,000 sf of retail, or 100,000 sf of commercial; and • Project frontage abuts an intersection with signal infrastructure older than 15 years	No, there are no signal infrastructure that need upgrading adjacent to the project
Transit queue jumps	• Identified as a needed improvement within operations analysis of a project with frontage along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	No, the project does not have frontage along any transit routes
Trenching and placement of conduit for providing traffic signal interconnect	• Project size exceeds 100 units, 80,000 sf of retail, or 100,000 sf of commercial; and • Project frontage block is identified for signal interconnect improvements as part of a planned ITS improvement; and • A major transit improvement is identified within operations analysis requiring traffic signal interconnect	No, major transit improvements have not been identified in an operations analysis requiring traffic signal interconnect
Unbundled parking	• If proposed parking ratio exceeds 1:1.25 (residential)	**Yes, the project would provide unbundled parking**

Sources: City of Oakland Standard Conditions of Approval as of January 2020 and summarized by Fehr & Peers, 2020

Table 5: Mandatory TDM Plan Components

TDM Strategy	Description	Estimated Vehicle Trip Reduction[1]
A. Infrastructure Improvements	Various improvements	N/A[2]
B. Limited Parking Supply	Project would provide about 0.2 parking spaces per unit, less than auto ownership of 0.9 vehicles in the project area.	8 – 12%[3]
C. Unbundled Parking	Residents are required to pay for a parking space separately from their monthly rent	
D. Residential Parking Management	Restrict on-site parking to a maximum of one parking space per unit, thereby discouraging multiple car ownership	
E. Transit Fare Subsidy	Provide a monthly transit subsidy to Project residents[4]	5-10%
F. Carshare Parking Spaces	Dedicated on-site carshare parking spaces	<1%
G. Bicycle Parking Supply and Monitoring	Provide bicycle parking above the minimum requirement and monitor usage of the bicycle parking facilities	<1%
H. Carpool and Ride-Matching Assistance	Assist project residents and employees in forming carpools	<1%
I. TDM Coordinator	Coordinator responsible for implementing and managing the TDM Plan	1-2%[2]
J. Marketing and Resident Education	Active marketing of carpooling, BART, AC Transit, bikesharing, and other non-auto modes	
	Total Estimated Vehicle Trip Generation	15% - 25%

Notes:

1. The focus of the CAPCOA document is reductions to VMT but the research used to generate the reductions also indicates vehicle trip reductions are applicable as well. For the purposes of this analysis the VTR is assumed to equal the VMT reduction. See the cited CAPCOA research for more information and related information on page 8 of the BAAQMD *Transportation Demand Management Tool User's Guide* (June 2012).
2. The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that at the time of the CAPCOA report development, existing literature did not provide a robust methodology for calculating its effectiveness. In addition, many strategies are complementary to each other and isolating their specific effectiveness may not be feasible.
3. CAPCOA document suggest that limited parking supply combined with unbundled parking can result in up to 20% VTR. However, the CAPCOA results assume minimal other parking facilities in the area. Thus, the CAPCOA-based results are adjusted because free unrestricted on-street parking and paid off-street parking that is at or near capacity during the daytime is available in the project area.
4. Assuming a subsidy of about $2.10 per residential unit per weekday (value to transit user and not necessarily the cost).

Source: Fehr & Peers, 2020.

The TDM strategies include both one-time physical improvements and on-going operational strategies. Physical improvements will be constructed as part of the project and are therefore anticipated to have a one-time capital cost. Some level of ongoing maintenance cost may also be required for certain improvements. Operational strategies provide on-going incentives and support for the use of non-auto transportation modes. These TDM measures have monthly or annual costs and will require on-going management.

A more detailed description of the TDM measures that comprise the mandatory TDM Plan is provided below:

A. *Infrastructure Improvements* – the following infrastructure improvements in the vicinity of the project would improve the bicycling, walking, and transit systems in the area and further encourage the use of these modes:

   - Providing all sidewalk upgrades along the project frontage
   - Providing bulb-outs and directional curb ramps at the intersections adjacent to the project site.
   - Providing a curb alignment with the proposed directional curb ramps to the west and east of the project along 5th Street

B. *Limited Parking Supply* – The project would provide 41 off-street automobile parking spaces for project residents, which corresponds to about 0.2 spaces per unit. This is less than the current average auto ownership of 0.9 automobile per household in the project area, as shown in Table 2.

