Revised Public Review Draft Initial Study/Mitigated Negative Declaration

2555 College Housing Project

Berkeley, CA

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Revised Public Review Draft Initial Study/Mitigated Negative Declaration

Prepared by:

City of Berkeley Planning Department

Land Use Division
1947 Center St., 2nd Floor
Berkeley, CA 94704

Contact:

Katrina Lapira, Associate Planner

(510) 981-7488
klapira@cityofberkeley.info

Prepared with the Assistance of:

501 Canal Blvd., Suite I
Pt. Richmond, CA 94804

Contact:

Gail Ervin

Consulting Principal
(510) 215-3620
gervin@ncenet.com

If you need this document presented in an alternative format, please contact:

Katrina Lapira, Associate Planner
klapira@cityofberkeley.info or (510) 981-7488

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List of Abbreviations

Abbreviation	*Definition*
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC	Avenue Commercial
ACC	ACC Environmental Consultants
AMI	area of median income
APE	area of potential effect
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	Water Quality Control Plan for the San Francisco Basin
BFD	Berkeley Fire Department
bgs	below ground surface
BMC	Berkeley Municipal Code
BMP	best management practice
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CalOSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
City	City of Berkeley

Abbreviation	*Definition*
COA	Condition of Approval
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DMP	Demand Management Plan
EBCE	East Bay Community Energy
EBMUD	East Bay Municipal Utility District
EDR	Environmental Data Resources
EIR	Environmental Impact Report
EMA	Environmental Management Area
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
GHG	greenhouse gas
gpd	gallons per day
HVAC	heating, ventilation, and cooling
IS	Initial Study
LPO	Landmarks Preservation Ordinance
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MDR	Medium Density Residential
MLD	Most Likely Descendent
MMRP	Mitigation Monitoring and Reporting Plan
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards

Abbreviation	*Definition*
NAHC	Native American Heritage Commission
n.d.	no date
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OPR	Office of Planning and Research
OSFM	Office of the State Fire Marshal
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PG&E	Pacific Gas and Electric Company
PPV	peak particle velocity
PM	particulate matter
PRC	Public Resources Code
PV	photovoltaic
REC	Recognized Environmental Condition
ROG	reactive organic gases
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
sf	square foot/feet
SGMP	Soil and Groundwater Management Plan
SLF	Sacred Lands File
SVP	Society of Vertebrate Paleontology
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCP	Transportation Construction Plan
THPO	Tribal Historic Preservation Officer
TMD	Toxics Management Division

Abbreviation	*Definition*
TMDL	Total Maximum Daily Loads
TPH	total petroleum hydrocarbons
TSS	Total System Storage
USFWS	U.S. Fish & Wildlife Service
USGS	United States Geological Survey's
UST	underground storage tank
UWMP	Urban Water Management Plan
VDECS	Verified Diesel Emission Control Strategies
VHFHSZ	Very High Fire Hazard Severity Zones
VMT	vehicle miles traveled
VOC	volatile organic compounds
WEAP	Worker Environmental Awareness Program
WSMP	Water Supply Management Program
WWTP	Wastewater Treatment Plant
ZAB	Zoning Adjustments Board

Initial Study

1. Project Title

2555 College Housing Project

2. Lead Agency Name and Address

City of Berkeley Planning & Development Department, Land Use Division
1947 Center Street, 2nd Floor
Berkeley, California 94704

3. Contact Person, Phone Number, and Email

Katrina Lapira, Associate Planner
(510) 981-7488
klapira@cityofberkeley.info

4. Project Location

The project site encompasses 0.09 acres (3,920 square feet [sf]) and one parcel at 2555 College Avenue (Alameda County Assessor's Parcel Number 055-1847-020-00) in the City of Berkeley. The site is located on the northeast corner of College Avenue and Parker Street.

Figure 1 shows the regional location and project vicinity of the project site and Figure 2 shows an aerial view of the project site's immediate location.

5. Project Sponsor's Name and Address

Panoramic Interests
2539 Telegraph Avenue, Suite 101
Berkeley, CA 94704

6. General Plan Designation

The project site is designated as Medium Density Residential (MDR) in the 2002 City of Berkeley General Plan Land Use Element (City of Berkeley 2002b). The General Plan characterizes the MDR as "a mix of single-family homes and small- to medium-sized multi-family structures." Building density ranges from 20 to 40 dwelling units per net acre, and the population density generally ranges from 44 to 88 persons per acre. Allowable uses for these areas include residential, community

services, schools, home occupations, recreational uses, and open space and institutional facilities.

7. Zoning

The project site is in the Multiple Family Residential Zoning District (R-3). The Berkeley Municipal Code (BMC) lists the following purposes of the R-3 district (BMC Section 23.202.100 R-3 Multiple-Family Residential District):

- Implement the General Plan by encouraging development of relatively high-density residential areas.
- Make available housing for persons who desire both convenience of location and a reasonable amount of usable open space.
- Protect adjacent properties from unreasonable obstruction of light and air.
- Permit the construction of residential structures, such as dormitories, fraternity, and sorority houses, boarding and rooming houses, which meet City of Berkeley (City) requirements for this type of housing.
- Permit the construction of specialized care and treatment facilities such as senior congregate housing, nursing homes, and hospitals when such are not detrimental to the immediate neighborhood.

8. Description of Project

The project site currently contains a vacant, one-car auto maintenance garage, parking area, and a former service station office/convenience store. The proposed project would demolish the existing structures and construct a 10,024 sf, four-story residential building containing 11 housing units. The project proposes to reserve 14 percent of the Base Project units (those allowed by current zoning) for very-low-income households, which allows for a 46.25 percent density bonus on the site provided under Government Code § 65915. This equates to one unit to be allocated as affordable to very low-income households as defined in Section 50105 of the Health and Safety Code. The remaining units would be market rate.

The project would also provide 20 bicycle parking spaces: 16 covered long-term, and four short-term spaces on sidewalk-mounted bicycle racks. The building height base limit in the R-3 zone for a residential building is 35 feet; this project proposes a maximum height of 47 feet, 3 inches using a density bonus waiver.

The site is near public transportation, dedicated bike lanes, downtown services, and existing parking garages, and will provide housing near the University of California Berkeley campus.

Figure 1. Project Vicinity Map

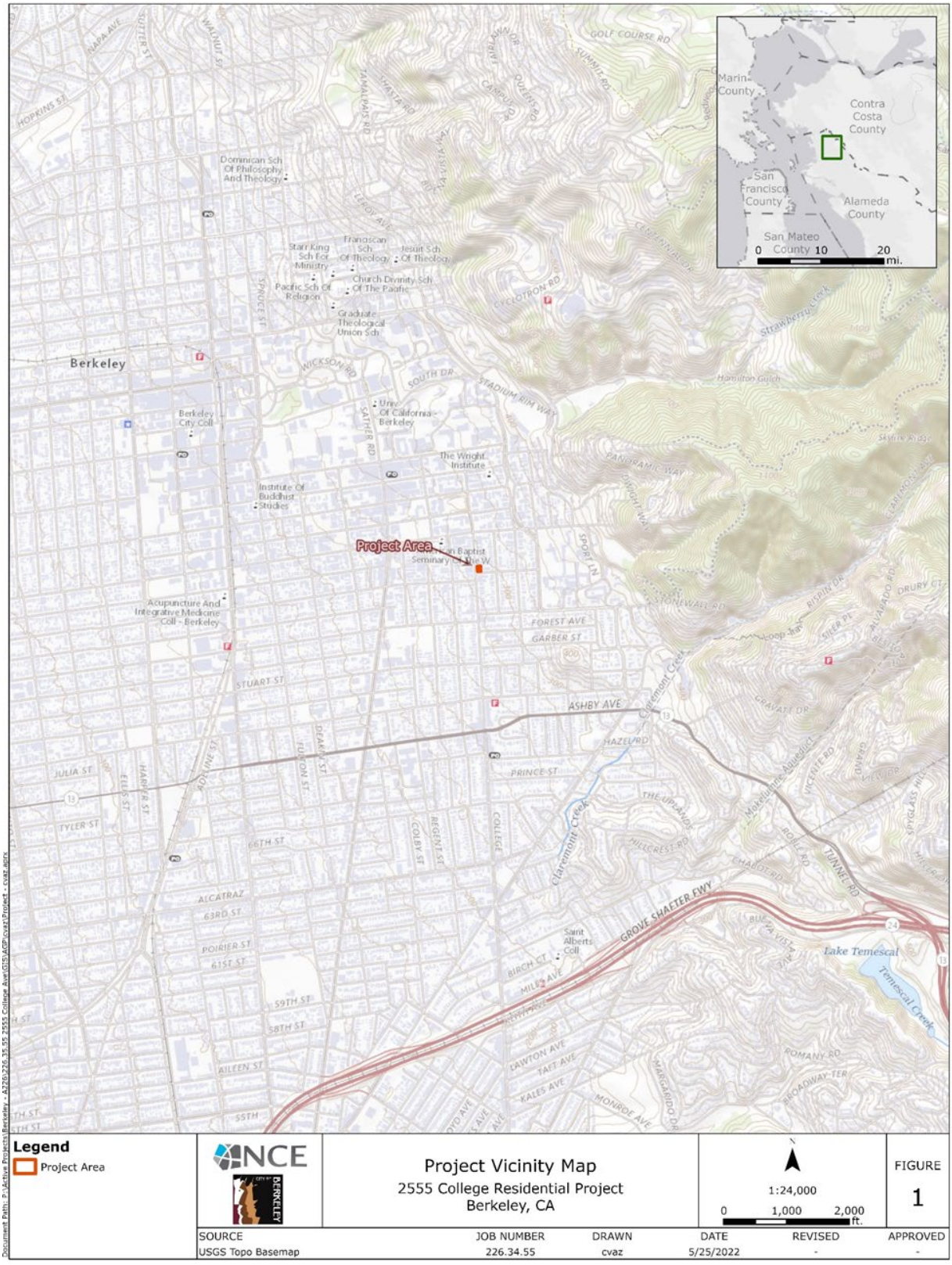


Figure 2. Project Location Map

Request for Incentives or Concessions and Waivers or Modifications

After requested waivers/reductions have been granted to accommodate the density bonus units, the applicant may request concessions/incentives, or modified development standards consistent with § 65915(k).

Per § 65915(d)(1), the City shall grant a concession or incentive unless it is able to make the finding that "the concession or incentive does not result in identifiable and actual cost reductions" or "would have a specific, adverse impact… upon public health and safety or the physical environment." Projects are entitled to 1, 2, or 3 concessions/incentives, according to the criteria outlined in § 65915(d)(2).

Typical concessions include reduced parking or open space requirements.

Under Government Code Section 65915(d)(2), because the project would provide 14 percent of the units for very-low-income households, the project is eligible for two incentives or concessions that result in identifiable and actual cost reductions. As such, the project proposes the following cost-reduction concessions:

- Cost Reduction Concession #1. The project requests a cost-reduction concession to reduce the open space requirement from 1,120 sf to zero sf to eliminate the costs of constructing an additional roof deck.
- Cost Reduction Concession #2. The project requests a cost-reduction concession to increase the height limit to allow for the basement spaces included in the Base Project to move to the ground level of the proposed project, thereby eliminating the cost of the basement.

Following the guidelines provided in the City's "Procedures for Implementing State Density Bonus Law" (City of Berkeley 2019b), the density bonus units are added to the number allowable under the zoning (7 Base Project units). In addition, requested waivers or modifications of City development standards necessary to accommodate the density bonus include:

- Increase the maximum building height to 47 feet, 3 inches to accommodate the density bonus units.
- Reduce the required building setbacks.

New Residential Development

The proposed project would provide a total of 11 new housing units (one unit would be reserved for very-low-income individuals and families), including seven 3-bedroom units, and four 4-bedroom units on a site that currently contains a one-story auto service business. The project would contain a total of 37 bedrooms. The site would be bordered by a wooden fence. Residential units would be accessible on the east side of the building. Wooden stairs on the east side of the building would

provide entry to the units on the upper floors. Landscaping would be designed with drought-tolerant plants and trees along the streets.

The units would be located on all four levels of the building. Proposed floor plans and a building section are shown in Figure 3, Figure 4, and Figure 5. The proposed project is sited, massed, and articulated so as to continue the urban building fabric along College Avenue. Building Elevations are shown in Figure 6 through Figure 9. The proposed project would have a Parklex façade, and a simple form designed with consideration for its context and scaled in-line with the surrounding residential buildings. Native planting is proposed throughout the landscaping. The project will contribute to the denser urban character emerging in Berkeley. The western front of the building visible on College Avenue and Parker Street would have a metal panel planter along the sidewalk under the ground-floor windows.

Table 1 provides information about the proposed project.

Table 1. Project Summary

Type	Area
Parcel Size	3,920 sf
Building – Proposed Residential	10,024 sf
Dwelling Units – Proposed Residential	11 units
Bicycle Parking Spaces	20
Lot Coverage	63%
Usable Open Space at Ground Level	Concession

sf = square feet

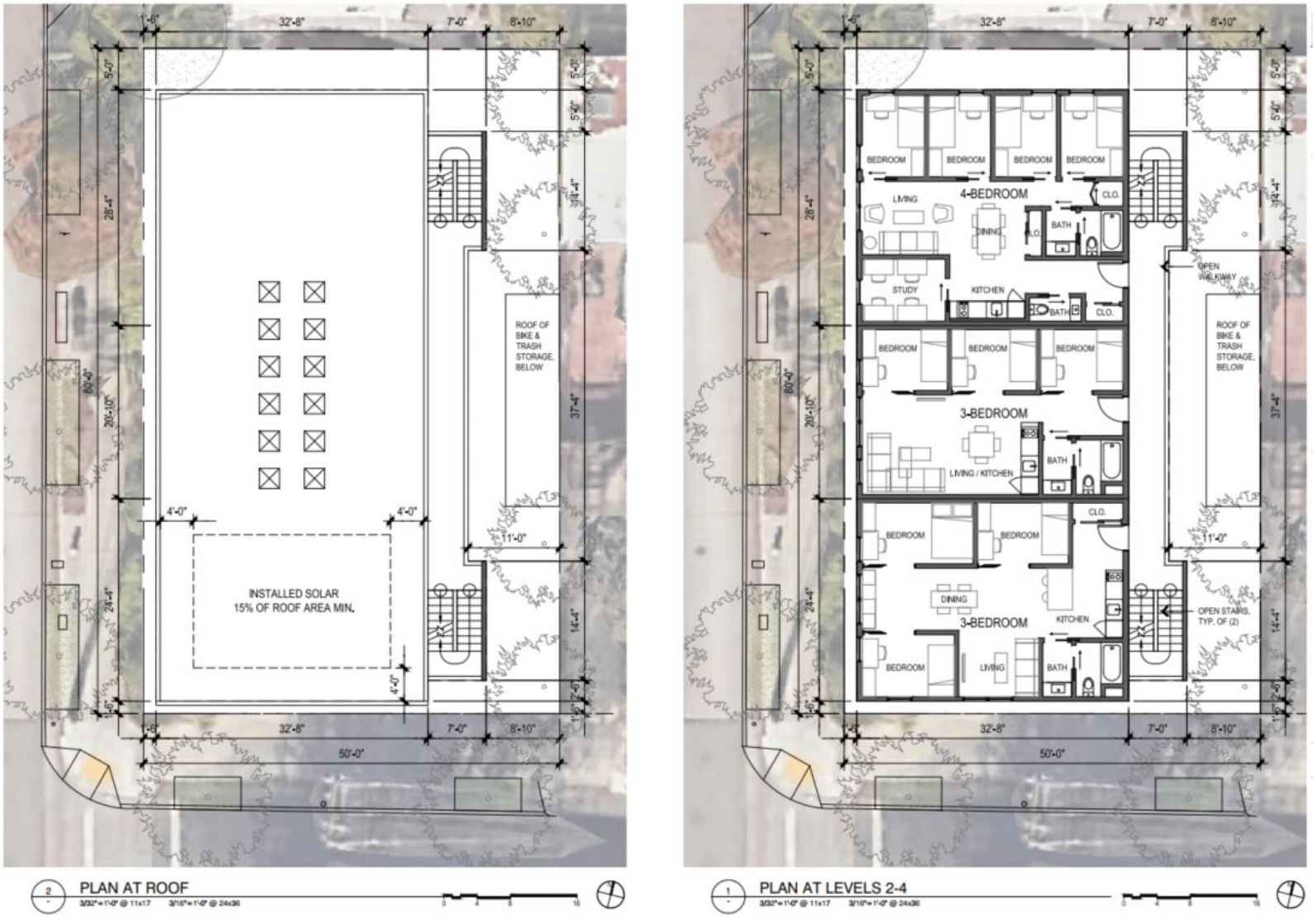
Demolition of Existing Structures

The site was initially developed as a service station in 1929 and shifted to an auto-repair service in the mid-1970s. The project would involve demolition of two existing structures on the site. The gas-and-oil structure is a prefabricated, steel-framed, and metal-clad roof canopy with a small office structure under its rear half. The office has a central front (west) door and surrounding windows and has several windows at each side. The rear structure is also prefabricated steel, with an existing rooftop canopy with a wraparound metal fascia. There are shed-roofed additions at the north and east that are fully enclosed with wood-shingled walls.