C. *Unbundle Parking* – Unbundle parking costs from housing costs (as required by Oakland Municipal Code, Section 17.116.310). This would result in residents paying one price for the residential unit and a separate price for parking, should they opt for a space. The price of a parking space can be adjusted so that resident parking demand matches the building's parking supply.

D. *Residential Parking Management* – Restrict parking to maximum of one parking space per unit, thereby discouraging multiple car ownership and/or use. Exceptions will only be made for residents with management approved Reasonable Accommodation Requests. A Reasonable Accommodation Request shall need to demonstrate a hardship wherein a household requires more than one vehicle per unit. Examples could include households with multiple disabled residents requiring vehicles or households with multiple residents with places of work inaccessible via transit.

E. *Transit Fare Subsidy* – Provide a monthly transit benefit to each dwelling unit. Options may include:

   - Participate in AC Transit's Easy Pass Program, where Building Management will purchase an annual Easy Pass per unit for all units in the development

- Offer to provide a regular Adult 31-Day AC Transit Pass at half the price to each unit (Pass is valued at $84.60 as of February 2021) that requests one
- Offer to provide a monthly Clipper Card contribution of about $42.00 to each unit that requests one

F. *Carshare Parking Spaces* – Offer to dedicate for free at least one on-site parking space available for carsharing. Monitor the usage of the carsharing space and adjust if necessary.

G. *Bicycle Parking Supply and Monitoring* – The project would include long-term on-site parking in a secure bicycle room and short-term parking in the form of bike racks along the project frontage. Building management shall monitor the usage of these facilities and provide additional bicycle parking, if necessary.

H. *Carpool and Ride-Matching Assistance Program* – Building management shall offer personalized ride-matching assistance to pair residents interested in forming commute carpools. As an enhancement, the project could use services such as ZimRide, Scoop, Enterprise RideShare, or 511.org RideShare. A similar personalized ride-matching assistance program could also be provided to site employees.

I. *On-Site TDM Coordinator* – Building management shall designate an on-site TDM coordinator responsible for implementing and managing the TDM Plan. The TDM coordinator would also be responsible for ensuring that all residents, employees, and visitors are aware of their transportation options and would serve as a point of contact regarding the TDM programs.

J. *Marketing and Resident Education* – Site management shall provide residents and employees information about transportation options. This information would also be posted at central location(s) and be updated as necessary. This information shall include:

- *Transit Routes* – Promote the use of transit by providing user-focused maps. These maps provide residents with wayfinding to nearby transit stops and transit-accessible destinations and are particularly useful for those without access to portable mapping applications.
- *Real-time Transit Information System* – The project should consider installing real-time transit information, such as TransitScreen, in a visible location to provide residents with up-to-date transit arrival and departure times.
- *Transit Fare Discounts* – Provide information about local discounted fare options offered by BART and AC Transit, including discounts for youth, elderly, persons with disabilities, and Medicare cardholders.
- *Car Sharing* – Promote accessible car sharing programs, such as Zipcar, and Getaround by informing residents and employees of on-site and nearby car sharing locations and applicable membership information.

- *Ridesharing* – Provide residents and employees with phone numbers and contact information for ride sharing options including Uber, Lyft, and Oakland taxi cab services.
- *Carpooling* – Provide residents and employees with phone numbers and contact information for carpool matching services such as the Metropolitan Transportation Commission's 511 RideMatching.
- *Walking and Biking Events* – Provide information about local biking and walking events, such as Oaklavia, as events are planned.
- *Bikeshare/Scooters* – Educate residents and employees about nearby bike sharing station locations and membership information (nearest Bay Wheels bikeshare station is about 0.1 miles west of the project site on 7th Street adjacent to the West Oakland BART Station) and dock-less bikeshare/scooters.