Figure 3. Ground Level Plan

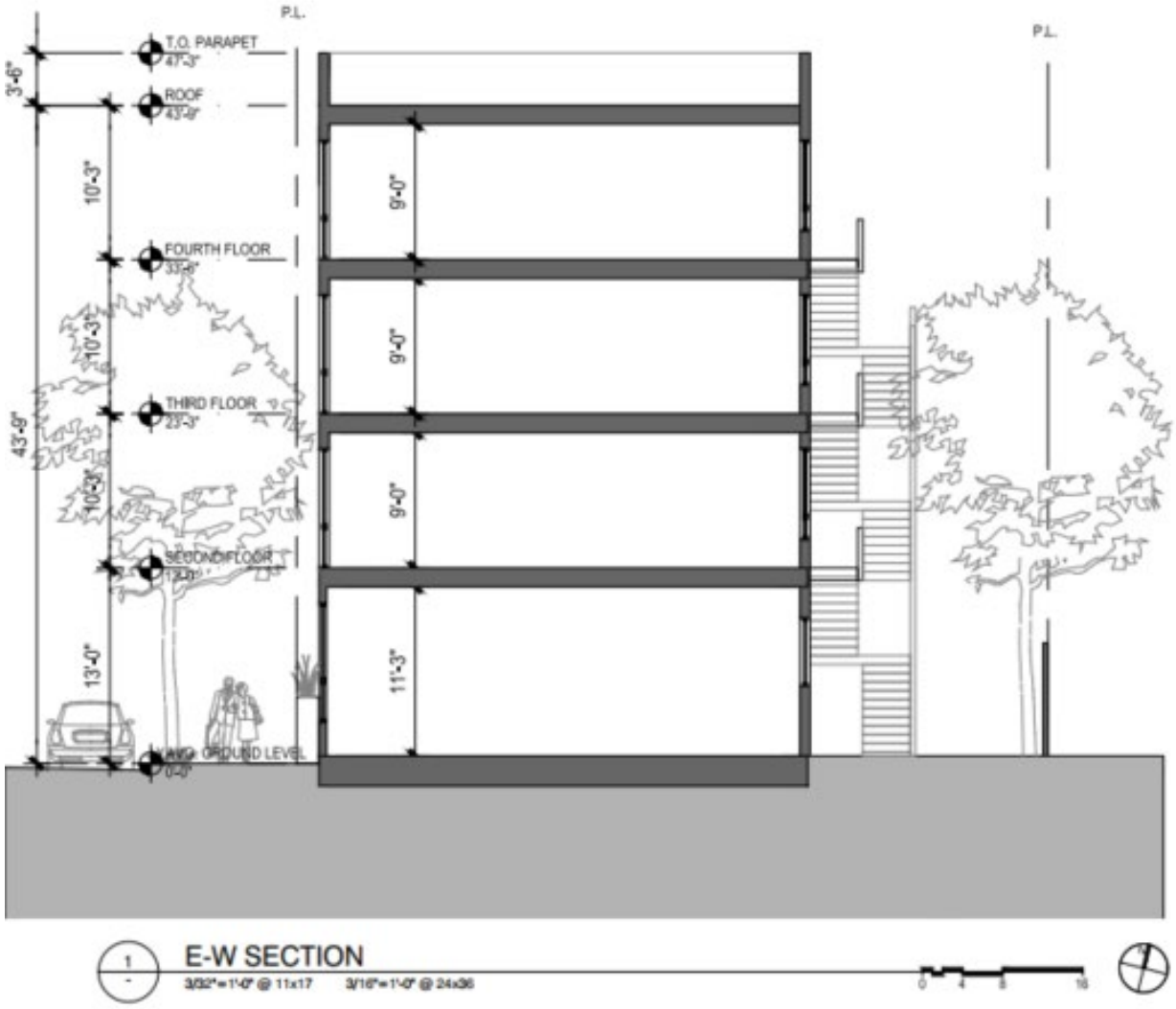
Source: Panoramic Interests 2022

Figure 4. Levels 2-4 and Roof-Level Plan



Source: Panoramic Interests 2022

Figure 5. Building Section Drawing



Source: Panoramic Interests 2022

Figure 6. South View Elevations of the Building

Source: Panoramic Interests 2022

Figure 7. North View Elevations of the Building

Source: Panoramic Interests, 2022

Figure 8. East View Elevations of the Building

Source: Panoramic Interests

Figure 9. Street Strip Elevations of the Building

Source: Panoramic Interests, 2022

A historical and historic architectural evaluation of the existing property and structures was performed on the building to see if it was eligible for the National Register (Preservation Architecture 2022). The evaluation found that the buildings are not eligible for designation as a Berkeley Landmark or Structure of Merit on the basis of any cultural value or architectural merit (see Environmental Checklist, Section 5, Cultural Resources, for further details).

Parking and Site Access

The project would be car-free and provide a total of 20 bicycle parking spaces on-site. Of these, 16 of the spaces would provide long-term, secured spaces, and four would provide short-term bicycle parking outside the building. Public Resources Code Section 21099(d)(1) has mandated that parking impacts shall not be

considered significant impacts on the environment for an infill site in a transit priority area. The City's standard conditions of approval require a Transportation Construction Plan be provided that includes the locations and management of temporary worker parking, exclusive contractor parking on-street, and truck activity, which must be approved by the City's Traffic Engineer.

Amenities

The ground-floor level would contain an outdoor gathering space, maintenance room, and laundry room. The project plans have a primary trash collection area.

Landscaping

There are no trees on the site. A row of low shrubs along College Avenue would be removed. Subject to review and approval by the City Arborist, new trees would be planted along the site's two street frontages.

Green Building Features

The proposed project would be required to comply with several City green building requirements, including the following:

- Pursuant to Berkeley Green Code, BMC Chapter 19.37, diversion of waste during construction would comply with BMC Chapter 19.37, including 100 percent of asphalt, concrete, excavated soil and land-clearing debris and a minimum of 65 percent of other nonhazardous construction and demolition waste.
- Pursuant to the California Water Efficient Landscape Ordinance, outdoor landscaped areas would employ landscape irrigation and water-efficiency best practices.
- Pursuant to BMC Chapter 12.80 Prohibition on Natural Gas Infrastructure in New Buildings, the proposed new construction would be all-electric and would not use natural gas.
- Pursuant to Berkeley Energy Code, BMC Chapter 19.36, the proposed project would be required to install solar panels.

The proposed project would include sustainability features such as photovoltaic and thermal solar panels to offset utility usage. Energy-efficient exterior walls, utility systems, and appliances would be used. Recycling stations would also be provided within the building to encourage recycling by residents in a convenient manner. The building would be all-electric with no gas service. The project would also include additional green building features, including composting and recycling bins, energy and water efficient clothes washing and drying machines, and high-efficiency lighting.

9. Surrounding Land Uses and Setting

The project site is currently owned by 2555 College LLC. Since 1929, the project site has been used as a gasoline service station and an auto-repair shop. In 1990, the service station closed, but the site continued to be used as an auto-repair facility until 2019.

The site consists of one, approximately 0.09-acre site (4,000-sf parcel) bordered by a wooden and chain-link fence. The project site is currently occupied by a vacant auto-repair business, consisting of a vacant, one-car auto maintenance garage, parking areas, and a former service station office/convenience store. Outdoor areas and the auto maintenance garage are paved with a concrete slab.

The project site is situated in an area of residential properties ranging from two to five stories. The site is surrounded to the east by single-family residential homes, and on the west side along College Avenue by three- to four-story multi-family residential buildings. To the north immediately adjacent to the site is a multi-tenant, five-story residential building. Another four-story multi-tenant residential building is to the south across Parker Street. Parker Street is characterized by two-story historic-era residential buildings, and two-to five-story residential buildings are located along College Avenue. The University of California, Berkeley Clark-Kerr Campus is located 1,000 feet to the east, and the main campus is located approximately 2,000 feet north, which is an easy walking/biking distance to campus for students.

10. Construction

Construction is scheduled to take 13 months, as detailed in the sections below.

Demolition

The two existing one-story commercial structures would be demolished and removed from the project site. The gas-and-oil structure is a prefabricated, steel-framed, and metal-clad roof canopy with a small office structure under its rear half. The rear structure is also prefabricated steel, with an existing rooftop canopy with a wraparound metal fascia. The rest of the site is asphalt paved with a concrete slab-on-grade. The estimated time to complete this construction phase is approximately one week.

Grubbing/Rough Grading

Vegetation (consisting of a row of low shrubs along College Avenue) that would interfere with construction would be removed from the project area.

Excavation and Site Work

Following rough grading, additional excavation would be required bring the project area to final grade and prepare the soil for underground piping and structural slabs. Site-work would involve installing underground pipes, manholes, structural foundations, curbs, and gutters. Excavation for concrete foundations and underground drainage pipes would be performed with excavators and/or backhoes. This construction phase is expected to last approximately six weeks.

Structural Facilities

This phase would consist of compacting and preparing the soil for all structural facilities and developing piers for foundation systems. Prior to pouring concrete, structural forms, rebar, and conduits would be installed. After the concrete is poured, it would be finished and cured before the forms are removed, and the overhead structural steel and roof decking would be erected. No pile driving would be necessary. This construction phase is expected to last up to 11 months.

Landscaping

Landscaping would involve native plantings and hardscapes, water features, lighting, outdoor lighting, and drainage, and would be installed during construction.

Equipment and Labor Force

Various types of equipment would be needed for the construction of the project elements at the site. Construction equipment would include excavators, backhoes, cement trucks, and cranes. Water trucks with a tank size of 2,000 to 4,000 gallons would be used for dust-control during construction.

A skilled labor force would be required to complete this project, including civil/earthwork personnel, excavators, masons, painters, plumbers, landscapers, carpenters, cement finishers, operating engineers, electricians, and craftsmen. The number of workers at the construction site would vary based on the phase and complexity of construction. The peak number of construction personnel is expected to be approximately 10 workers per day. Work would generally be completed during daylight hours, typically 7:00 a.m. to 7:00 p.m. weekdays and when needed, 9:00 a.m. to 8:00 p.m. on weekends or holidays as specified by the BMC. BMC Chapter 13.40 requires that during the construction period, construction would be performed five days per week (weekend work may occur occasionally if construction milestones are not met on schedule), year-round, except for standard U.S. holidays. There would be no on-site temporary workforce housing, and parking of employee recreational vehicles or trailers would be prohibited.

11. Construction Controls

The project is required to comply with local, state, and federal regulations pertaining to protection of human health, safety, and environment.

The following required construction controls from local, state, and federal agencies are incorporated into the project design and are considered a part of the proposed project. The City also maintains a list of standard Conditions of Approval (COAs); applicable COAs are listed in Section 12 below.

Greenhouse Gas Emissions and Green Energy

California regulations limit idling from both on-road and off-road diesel-powered equipment. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations. The following practices would be used to control exhaust emissions from diesel-powered fleets working at the construction site:

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes (required by 33 California Code of Regulations [CCR] 2449(d)(3) and 2485). Provide clear signage that posts this requirement for workers at all entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Use a CARB-approved low-carbon fuel for construction equipment.

Hydrology and Water Quality

Compliance with BMC Chapter 21.40 requires that proposed projects comply with grading, erosion, and sediment control regulations on file in the Public Works Department, and BMC Chapter 17.20, and which requires that best management practices (BMPs), including those adopted by the State Water Resources Control Board (SWRCB), be implemented to minimize non-stormwater discharges during construction. Construction BMPs would include scheduling inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management.

12. Standard Conditions of Approval

In addition to construction controls, the project would be required to comply with the City's standard COAs. The following COAs would be incorporated into the project design and are, therefore, considered a part of the proposed project.

Aesthetics

COA Exterior Lighting. All exterior lighting shall be energy efficient where feasible; and shielded and directed downward and away from property lines to prevent excessive glare beyond the subject property.

Air Quality

COA Public Works – Implement BAAQMD-Recommended Measures during Construction. For all proposed projects, BAAQMD recommends implementing all the Basic Construction Mitigation Measures, listed below to meet the BMP threshold for fugitive dust:

A. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

B. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

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. All vehicle speeds on unpaved roads shall be limited to 15 mph.

E. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

F. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure [13 CCR 2485]). Clear signage shall be provided for construction workers at all access points.

G. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

H. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Compliance with the above COA would ensure that construction-related fugitive dust emissions would be less than significant.

COA Air Quality – Diesel Particulate Matter Controls During Construction. All offroad construction equipment used for projects with construction lasting more than 2 months shall comply with one of the following measures:

A. The Project applicant shall prepare a health risk assessment that demonstrates the Project emissions of diesel particulate matter during construction will not exceed health risk screening criteria after a screening-level health risk assessment is conducted in accordance with current guidance from BAAQMD and Office of Environmental Health Hazard Assessment. The health risk assessment shall be submitted to the Land Use Planning Division for review and approval prior to the issuance of building permits; or

B. All construction equipment shall be equipped with Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by the California Air Resources Board (CARB). The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

In addition, a Construction Emissions Minimization Plan (Emissions Plan) shall be prepared that includes the following:

- 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, serial number, make, model, manufacturer, CARB verification number level, and installation date.
- 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. The Emissions Plan shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

Biological Resources

COA Avoid Disturbance of Nesting Birds. Initial site disturbance activities, including vegetation and concrete removal, shall be prohibited during the general avian nesting season (February 1 to August 30), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist to conduct a preconstruction nesting bird survey to determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the Migratory Bird Treaty Act (MBTA), nesting bird surveys shall be performed not more than 14 days prior to scheduled vegetation and concrete removal. In the event that active nests are discovered, a suitable buffer (typically a

minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) shall be established around such active nests and no construction shall be allowed inside the buffer areas until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No ground-disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Nesting bird surveys are not required for construction activities occurring between August 31 and January 31.

Cultural Resources

COA Archaeological Resources (Ongoing throughout demolition, grading, and/or construction). Pursuant to CEQA Guidelines section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:

A. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian or paleontologist to assess the significance of the find.

B. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.

C. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations.

D. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.

E. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the Northwest Information Center.

COA Human Remains. In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt, and the Alameda County Coroner shall be contacted to evaluate the remains and follow the procedures and protocols pursuant to the CEQA Guidelines § 15064.5

(e)(1). If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of the Health and Safety Code § 7050.5, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. 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.

Geology and Soils

COA Public Works. All piles of debris, soil, sand, or other loose materials shall be covered at night and during rainy weather with plastic at least one-eighth millimeter thick and secured to the ground.

COA Public Works. The project sponsor shall maintain sandbags or other devices around the site perimeter during the rainy season to prevent soils from being washed off site and into the storm drain system. The project sponsor shall comply with all City ordinances regarding construction and grading.

COA Public Works. Prior to any excavation, grading, clearing, or other activities involving soil disturbance during the rainy season, the applicant shall obtain approval of an erosion prevention plan by the Building and Safety Division and the Public Works Department. The applicant shall be responsible for following these and any other measures required by the Building and Safety Division and the Public Works Department.

COA Paleontological Resources (Ongoing throughout demolition, grading, and/or construction)**.** In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (Society of Vertebrate Paleontology 2010). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

COA Paleontological Resources (Ongoing throughout demolition, grading, and/or construction)**.**

A. *Qualified Paleontologist*. The project applicant shall retain a Qualified Paleontologist prior to excavations or ground disturbance that will exceed three feet in depth. The Qualified Paleontologist shall direct all mitigation measures related to paleontological resources. A qualified professional paleontologist is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010).

B. *Paleontological Worker Environmental Awareness Program (WEAP)*. Prior to ground disturbance, the applicant shall incorporate information on paleontological resources into the Project's Worker Environmental Awareness Training (WEAP) materials, or a stand-alone Paleontological Resources WEAP shall be submitted to the Department of Planning and Development at the City of Berkeley. The Qualified Paleontologist or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should construction staff discover fossils. The Paleontological WEAP training shall be fulfilled simultaneously with the overall WEAP training, or at the first preconstruction meeting at which a Qualified Paleontologist attends prior to ground disturbance. Printed literature (handouts) shall accompany the initial training, All new workers and contractors must be trained prior to conducting ground disturbance work.

C. *Paleontological Monitoring*. The extent of required paleontological monitoring for the project shall be determined by the Qualified Paleontologist based on an evaluation of the previously undisturbed geologic units exposed during ground disturbing activity. The Qualified Paleontologist shall conduct and initial spot check and evaluation of geologic conditions for ground disturbing activity for excavations between 5-10 feet below ground surface (bgs). The evaluation shall be based on field evidence including lithology of geologic units and results of microscreening or other inspections for fossil resources. If the paleontologist determines that geologic units exposed between 5-10 feet bgs have high paleontological sensitivity, then full-time monitoring shall be conducted for the duration of ground disturbing activity. If sediments between 5-10 feet bgs are determined to not be paleontological sensitive, spot checks should be conducted again for ground disturbance between 10-15 feet bgs and again for ground disturbance between 15-20 feet bgs, and again to the full depth of ground disturbance. If spot checks indicate low or no paleontological sensitivity, or if full time monitoring results in no fossil discoveries once the full depth of ground disturbance has been reached, paleontological monitoring can be discontinued for the remainder of project

activity. Monitoring shall be reinstated if any new ground disturbances are required to depths exceeding previous depths of previous work, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time.

D. In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources:

1. *Salvage of Fossils*. If fossils are discovered, the paleontological monitor shall have the authority to halt or temporarily divert construction equipment within 50 feet of the find until the monitor and/or lead paleontologist evaluate the discovery and determine if the fossil may be considered significant. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the Construction Contractor may be requested to supply heavy equipment and an operator to assist in the rapid removal of a large fossil specimen(s) or sediment sample(s). Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive Quaternary old alluvial deposits.
2. *Preparation and Curation of Recovered Fossils*. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.

E. Final Paleontological Mitigation Report. Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to the Department of Planning and Development at the City of Berkeley. If the monitoring

efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

Greenhouse Gas Emissions

COA Construction and Demolition Diversion. Applicant shall submit a Construction Waste Management Plan that meets the requirements of BMC Chapter 19.37 including 100 percent diversion of asphalt, concrete, excavated soil and land clearing debris and a minimum of 65 percent diversion of other nonhazardous construction and demolition waste.

COA Low-Carbon Concrete. The project shall verify compliance with the Berkeley Green Code (BMC Chapter 19.37) including use of concrete mix design with a cement reduction of at least 25 percent.

COA Prohibition of Natural Gas Infrastructure in New Buildings. The project shall comply with the City of Berkeley Prohibition of Natural Gas Infrastructure in New Buildings (BMC Chapter 12.80).