Monitoring, Evaluation and Enforcement

According to the City's *Standard Condition of Approval #77*, only projects generating more than 100 net new peak hour trips are required to submit an annual compliance report for the first five years following completion of the project for review and approval by the City. Since the proposed project would generate fewer than 100 net peak hour automobile trips, the project applicant is not required to submit an annual compliance report to the City.

Please contact Sam Tabibnia (s.tabibnia@fehrandpeers.com or 510-835-1943) with questions or comments.

FEHR PEERS

Draft Memorandum

Date: January 22, 2021

To: Emilie Wolfson, Urban Planning Partners

From: Sam Tabibnia and Jordan Brooks, Fehr & Peers

Subject: 1396 5th Street - Transportation Impact Review (Non-CEQA)

OK20-0365

This memorandum summarizes the non-CEQA transportation assessment that Fehr & Peers completed for the proposed 1396 5th Street project in Oakland. This document provides a brief description of the project, an estimate of project trip generation, review of the project's consistency with the West Oakland Specific Plan (WOSP) EIR, and a review of the project site plan and surrounding areas for access and circulation for various modes. This memorandum also includes recommendations that improve multi-modal access, circulation, and safety.

Project Description

The proposed project would be located adjacent to the West Oakland BART Station, bounded by the BART tracks to the north, Kirkham Street to the east, 5th Street to the south, and Mandela Parkway to the west. Based on the project site plan dated January 1, 2021, the project would consist of 222 multi-family dwelling units on a currently vacant site. The project would include a ground-level garage accommodating 41 parking spaces with a full-access driveway on Kirkham Street.

Trip Generation and Intersection Counts

Automobile Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access the project on any given day. **Table 1** presents the trip generation for the project. Trip generation data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual (10th Edition)* was used as a starting point to estimate the vehicle trip generation.

Table 1: Project Automobile Trip Generation

Land Use	ITE Code	Size[1]	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential[2]	221	222 DU	1,210	21	59	80	60	38	98
Non-Auto Reduction[3]			-570	-10	-28	-38	-28	-18	-46
Net New Automobile Trips			***640***	***11***	***31***	***42***	***32***	***20***	***52***

Notes:
1. DU = Dwelling Units.
2. ITE Trip Generation (10th Edition) land use category 221 (Multifamily Housing (Mid-Rise) in General Urban/Suburban Setting):
Daily: T = 5.44 * (X)
AM Peak Hour: T = 0.36 * (X) (21% in, 79% out)
PM Peak Hour: T = 0.44 * (X) (65% in, 35% out)
3. Reduction of 46.9% assumed, based on City of Oakland Transportation Impact Review Guidelines using Census data for urban environments within 0.5 miles of a BART Station.
Source: Fehr & Peers, 2020.

ITE's *Trip Generation Manual (10th Edition)* is primarily based on data collected at single-use suburban sites where the automobile is often the only travel mode. However, the project site is in a moderately dense area located near some existing neighborhood-serving retail and industrial uses, and several projects are proposed in the area that would increase residential and employment densities and provide neighborhood-serving retail uses. Additionally, the project is located within two miles of Downtown Oakland, a dense employment center, and is adjacent to high-frequency regional transit. Thus, many trips generated by the project may be walking, bicycling, or transit trips.

Since the project is adjacent to the West Oakland BART Station, this analysis reduces the ITE-based trip generation by 47 percent to account for the non-vehicular trips. This adjustment is consistent with the City of Oakland's Transportation Impact Review Guidelines (TIRG) and is based on US Census commute data for Alameda County from the 2014 5-Year Estimates of the American Community Survey (ACS), which shows that the non-automobile mode share for urban areas within 0.5 miles of a BART Station is about 47 percent.

The project is estimated to generate about 640 daily, 42 AM peak hour, and 52 PM peak hour automobile trips.

Non-Automobile Trip Generation

Consistent with the City of Oakland's TIRG, **Table 2** presents the estimates of project trip generation for all travel modes for the project.

Table 2: Project Trip Generation by Travel Mode

Mode	Mode Share Adjustment Factors[1]	Daily	AM Peak Hour	PM Peak Hour
Automobile	0.531	640	42	52
Transit	0.297	360	23	29
Bike	0.051	60	4	5
Walk	0.105	130	8	10
	Total Trips	**1,190**	**77**	**96**

Notes:
1. Based on *City of Oakland TIRG*, for an urban environment within 0.5 miles of a BART station.
Source: Fehr & Peers, 2020.

Study Intersection Selection

According to the City of Oakland's TIRG, the criteria for selecting study intersections include:

- All intersection(s) of streets adjacent to project site;
- All signalized intersection(s), all-way stop-controlled intersection(s) or roundabouts where 100 or more peak hour trips are added by the project;
- All signalized intersection(s) with 50 or more project-related peak hour trips and existing LOS D-E-F; and
- Side-street stop-controlled intersection(s) where 50 or more peak hour trips are added by the project to any individual movement other than the major-street through movement.

The project would not add 50 or more peak hour trips to any intersection. According to the above criteria, the following two intersections should be evaluated because they are adjacent to the project site:

1. 5th Street/Mandela Parkway
2. 5th Street/Kirkham Street

Intersection operations and collision histories at these two intersections were evaluated in recent transportation assessments for nearby development projects. The 5th Street/Mandela Parkway intersection was evaluated as part of the transportation assessment for the West Oakland BART TOD project (published January 2019), and the 5th Street/Kirkham Street intersection was evaluated as part of the transportation assessment for the 500 Kirkham Street Project (published April 2019).

Those evaluations are not repeated for this assessment, as the findings of those analyses remain applicable to this project. Both intersections are expected to continue to operate at LOS C or better

during both the AM and PM peak hours, and the collision frequencies are less than predicted for both intersections. The intersection operations and collision history evaluations conducted for the previous projects did not result in any recommended improvements at those two intersections. Additional recommendations beyond what is identified in the site access and circulation analysis presented later in this memorandum are therefore not warranted.

Consistency with WOSP EIR

The proposed project site is located within the 7th Street Opportunity Area of the West Oakland Specific Plan. The project is consistent with the assumptions used in the WOSP EIR for the 7th Street Opportunity Area.

The development evaluated in the WOSP EIR represents the reasonably-foreseeable development expected to occur in the next 20 to 25 years in the Plan Area. The Specific Plan and the EIR intend to provide flexibility in the location, amount, and type of development. Thus, the traffic impact analysis presented in the WOSP EIR remains valid so long as the trip generation for the overall Plan Area remains below the forecasted level.

Since the approval of the WOSP EIR, 13 developments, including this project, have been proposed and are under construction or are in some stage of the City's approval process. **Table 3** summarizes the trip generation for these developments. The 13 developments combined would generate about 1,405 AM peak hour and 1,616 PM peak hour trips, which is about 25 percent of the total trip generation estimated in the WOSP EIR.

Since the proposed project, combined with the other developments currently proposed or under construction in the Plan Area, would generate fewer automobile trips than assumed in the WOSP EIR, the proposed project would not result in additional impacts on traffic operations at the intersections analyzed in the WOSP EIR.

Table 3: Trip Generation for Development Projects within the WOSP Area

Mode Mode Share Adjustment Factors[1] Daily	AM Peak Hour	PM Peak Hour
2201 Filbert (Icehouse) [1]	52	84
532 Union Street (The Union Project) [2]	34	47
1708 Wood Street (Roadway Express) [3]	50	58
Mandela Parkway Hotel [4]	135	141
914 West Grand Avenue [5]	15	17
34th and San Pablo Affordable Housing Development [6]	38	41
1450 32nd Street [7]	12	15
1919 Market Street [8]	34	41
500 Kirkham Street [9]	345	379
801 Pine Street (The Phoenix)[10]	84	97
West Oakland BART TOD Project [11]	472	548
2715 Adeline Street[12]	92	95
1396 5th Street[13]	42	52
Total Projects Trips	**1,405**	**1,616**
WOSP Estimated Trip Generation [14]	5,537	6,698
Percent Complete	***25%***	***24%***