COA Solar Photovoltaic (Solar PV). A solar PV system, on the solar zone specified in Section 110.10 of the 2019 Energy Code, shall be installed (subject to the exceptions in Section 110.10) as specified by the Berkeley Energy Code (BMC Chapter 19.36). Location of the solar PV system shall be noted on the construction plans.

Hazards and Hazardous Materials

COA Toxics. The applicant shall contact the Toxics Management Division (TMD) at 1947 Center Street or (510) 981-7470 to determine which of the following documents are required and timing for their submittal:

A. Environmental Site Assessments:

1. Phase I & Phase II Environmental Site Assessments (latest ASTM 1527-13). A recent Phase I ESA (less than six months old*) shall be submitted to TMD for developments for:
   - All new commercial, industrial, and mixed-use developments and all large improvement projects.
   - All new residential buildings with five or more dwelling units located in the Environmental Management Area (or EMA).
   - EMA is available online at: http://www.cityofberkeley.info/uploadedFiles/IT/Level_3_-_General/ema.pdf.
2. Phase II ESA is required to evaluate Recognized Environmental Conditions (REC) identified in the Phase I or other RECs identified by TMD staff. The

TMD may require a third-party toxicologist to review human or ecological health risks that may be identified. The applicant may apply to the appropriate state, regional or county cleanup agency to evaluate the risks.

3. If the Phase I is over six months old, it will require a new site reconnaissance and interviews. If the facility was subject to regulation under Title 15 of the Berkeley Municipal Code since the last Phase I was conducted, a new records review must be performed.

B. Soil and Groundwater Management Plan:

1. A Soil and Groundwater Management Plan (SGMP) shall be submitted to TMD for all non-residential projects, and residential or mixed-use projects with five or more dwelling units, that: (1) are in the Environmental Management Area (EMA) and (2) propose any excavations deeper than five feet below grade. The SGMP shall be site specific and identify procedures for soil and groundwater management including identification of pollutants and disposal methods. The SGMP will identify permits required and comply with all applicable local, state and regional requirements.
2. The SGMP shall require notification to TMD of any hazardous materials found in soils and groundwater during development. The SGMP will provide guidance on managing odors during excavation. The SGMP will provide the name and phone number of the individual responsible for implementing the SGMP and post the name and phone number for the person responding to community questions and complaints.
3. TMD may impose additional conditions as deemed necessary. All requirements of the approved SGMP shall be deemed conditions of approval of this Use Permit.

C. Building Materials Survey:

1. Prior to approving any permit for partial or complete demolition and renovation activities involving the removal of 20 square or lineal feet of interior or exterior walls, a qualified professional shall conduct a building materials survey. The survey shall include, but not be limited to, identification of any lead-based paint, asbestos, polychlorinated biphenyl (PCB)-containing equipment, hydraulic fluids in elevators or lifts, refrigeration systems, treated wood and mercury containing devices (including fluorescent light bulbs and mercury switches). The Survey shall include plans on hazardous waste or hazardous materials removal, reuse or disposal procedures to be implemented that fully comply state hazardous waste generator requirements (22 California Code of

Regulations 66260 et seq). The Survey becomes a condition of any building or demolition permit for the project. Documentation evidencing disposal of hazardous waste in compliance with the survey shall be submitted to TMD within 30 days of the completion of the demolition. If asbestos is identified, Bay Area Air Quality Management District Regulation 11-2-401.3 a notification must be made and the J number must be made available to the City of Berkeley Permit Service Center.

D. Hazardous Materials Business Plan:

1. A Hazardous Materials Business Plan (HMBP) in compliance with BMC Section 15.12.040 shall be submitted electronically at http://cers.calepa.ca.gov/ within 30 days if on-site hazardous materials exceed BMC 15.20.040. Requirements can be found at http://ci.berkeley.ca.us/hmr/.

Hydrology and Water Quality

COA Stormwater Requirements. The applicant shall demonstrate compliance with the requirements of the City's National Pollution Discharge Elimination System (NPDES) permit as described in BMC Section 17.20. The following conditions apply:

A. The project plans shall identify and show site-specific Best Management Practices (BMPs) appropriate to activities conducted on-site to limit to the maximum extent practicable the discharge of pollutants to the City's storm drainage system, regardless of season or weather conditions.

B. Trash enclosures and/or recycling area(s) shall be covered; no other area shall drain onto this area. Drains in any wash or process area shall not discharge to the storm drain system; these drains should connect to the sanitary sewer. Applicant shall contact the City and EBMUD for specific connection and discharge requirements. Discharges to the sanitary sewer are subject to the review, approval and conditions of the City and EBMUD.

C. Landscaping shall be designed with efficient irrigation to reduce runoff, promote surface infiltration, and minimize the use of fertilizers and pesticides that contribute to stormwater pollution. Where feasible, landscaping should be designed and operated to treat runoff. When and where possible, xeriscape and drought tolerant plants shall be incorporated into new development plans.

D. Design, location and maintenance requirements and schedules for any stormwater quality treatment structural controls shall be submitted to the Department of Public Works for review with respect to reasonable adequacy of the controls. The review does not relieve the property owner of the responsibility for complying with BMC Chapter 17.20 and future revisions to

the City's overall stormwater quality ordinances. This review shall be [sic] conducted prior to the issuance of a Building Permit.

E. All paved outdoor storage areas must be designed to reduce/limit the potential for runoff to contact pollutants.

F. All on-site storm drain inlets/catch basins must be cleaned at least once a year immediately prior to the rainy season. The property owner shall be responsible for all costs associated with proper operation and maintenance of all storm drainage facilities (pipelines, inlets, catch basins, outlets, etc.) associated with the project, unless the City accepts such facilities by Council action. City's Public Works Engineering Dept. may require additional cleaning.

G. All on-site storm drain inlets must be labeled "No Dumping – Drains to Bay" or equivalent using methods approved by the City.

H. Most washing and/or steam cleaning must be done at an appropriately equipped facility that drains to the sanitary sewer. Any outdoor washing or pressure washing must be managed in such a way that there is no discharge or soaps or other pollutants to the storm drain. Sanitary connections are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge.

I. Sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris. If pressure washed, debris must be trapped and collected to prevent entry to the storm drain system. If any cleaning agent or degreaser is used, wash water shall not discharge to the storm drains; wash waters should be collected and discharged to the sanitary sewer. Discharges to the sanitary sewer are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge.

J. The applicant is responsible for ensuring that all contractors and subcontractors are aware of and implement all stormwater quality control measures. Failure to comply with the approved construction BMPs shall result in the issuance of correction notices, citations, or a project stop work order.

Noise

COA Construction Noise Reduction Program. The applicant shall develop a site-specific noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval of the Zoning Officer. The noise reduction program shall include the time limits for construction listed above, as measures needed to ensure that construction complies with BMC Section 13.40.070. The noise reduction

program should include, but shall not be limited to, the following available controls to reduce construction noise levels as low as practical:

A. Construction equipment should be well maintained and used judiciously to be as quiet as practical.

B. Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.

C. Utilize "quiet" models of air compressors and other stationary noise sources where technology exists. Select hydraulically or electrically powered equipment and avoid pneumatically powered equipment where feasible.

D. Locate stationary noise-generating equipment as far as possible from sensitive receptors when adjoining construction sites. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible.

E. Prohibit unnecessary idling of internal combustion engines.

F. If impact pile driving is required, pre-drill foundation pile holes to minimize the number of impacts required to seat the pile.

G. Construct solid plywood fences around construction sites adjacent to operational business, residences or other noise-sensitive land uses where the noise control plan analysis determines that a barrier would be effective at reducing noise.

H. Erect temporary noise control blanket barriers, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.

I. Route construction related traffic along major roadways and away from sensitive receptors where feasible.

COA Construction Noise Management- Public Notice Required. At least two weeks prior to initiating any construction activities at the site, the applicant shall provide notice to businesses and residents within 500 feet of the project site. This notice shall at a minimum provide the following: (1) project description, (2) description of construction activities during extended work hours and reason for extended hours, (3) daily construction schedule (i.e., time of day) and expected duration (number of months), (4) the name and phone number of the Project Liaison for the project that is responsible for responding to any local complaints, and (5) that construction work is about to commence. The liaison would determine the cause of all construction related complaints (e.g., starting too early, bad muffler, worker parking, etc.) and institute reasonable measures to correct the

problem. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval.

COA Construction Hours. Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday, and between 9:00 a.m. and 4:00 p.m. on Saturday. No construction-related activity shall occur on Sunday or any Federal Holiday.

COA Construction Hours-Exceptions. It is recognized that certain construction activities, such as the placement of concrete, must be performed in a continuous manner and may require an extension of these work hours. Prior to initiating any activity that might require a longer period, the developer must notify the Zoning Officer and request an exception for a finite period of time. If the Zoning Officer approves the request, then two weeks prior to the expanded schedule, the developer shall notify businesses and residents within 500 feet of the project site describing the expanded construction hours. A copy of such notice and methodology for distributing the notice shall be provided in advance to the City for review and approval. The project shall not be allowed more than 15 extended working days.