Notes:

1. Source: *West Grand Avenue & Market Street CEQA Analysis* (August 20, 2015)
2. Source: *532 Union Street CEQA Analysis* (July 15, 2016)
3. Source: *1708 Wood Street CEQA Analysis* (June 20, 2016)
4. Source: *914 West Grand Avenue Project in Oakland – Transportation Impact Review* (November 17, 2017)
5. Source: *Mandela Hotel in Oakland – Transportation Assessment* (November 29, 2017)
6. Source: *34th and San Pablo Project – Transportation Impact Review* (October 20, 2017)
7. Source: *1450 32nd Street – Preliminary Transportation Impact Analysis* (July 28, 2017)
8. Source: *1919 Market Street Project in Oakland – Preliminary Transportation Assessment* (August 8, 2017)
9. Source: *500 Kirkham Street – Planning-Related Non-CEQA Transportation Impact Review (March 31, 2019)*
10. Source: *The Phoenix – Transportation Assessment Memorandum* (November 29, 2018)
11. Source: *West Oakland BART TOD Transportation Assessment (Non-CEQA) Memorandum* (January 29, 2019)
12. Source: *2715 Adeline – Transportation Assessment (Non-CEQA) Memorandum* (June 21, 2019)
13. Source: Table 1
14. Source: *West Oakland Specific Plan Draft EIR* (May 2014), Table 4.10-4

Source: Fehr & Peers, 2020.

Site Access and Circulation Analysis

Fehr & Peers reviewed the project site plan dated January 1, 2021 and the existing street network adjacent to the project site to evaluate safety, access, and circulation for all travel modes. This analysis provides recommendations to improve access and circulation, including relevant improvements identified in recent transportation assessments for nearby projects.

Automobile Access and Circulation

The proposed project would provide a ground floor parking garage, which would be accessed through a driveway on Kirkham Street about 50 feet north of 5th Street. The garage would provide 41 perpendicular parking spaces for residents, including two accessible parking spaces.

The 5th Street/Kirkham Street intersection is side-street stop-controlled with a stop sign on the Kirkham Street approach. The 50 feet between the garage driveway and the intersection provides queueing space for about two vehicles. Kirkham Street is a short, low-volume, one-block street. The proposed 500 Kirkham Street project would not add any additional driveways on Kirkham Street. The street would not have any on-street parking on the west side of the street and limited on-street parking may be provided on the east side of the street. As a result, minimal traffic volumes are expected on this block of Kirkham Street, and vehicles queued on southbound Kirkham Street at 5th Street are not expected to block the project driveway and vehicles on northbound Kirkham Street waiting to turn into the project driveway are not expected to queue and spill back onto 5th Street.

> **Recommendation 1:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, implement the following:
>
> - Stripe "KEEP CLEAR" on southbound Kirkham Street at the project garage driveway to minimize queues blocking the project driveway.
> - Install no stopping anytime signage on the west side of Kirkham to discourage pick-ups and drop offs.

The garage driveway would provide adequate sight distance between exiting motorists and pedestrians on the adjacent sidewalk because it would provide clear lines-of-sight between a motorist ten feet back from the sidewalk and a pedestrian ten feet away on each side of the driveway. The garage driveway would also provide adequate sight distance between exiting motorists and vehicles along both directions of Kirkham Street because there will be no on-street parking on the west side of Kirkham Street to block the sight lines.

Internal circulation in the garage would be provided by a single two-way drive aisle with parking spaces on both sides. Section 17.116.210 of the Oakland Municipal Code requires a minimum drive aisle width of 21 feet for residential facilities with perpendicular parking. The drive aisle would be 21 feet wide, meeting code requirements. The garage would provide adequate circulation for

passenger vehicles, and vehicles would have adequate space to maneuver into and out of the parking spaces.

Bicycle Parking and Bicycle Access

Chapter 17.117 of the Oakland Municipal Code requires long-term and short-term bicycle parking for new buildings. Long-term bicycle parking includes lockers or locked enclosures, and short-term bicycle parking includes bicycle racks. Section 17.117.090 requires one long-term space for every four multi-family dwelling units and one short-term space for every 20 multi-family dwelling units.

Table 4 presents the bicycle parking requirements for the project. The project is required to provide 56 long-term parking spaces and 11 short-term spaces. The project would provide 56 long-term and 12 short-term bicycle parking spaces, which meets code requirements. Long-term bicycle parking would be provided in a secure bicycle room on the ground level, accessible through an entrance on Mandela Parkway or through an internal walkway connecting to the parking garage, elevator, and the main building lobby. The short-term bicycle parking spaces would be provided in the form of six bicycle racks—two each near the main entrance on Mandela Parkway, the building entrance on 5th Street, and the building entrance on Kirkham Street.

Table 4: Bicycle Parking Requirements

Land Use	Size[1]	Long-Term		Short-Term	
		Spaces per Unit[2]	Spaces	Spaces per Unit[2]	Spaces
Residential	222 DU	1:4 DU	56	1:20 DU	11
Total Required Bicycle Spaces			56		11
Total Bicycle Spaces Provided			56		12
Bicycle Parking Met?			**Yes**		**Yes**

Notes:
1. DU = dwelling unit
2. Based on Oakland Municipal Code Sections 17.117.090 and 17.117.110.

Source: Fehr & Peers, 2020.

Currently, Class 2 bicycle lanes are provided along the project frontage on Mandela Parkway, which connect to 3rd Street in the south and Horton Street in the north. In the project vicinity, Class 2 bicycle lanes are also provided on 7th Street between Peralta Street and Mandela Parkway.

The proposed West Oakland BART Station TOD project would improve bicycle facilities in the vicinity of the project, including by providing one-way Class 4 separated bikeways on both sides of Mandela Parkway between 7th and 5th Streets and raised one-way Class 4 separated bikeways on both sides of 7th Street between Chester Street and Mandela Parkway. The City of Oakland's 2019 bike plan *Let's Bike Oakland* proposes buffered Class 2 bike lanes along the entirety of Mandela

Parkway and on 7th Street between Peralta Street and Mandela Parkway, as well as Class 4 separated bikeways on 7th Street between Mandela Parkway and Clay Street.

The nearest Bay Wheels bikeshare station is on 7th Street just east of Center Street within the street right-of-way, about 0.1 miles from the project site. The West Oakland BART Station TOD project would relocate this station, most likely to the east side of the station near the proposed Class 4 facilities on Mandela Parkway and a proposed bike station.

Pedestrian Access and Circulation

Primary pedestrian access for the project would be through a lobby on Mandela Parkway about 60 feet north of 5th Street, which would connect to the residential levels through elevators and stairwells. This entrance is located about 75 feet south of the planned midblock crossing providing access to the West Oakland BART Station, which may result in pedestrians travelling between the project and BART station to cross Mandela Parkway outside of a legal crosswalk.

> **Recommendation 2:** Explore the feasibility of, and if feasible, relocate the main project entrance further north on Mandela Parkway.

Additional pedestrian access points would be provided on 5th Street about 130 feet east of Mandela Parkway and along the north side of the building, with external walkways connecting to Mandela Parkway and Kirkham Street.

Sidewalks are not currently provided along the project frontage on 5th and Kirkham Streets. An eight-foot sidewalk is provided along the Mandela Parkway frontage. The project would provide a 14-foot sidewalk along the project frontage on 5th Street, an 11-foot sidewalk along the project frontage on Kirkham Street, and a 10-foot sidewalk along the project frontage on Mandela Parkway. The City of Oakland's 2017 Pedestrian Master Plan does not list any planned improvements along the project frontages.

Pedestrian facilities at the intersections adjacent to the site include:

- The 5th Street/Mandela Parkway intersection is signalized and provides diagonal curb ramps with substandard truncated domes on all four corners. The intersection provides a curb extension across the 5th Street approach at the southeast corner and provides marked crosswalks, and pedestrian countdown signal heads and push buttons for all four approaches.
- The 5th Street/Kirkham Street intersection is a side-street stop-controlled T-intersection and provides a diagonal curb ramp on the northeast corner and marked crosswalks across the north and east approaches of the intersection. There is a stop sign on the southbound Kirkham Street approach. The sidewalk has deteriorated and is no longer usable on the northwest side of the intersection, and curb ramps are not provided on the south side of

the intersection. The curb ramp on the northeast corner of the intersection does not provide truncated domes.