COA Project Construction Website. The applicant shall establish a project construction website with the following information clearly accessible and updated monthly or more frequently as changes warrant:

- Contact information (i.e., "hotline" phone number, and email address) for the Project construction manager
- Calendar and schedule of daily/weekly/monthly construction activities
- The final Conditions of Approval, Mitigation Monitoring and Reporting Program Transportation Construction Plan, Construction Noise Reduction Program, and any other reports or programs related to construction noise, air quality, and traffic.

COA HVAC Noise Reduction. Prior to the issuance of building permits, the project applicant shall submit plans that show the location, type, and design of proposed HVAC equipment. In addition, the applicant shall provide product specification sheets or a report from a qualified acoustical consultant showing that operation of the proposed HVAC equipment will meet the City's exterior noise requirements in BMC Section 13.40.050. The City's Planning and Development Department shall review the submitted plans, including the selected HVAC equipment, to verify compliance with exterior noise standards.

COA Damage Due to Construction Vibration. The project applicant shall submit screening level analysis prior to, or concurrent with demolition building permit. If a screening level analysis shows that the project has the potential to result in damage to structures, a structural engineer or other appropriate professional shall be

retained to prepare a vibration impact assessment (assessment). The assessment shall take into account project-specific information such as the composition of the structures, location of the various types of equipment used during each phase of the project, as well as the soil characteristics in the project area, in order to determine whether project construction may cause damage to any of the structures identified as potentially impacted in the screening level analysis. If the assessment finds that the project may cause damage to nearby structures, the structural engineer or other appropriate professional shall recommend design means and methods of construction that to avoid the potential damage, if feasible. The assessment and its recommendations shall be reviewed and approved by the Building and Safety Division and the Zoning Officer. If there are no feasible design means or methods to eliminate the potential for damage, the structural engineer or other appropriate professional shall undertake an existing conditions study (study) of any structures (or, in case of large buildings, of the portions of the structures) that may experience damage. This study shall:

- Establish the baseline condition of these structures, including, but not limited to, the location and extent of any visible cracks or spalls; and
- Include written descriptions and photographs.

The study shall be reviewed and approved by the Building and Safety Division and the Zoning Officer prior to issuance of a grading permit. Upon completion of the project, the structures (or, in case of large buildings, of the portions of the structures) previously inspected will be resurveyed, and any new cracks or other changes shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project caused the damage. The findings shall be submitted to the Building and Safety Division and the Zoning Officer for review. If it is determined that project construction has resulted in damage to the structure, the damage shall be repaired to the pre-existing condition by the project sponsor, provided that the property owner approves of the repair.

COA Loading. All loading/unloading activities associated with deliveries to all uses shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. daily.

Transportation

COA Transportation Construction Plan. The applicant and all persons associated with the project are hereby notified that a Transportation Construction Plan (TCP) is required for all phases of construction, particularly for the following activities:

- Alterations, closures, or blockages to sidewalks, pedestrian paths or vehicle travel lanes (including bicycle lanes);
- Storage of building materials, dumpsters, debris anywhere in the public right-of-way (ROW);

- Provision of exclusive contractor parking on-street; or
- Significant truck activity.

The applicant shall secure the City Traffic Engineer's approval of a TCP. In addition to other requirements of the Traffic Engineer, this plan shall include the locations of material and equipment storage, trailers, worker parking, a schedule of site operations that may block traffic, and provisions for traffic control. The TCP shall be consistent with any other requirements of the construction phase.

Contact the Permit Service Center at 1947 Center Street or 981-7500 for details on obtaining Construction/No Parking Permits (and associated signs and accompanying dashboard permits). Please note that the Zoning Officer and/or Traffic Engineer may limit off-site parking of construction-related vehicles if necessary to protect the health, safety or convenience of the surrounding neighborhood. A current copy of the TCP shall be available at all times at the construction site for review by City Staff.

Tribal Cultural Resources

COA Halt Work/Unanticipated Discovery of Tribal Cultural Resources. In the event that cultural resources of Native American origin are identified during construction, all work within 50 feet of the discovery shall be redirected. The project applicant and project construction contractor shall notify the City Planning Department within 24 hours. The City will contact any tribes who have requested consultation under Assembly Bill (AB) 52, as well as contact a qualified archaeologist, to evaluate the resources and situation and provide recommendations. If it is determined that the resource is a tribal cultural resource and thus significant under the California Environmental Quality Act (CEQA), a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. If the resource cannot be avoided, additional measures to avoid or reduce impacts to the resource and to address tribal concerns may be required by the City.

13. Other Public Agencies Whose Approval is Required

No additional discretionary public agency permits or approvals would be required for this project by agencies other than the City.

14. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area

Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

The City requested a Sacred Lands Search from NAHC on May 31, 2022. The letter requested a contact list for regional tribes and a record search of their Sacred Lands File for the project area's archival study area. The City mailed inquiry letters to tribes on their AB 52 list on June 7, 2022; follow-up emails and phone calls were conducted on June 17, 2022. A response was received from NAHC on June 29, 2022, indicating tribal resources are in the vicinity of the project site. The Confederated Villages of Lisjan Nation requested to consult on the project, and consultation is ongoing with the City. The applicant has agreed to **Mitigation Measure TCR-1**, which would provide a Worker Environmental Awareness Program (WEAP) for relevant project personnel and construction workers in the conditions of approval for the project.

15. Project Objectives

The objectives for the proposed project are:

1. Construct high-density, infill residential development near existing public transit and commercial goods and services.
2. Construct new housing, including affordable housing, that would help the City satisfy its regional housing needs.

The 2015-2023 Regional Housing Needs Allocation (Association of Bay Area Governments 2013) has determined that the City needs approximately 2,959 housing units in the following categories: 532 units for very low (50 percent area of median income [AMI]), 442 units for low (50-80 percent AMI), 584 units of moderate (80-120 percent AMI), and 1,401 units above moderate (>120 percent). The proposed infill project would contribute one unit in the very-low-income category.

In addition, the Association of Bay Area Governments (ABAG) and the state of California recognize that infill development is needed to reduce vehicle miles traveled (VMT) and the regional impact of development on air quality and climate change.

16. Discretionary Approvals Required

The project would be subject to the following discretionary approvals by the City:

- Use Permit to demolish a non-residential main building, under BMC Section 23.326.070.

- Use Permit pursuant to BMC Section 23.204.060.B.3 to construct a residential development.
- Use Permit pursuant to BMC Section 23.204.030.B to construct 5,000 sf or more of new floor area.
- Use Permit pursuant to BMC Section 23.204.050.D to increase the maximum average height limit to 50 feet and 4 stories.

Environmental Factors Potentially Affected

The following environmental factors would be potentially affected by this project, involving at least one impact that would be a "Potentially Significant Impact" without the implementation of mitigation measures:

- Air Quality
- Biological Resources
- Hazards and Hazardous Materials
- Tribal Cultural Resources

Based on the environmental evaluation performed for this Initial Study (IS), the proposed project would have:

- ***No Impact*** on Agriculture and Forestry Resources, Mineral Resources, and Wildfire.
- ***Less Than Significant Impact*** on Aesthetics, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation, and Utilities and Service Systems.
- ***Less Than Significant Impact with Mitigation Incorporated*** on Air Quality, Biological Resources, Hazards and Hazardous Materials, and Tribal Cultural Resources. The project will implement mitigation measures as described herein to reduce potential impacts to a Less Than Significant level.

Lead Agency Determination

On the basis of this initial evaluation:

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

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

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

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

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

_____	_____
Signature	Date
_____	_____
Name	Title

Environmental Checklist

The following sections evaluate the potential adverse impacts of the project in compliance with CEQA. Appendix G of the CEQA Guidelines (California Association of Environmental Professionals n.d.) provides a sample checklist with a series of questions designed to enable the lead agency, the City of Berkeley, to identify project impacts with respect to 20 environmental topics; this IS generally follows the Appendix G checklist.

Except where a specific threshold has been adopted by a public agency and is specified in the sections below, such as an air quality threshold, the questions in Appendix G of the CEQA Guidelines are used as thresholds of significance for the analysis of potential impacts.

Potential environmental impacts are described as follows:

- **Potentially Significant Impact**: An environmental impact that could be significant and for which no feasible mitigation is known. If any potentially significant impacts are identified in this Checklist, an EIR must be prepared.
- **Less than Significant Impact with Mitigation Incorporated**: An environmental impact that requires the implementation of mitigation measures to reduce that impact to a less than significant level.
- **Less than Significant Impact**: An environmental impact may occur; however, the impact would not exceed significance thresholds.
- **No Impact**: No environmental impacts would result from implementation of the project.

1. Aesthetics

Environmental Setting

The project is located in the City of Berkeley, on the eastern shore of the San Francisco Bay in northern Alameda County. The project site is currently occupied by a vacant auto-repair business, consisting of a vacant, one-car auto maintenance garage, parking areas, and a former service station office/convenience store. The project site is situated in an area of residential properties ranging from two to five stories. The site is surrounded to the east by single family residential homes immediately adjacent to the site, and to the west side along College Avenue by three- to four-story multi-family residential buildings. To the north, a multi-tenant five-story residential building is immediately adjacent to the site, and to the south across Parker Street is another four-story multi-tenant residential building. Parker Street is characterized by two-story historic-era residential buildings, and two-to five-story residential buildings are located along College Avenue. The University of California, Berkeley Clark-Kerr Campus is located 1,000 feet to the east, and the main campus is located approximately 2,000 feet north, which is an easy walking/biking distance to campus for students.