The proposed project proposes curb extensions and directional curb ramps with truncated domes at the northeast corner of the 5th Street/Mandela Parkway intersection, and the West Oakland BART Station TOD would provide directional curb ramps with truncated domes at the northwest corner of the intersection. The proposed project also proposes curb extensions at the northeast corner of the 5th Street/Kirkham Street intersection with a directional curb ramp with truncated domes across the north approach, and the 500 Kirkham Street project would provide directional curb ramps with truncated domes at the northeast corner of the intersection.

Recommendation 3: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following should be part of the final design for the project:

- Install directional curb ramps with truncated domes at the southeast corner of the 5th Street/Mandela Parkway intersection.
- Align the proposed directional curb ramp at the northeast corner of the 5th Street/ Mandela Parkway intersection with the directional curb ramp at the northwest corner of the intersection planned by the West Oakland BART Station TOD project to provide the shortest possible crossing distance of Mandela Parkway.
- Align the proposed directional curb ramp at the northwest corner of the 5th Street/Kirkham Street intersection with the directional curb ramp at the northeast corner of the intersection planned by the 500 Kirkham project to provide the shortest possible crossing distance of Kirkham Street.

Transit Access

Transit service providers in the project vicinity include Bay Area Rapid Transit (BART) and AC Transit.

BART provides regional rail service throughout the East Bay and across the Bay, and the project is adjacent to the West Oakland BART Station. AC Transit is the primary bus service provider in the City of Oakland. The nearest bus stops to the project site are at the West Oakland BART Station, which is currently served by Routes 14, 29, 36, and 62 as described in **Table 5**. In addition, eastbound 7th Street west of Mandela Parkway also accommodates bus stops for Routes 29 and 62, as well as intercity buses (Mega Bus and Bolt) and other shuttle services.

Table 5: AC Transit Routes Summary

Line	Description	Weekday Hours of Operation	Weekday Headways[1]	Weekend Hours of Operation	Weekend Headways[1]
14	Fruitvale BART to West Oakland BART via 14th Street	5:00 AM – 11:00 PM	15 min	6:30 AM – 11:15 PM	30 min

29	Emeryville Public Market to Lakeshore via Peralta Street and 10th Street	6:00 AM – 10:45 PM	20 (30) min	6:00 AM – 10:45 PM	30 min
36	UC Berkeley to West Oakland BART via Adeline Street	6:00 AM – 12:45 AM	30 min	6:00 AM – 12:45 AM	30 min
62	Fruitvale BART to West Oakland BART via 7th Street	5:45 AM – 12:45 AM	15 (20) min	6:15 AM – 12:45 AM	20 (30) min

Notes:

1. Headways in parentheses show off-peak headways if different from peak headways.

Source: AC Transit and Fehr & Peers, 2020.

No major changes to the bus routes operating in the vicinity of the project are planned, and the project would not modify access between the project site and these bus stops. The West Oakland BART TOD project would relocate the bus stops currently within the station parking lot area to westbound 5th Street just west of Mandela Parkway and 7th Street eastbound just west of Mandela Parkway. These stops would provide adequate sidewalk widths and a high level of amenities.

Off-Street Automobile Parking Requirements

The Oakland Municipal Code sets minimum and maximum parking requirements. According to Section 17.116.060, the residential project has minimum required parking of 0.5 spaces per unit and maximum of 1.25 spaces per unit.

Table 6 presents the off-street automobile parking requirements for the proposed project, per the Municipal Code. The project is required to provide a minimum of 111 spaces[1], with a maximum of 278 spaces allowed. The proposed project would include 41 off-street parking spaces, less than the minimum required by City Code. The project would have a density bonus which would reduce the minimum required parking. Consistent with Section 17.116.310, all parking would be unbundled, meaning that they would be leased separately from the rent of the dwelling units.

Table 6: Automobile Parking Requirements

Land Use	Size[1]	Required Off-Street Parking Supply		Provided Off-Street Parking Supply	Within Range?
		Minimum	Maximum		
Residential[2]	222 DU	111	278	41	No
Total		**111**	**278**	**41**	**No**

Notes:

[1] Although not reflected in the parking calculations in the project site plan, Section 17.116.110 of the Municipal Code allows the residential minimum parking requirement to be reduced by 30 percent because the project is within a Transit Accessible Area. Thus, the minimum required parking can be reduced to 78 spaces.

1. DU = Dwelling Unit
2. The City of Oakland off-street parking requirement for two-family and multi-family residential in the S-15W zone is a minimum of 0.5 spaces per unit, with a maximum of 1.25 spaces per unit (Section 17.116.060).

Source: Fehr & Peers, 2020.

On-street parking is currently prohibited along the project frontage on all three sides, and parking would continue to be prohibited along the project frontage on Mandela Parkway and Kirkham Street with the project. However, the project would provide 12 on-street parallel parking spaces along the project frontage on 5th Street. The project site plan designates one on-street passenger loading space on 5th Street just east of Mandela Parkway.

> **Recommendation 4:** Coordinate with the City of Oakland to implement the following for the 12 new parking spaces along the project frontage on 5th Street:
>
> - Designate at least one parking space as passenger loading space (white curb) along the project frontage on 5th Street just east of Mandela Parkway to accommodate drop offs and pick-ups by private vehicle and transportation network company (TNC) vehicles.
> - Designate the remaining parking spaces along the project frontage on 5th Street as metered and/or time-restricted parking to prevent BART riders from parking along the project frontage for long period.

Loading Requirements

City Municipal Code Section 17.116.120 requires one off-street loading space with minimum dimensions of 23 feet long, 10 feet wide, and 12 feet high for residential uses larger than 50,000 square feet.

The project would provide one loading space approximately 30 feet long, 18 feet wide, and at least 12 feet high in the ground floor parking garage, meeting Code requirements. This loading space would be accessed through the project driveway on Kirkham Street and would provide adequate space for small trucks to maneuver into and out of.

Conclusion

Per the site plan review, the project would have adequate automobile, bicycle, pedestrian, and transit access and circulation with the inclusion of the following recommendations:

> **Recommendation 1:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, implement the following:
>
> - Stripe "KEEP CLEAR" on southbound Kirkham Street at the project garage driveway to minimize queues blocking the project driveway.
> - Install no stopping anytime signage on the west side of Kirkham to discourage pick-ups and drop offs.

Recommendation 2: Explore the feasibility of, and if feasible, relocate the main project entrance further north on Mandela Parkway.

Recommendation 3: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following should be part of the final design for the project:

- Install directional curb ramps with truncated domes at the southeast corner of the 5th Street/Mandela Parkway intersection.
- Align the proposed directional curb ramp at the northeast corner of the 5th Street/ Mandela Parkway intersection with the directional curb ramp at the northwest corner of the intersection planned by the West Oakland BART Station TOD project to provide the shortest possible crossing distance of Mandela Parkway.
- Align the proposed directional curb ramp at the northwest corner of the 5th Street/Kirkham Street intersection with the directional curb ramp at the northeast corner of the intersection planned by the 500 Kirkham project to provide the shortest possible crossing distance of Kirkham Street.

Recommendation 4: Coordinate with the City of Oakland to implement the following for the 12 new parking spaces along the project frontage on 5th Street:

- Designate at least one parking space as passenger loading spaces (white curb) along the project frontage on 5th Street just east of Mandela Parkway to accommodate drop offs and pick-ups by private vehicle and transportation network company (TNC) vehicles.
- Designate the remaining parking spaces along the project frontage on 5th Street as metered and/or time-restricted parking to prevent BART riders from parking along the project frontage for long period.

Please contact Sam Tabibnia (s.tabibnia@fehrandpeers.com or 510-835-1943) with questions or comments.