Regulatory Setting

State

Public Resources Code Section 21099 states:

(d) (1) Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.

(2) (A) This subdivision does not affect, change, or modify the authority of a lead agency to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers provided by other laws or policies.

(B) For the purposes of this subdivision, aesthetic impacts do not include impacts on historical or cultural resources.

Local

The City's Downtown Berkeley Design Guidelines (City of Berkeley 2012) are intended to provide consistent design principles for residential and commercial structures that can contribute to the creation of neighborhoods with a strong, cohesive sense of place, and can improve the character of neighborhoods by making them more attractive and inviting places to live. Some aesthetics criteria will be reviewed during the planning approval process, which includes design review.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Except as provided in Public Resources Code Section 21099, would the project:

CEQA Question	Impact Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No Impact
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	Less than Significant Impact

Answers to CEQA Checklist Questions

Except as provided in Public Resources Code Section 21099:

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

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

No Impact

The proposed project is a residential project on an infill site within a transit priority area. As explained above, Public Resources Code Section 21099(d)(1) states that aesthetic impacts shall not be considered significant impacts on the environment on an infill site within a transit priority area. Therefore, the project would have no impact on scenic vistas or damage any scenic resources.

There are currently two street trees abutting the site that may be removed during construction. General Plan Policy EM-29 requires the City to maintain and enhance street and park trees to improve the environment and provide habitat. Ongoing

implementation of the policy through site-specific review by the Berkeley Department of Planning and Development and Urban Forestry Unit would reduce any potential impact to locally significant trees.

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

No Impact

The proposed project site is in an urbanized area. The proposed project would change the visual character of the site from one-story commercial buildings to a four-story apartment building. As noted above, aesthetic impacts of a residential project on an infill site within a transit priority area shall not be considered significant impacts on the environment. This section provides information to the public regarding the project's compliance with the City's design guidelines.

The building is being designed to comply with the City's Design Guidelines (City of Berkeley 2012), which limits shading on public sidewalks and open space. Architectural features include decorative cast-in-place concrete metal infill panels, Parklex wood panels, wood fencing to match the building, and aluminum windows.

In addition, the project would implement a Landscape Plan to enhance the overall visual character of the site, consistent with BMC Chapter 14.48.050. Landscaping would include shrubs, perennials, and groundcover. Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality.

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

Less Than Significant Impact

The proposed project would replace current lighting at the site with new security lighting for the residential development. The nearest sensitive receptors are associated with residential homes adjacent to the site. The existing urban uses in the vicinity already provide existing sources of light; therefore, this project would not result in a significant increase in light in the area. Exterior lighting would be designed with shields, and lights would be directed only onto the pedestrian areas. Therefore, the proposed project would have a less than significant effect on day and nighttime views in the area.

Glare is caused by light reflections from pavement, vehicles, and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to

motorists and nuisances for pedestrians and other viewers. The project proposes to construct a four-story building that could increase glare for vehicles and pedestrians on College Avenue. The project would be required to incorporate measures specified in the City's design guidelines prior to the project's approval specifically for windows and to alleviate glare, and the standard COA Exterior Lighting requires exterior lighting to be shielded and directed downward and away from property lines to prevent excessive glare beyond the subject property; therefore, glare produced by the project would have a less than significant impact.

2. Agricultural and Forestry Resources

Environmental Setting

The proposed project is within an urban area in Berkeley, California and is not designated as any of the following agricultural and forestry resources listed in the CEQA checklist below. The site is paved and contains an auto-repair facility.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) § 12220(g)), timberland (as defined by PRC § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	No Impact

Answers to CEQA Checklist Questions

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

No Impact

The site is not identified as a farmland type under the Farmland Mapping and Monitoring Program, is not enrolled in Williamson Act contracts, and does not support forest land or resources. The project site and surrounding neighborhood is categorized as "Urban and Built-Up Land" (California Department of Conservation

2016). The area is not located on or adjacent to agricultural land or forest land, and thus the proposed project would not involve the conversion of farmland to non-agricultural uses.

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

No Impact

As stated in response to 2(a) above, the site is in an area zoned for urban uses and is not in or near agricultural uses and is not enrolled in a Williamson Act contract.

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

No Impact

The project site is an urban area zoned for Multi-family residential uses. The project would not conflict with existing zoning of forest land or timberland.

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

No Impact

As stated in response to 2(a) above, the site is in an area zoned for urban uses and is not in or near forest lands. Therefore, the project would no result in a loss of forest land or the conversion of forest land to non-forest use.

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

No Impact

See responses to 2(a) and 2(d), above. The project is urban infill, surrounded by extensive urban development, and would not result in the conversion of agricultural or forest lands.

3. Air Quality

Environmental Setting

The topography of a region can substantially impact air flow and resulting pollutant concentrations. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

Air quality conditions in the Bay Area are compared to ambient air quality standards set at the federal level (i.e., National Ambient Air Quality Standards, or NAAQS) and at the state level (i.e., California Ambient Air Quality Standards). The attainment status is classified for each pollutant.

Under the NAAQS, the Bay Area is classified as nonattainment for ozone and particulate matter $(PM)_{2.5}$. Although the U.S. Environmental Protection Agency (EPA) issued a final rule in 2013 to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard, the Bay Area continues to be designated as "nonattainment" for the 24-hour $PM_{2.5}$ NAAQS standard until the BAAQMD submits a "redesignation request" and a "maintenance plan" to EPA, and EPA approves the proposed redesignation. For the pollutants nitrogen dioxide, carbon monoxide, and sulfur dioxide, the area is designated as attainment. While BAAQMD monitoring data shows the region meets the PM_{10} NAAQS, the area is technically designated "unclassified." At the state level, the area is considered nonattainment for ozone, $PM_{2.5}$ and PM_{10} and considered "attainment" for all other criteria air pollutants (California Air Resources Board n.d.).

Regulatory Setting

Air Quality Standards

Air quality in the region is regulated by several agencies including the EPA, CARB, the Department of Public Health, and the BAAQMD. These agencies develop rules, regulations, policies, and/or plans to achieve the goals and directives imposed through legislation.

The EPA is responsible for implementing the federal Clean Air Act (1970), including establishing health-based NAAQS for air pollutants. NAAQS established for criteria pollutants under the Clean Air Act are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, $PM_{10,}$ and $PM_{2.5}$, and lead. The standards set for criteria pollutants are periodically reviewed and revised as applicable.

In California, CARB is responsible for implementing the California Clean Air Act (1988) and has established California Ambient Air Quality Standards, which are more restrictive than the national standards. In general, CARB works with local

agencies to develop policies, guidance, and regulations related to state and federal ambient air quality standards; coordinates with local agencies on transportation plans and strategies; and provides assistance to local districts and transportation agencies to meet air quality standards established under both the federal and California clean air acts.

Local – BAAQMD

The BAAQMD is the regional agency tasked with managing air quality in the region. The BAAQMD adopted the 2017 Clean Air Plan (Bay Area Air Quality Management District 2017b) to plan for and achieve compliance with the federal and state ozone standards. The 2017 plan updates the 2010 Clean Air Plan pursuant to air quality planning requirements. To fulfill state ozone planning requirements, the 2017 Plan includes a wide range of control measures designed to decrease emissions of harmful air pollutants, such as particulate matter, ozone (measured as reactive organic gases [ROG] and nitrogen oxides [NOx]), and toxic air contaminants; decrease greenhouse gas (GHG) emissions; and decrease emissions of carbon dioxide (CO_2) by reducing fossil fuel combustion.

The BAAQMD's most recent CEQA Guidelines (Bay Area Air Quality Management District 2017a) are used in this analysis to evaluate air quality impacts of projects, although they are currently being evaluated for further updates. The Guidelines provide BAAQMD-recommended procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. The control measures identified in the 2017 Plan are identified in the Guidelines as recommendations and/or mitigation measures.

BAAQMD has adopted thresholds of significance to assist in the review of projects under CEQA that meet or exceed federal and state standards. These thresholds were designed to establish the level at which BAAQMD believes air pollution emissions would cause significant environmental impacts under CEQA (Bay Area Air Quality Management District 2017a).

Table 2 presents the significance thresholds used in this analysis for estimated daily construction-related emissions and operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on air quality.

Table 2. Air Quality Thresholds

Pollutant	Construction Threshold	Operational Threshold
ROG	54 lbs/day	54 lbs/day

Pollutant	Construction Threshold	Operational Threshold
NOx	54 lbs/day	54 lbs/day
PM_{10}	82 lbs/day	82 lbs/day
$PM_{2.5}$	54 lbs/day	54 lbs/day
Carbon Monoxide	Not Applicable	9.0 ppm (8-hour average)

Source: (Bay Area Air Quality Management District 2017a)
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (μm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5μm or less.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact with Mitigation Incorporated
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

Construction-Related Impacts

Because the project proposes demolition of the two existing auto facility structures, the project exceeds the screening criteria requirements for a less-than-significant determination without conducting additional analysis for construction-related impacts.

The BAAQMD recommends the use of California Emissions Estimator Model (CalEEMod) to analyze construction emissions for land use development projects. CalEEMod (version 2022.1, release date April 2022) was used to estimate average daily construction exhaust emissions.

CalEEMod Results

Inputs to the model included the construction year, total expected duration, proposed equipment usage, and land-use subtype apartments mid-rise. Other model inputs such as building area, landscape area, and lot acreage were input to the model. The project schedule and equipment usage assumptions used within the model assumed the project would be constructed over a period of approximately 13 months, or an estimated 286 construction workdays (based on an average of 22 workdays per month). Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Due to the proximity to the University of California, Berkeley, occupancy was assumed at two persons per bedroom, for a total of 74 persons.

The model predicts emissions of ozone precursor pollutants (i.e., ROG and NOx) and particulate matter (i.e., PM_{10}, and $PM_{2.5}$) and emissions of carbon dioxide equivalents (CO_2e; see Environmental Checklist Section 8, Greenhouse Gas Emissions). Table 3 summarizes the results. The detailed results of the CalEEMod emissions model are attached as Appendix A.

Table 3. Project Construction Emissions Estimate Results

Criteria Air Pollutant (Threshold of Significance)	**ROG (54 lbs/day)[1]**	**NOx (54 lbs/day)[1]**	**Total PM_{10} (Exhaust) (82 lbs/day)[1]**	**Total $PM_{2.5}$ (Exhaust) (54 lbs/day)[1]**	**CO_2e (1,100 mt/yr)[2]**
Construction Average daily	0.31	9.4	0.15	0.15	77.5
Exceedance	No	No	No	No	No

Criteria Air Pollutant (Threshold of Significance)	ROG (54 lbs/day)[1]	NOx (54 lbs/day)[1]	Total PM_{10} (Exhaust) (82 lbs/day)[1]	Total $PM_{2.5}$ (Exhaust) (54 lbs/day)[1]	CO_2e (1,100 mt/yr)[2]

[1]Assumes 286 workdays
[2]Carbon dioxide equivalents in metric tons per year

The project is required to comply with the City's standard COA Public Works – Implement BAAQMD-Recommended Measures during Construction to control fugitive dust. Other control measures for construction and other earth-moving activities must follow recommendations presented in the Enhanced Fugitive Particulate Matter Dust Control Practices (Bay Area Air Quality Management District 2017b). These BMPs include, but are not limited to, stabilizing disturbed soil, limiting vehicular traffic, applying water to disturbed soil, limiting size of staging area, and using tarps to cover loose soils. The City also requires implementation of COA Air Quality – Diesel Particulate Matter Controls During Construction to manage all offroad construction equipment to reduce emissions to the maximum extent feasible.

Operational Impacts

Projects that could generate emissions in excess of the BAAQMD thresholds or state ambient air quality standards would be considered to potentially conflict with or obstruct implementation of the applicable air quality plan. For development projects whose only operational emissions come from increased vehicular traffic (e.g., a mall or residential development), screening based on project size or activity may be used to determine whether the project will exceed the threshold of significance for total emissions from project operation. The BAAQMD has determined, based on conservative assumptions, that mid-rise apartment complexes of more than 494 units would potentially result in emissions above the BAAQMD's thresholds of significance for ROG and NOx (54 lbs/day). BAAQMD has also determined that mid-rise apartment complexes with 494 units or more with construction BMPs incorporated would potentially result in emissions above the BAAQMD's thresholds of significance for PM. The proposed project would construct 11 units on an infill site, a size that falls well below the BAAQMD operational screening levels, and therefore would not exceed BAAQMD or state thresholds. No additional analysis is warranted.

Consistency with Air Quality Plans

The California Clean Air Act requires that air districts create an air quality plan that describes how the jurisdiction will meet air quality standards. These plans must be updated every three years. The most recently adopted air quality plan in the Basin is the 2017 Clean Air Plan. As described under Air Quality Management, the 2017 Plan updates the most recent ozone plan – the 2010 Clean Air Plan – pursuant to

air quality planning requirements defined in the California Health and Safety Code. To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors (ROG and NOx) and reduce transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Plan builds upon and enhances the air district's efforts to reduce emissions of fine particulate matter and toxic air contaminants. The 2017 Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

The 2017 Clean Air Plan focuses on two paramount goals:

- Protect air quality and health at the regional and local scale by attaining all state and national air quality standards and eliminating disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

Under BAAQMD's methodology, a determination of consistency with the 2017 Clean Air Plan should demonstrate that a project:

- Supports the primary goals of the 2017 Clean Air Plan;
- Includes applicable control measures from the 2017 Clean Air Plan; and
- Would not disrupt or hinder implementation of any control measures in the 2017 Clean Air Plan.

A project that would not support the 2017 Plan's goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support for the 2017 Clean Air Plan's goals. As shown in the discussion above, the project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Clean Air Plan's goal to attain air quality standards. Furthermore, as shown in Table 4, the proposed project would include applicable control measures from the 2017 Clean Air Plan and would not disrupt or hinder implementation of such control measures. Therefore, the proposed project would result in a less than significant impact related to consistency with the 2017 Clean Air Plan.

Table 4. Project Consistency with Applicable Control Strategies of 2017 Clean Air Plan

Control Strategy	Evaluation
Direct new development to areas that are well served by transit, and conducive to bicycling and walking.	**Consistent**. The project would involve increased residential density in a transit priority area as defined Section 21064.3 of the California Public Resources Code. The site is within walking distance of stops for several Alameda-Contra Costa Transit District bus lines and the Downtown Berkeley Bay Area Rapid Transit (BART) Station. The site is also within walking distance of Downtown Berkeley, including commercial shops and services.
Promote energy and water efficiency in both new and existing buildings.	**Consistent**. The proposed project would be required to comply with 2019 CALGreen standards and BMC Chapter 19.37, which include measures for energy and water efficiency.

Source: (Bay Area Air Quality Management District 2017b)

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

Less Than Significant Impact

The project region is non-attainment with federal ambient air quality standards for ozone and $PM_{2.5}$, and state ambient air quality standards for ozone, PM_{10}, and $PM_{2.5}$. However, emissions resulting from project construction and operation fall well below the BAAQMD screening levels, as discussed in (a) above. BAAQMD has determined that projects that do not exceed significance thresholds would not generate emissions that are cumulatively considerable. The City has adopted two standard COA's, one is the Public Works – Implement BAAQMD-Recommended Measures during Construction that requires implementation of BAAQMD recommended construction mitigation measures related to fugitive dust. The other standard COA is the Air Quality – Diesel Particulate Matter Controls During Construction that requires that all offroad construction equipment used for projects with construction lasting more than 2 months shall comply with specific measures and a Construction Emissions Minimization Plan shall be prepared. Compliance with these COA's would ensure that construction-related fugitive dust emissions would be less than significant.

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

Less Than Significant Impact with Mitigation Incorporated

Children, the elderly, asthmatics, and others who are at a heightened risk of negative health outcomes due to exposure to air pollution are considered sensitive receptors. Locations where sensitive receptors may congregate include hospitals,

schools, daycare centers, and other locations as determined by CARB (California Health and Safety Code § 42705.5(a)(5)).

The nearest sensitive receptor, as defined by CAHSC § 42705.5(a)(5)), to the project area is Maybeck High School, approximately 0.3 miles south of the site. However, it is possible that residents located close to the site could be exposed to toxic air contaminants (TACs) during construction activities.

Construction-related activities could result in the generation of TACs, specifically diesel particulate matter, from on-road haul trucks and off-road equipment exhaust emissions. The BAAQMD has determined that "due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk. Additionally, the implementation of the Basic Construction Mitigation Measures, which is recommended for all proposed projects, would also reduce diesel PM exhaust emissions." (Bay Area Air Quality Management District 2017a).

The BAAQMD recommends that contractors provide detailed information regarding their fleet and construction activities; these are included as part of the project construction via COA Air Quality – Diesel Particulate Matter Controls During Construction. The City has adopted a standard COA that requires that the contractor submit a Construction Emissions Minimization Plan (Emissions Plan) that meets BAAQMD recommendations. The Emissions Plan must include an equipment inventory summarizing the type of off-road equipment required for each phase or construction and 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. Whereas the contractor is not selected until City approvals are complete and therefore an equipment inventory would be speculative at this time, the Emissions Plan must be submitted to the Public Works Department for review and approval prior to the issuance of building permits.

The U.S. Environmental Protection Agency has required all new nonroad diesel engines to meet Tier IV standards since 2015. The City's current COA Air Quality – Diesel Particulate Matter Controls During Construction is designed to address this issue and requires that all offroad construction equipment used for projects with

construction lasting more than 2 months must be equipped with Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by the CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

The CARB requires fleet owners to report their equipment tiers every year. Fleet size is determined by aggregate gross horsepower. CARB has determined that more than 50 percent of diesel equipment is now Tier4f (Levine, Johanna, CARB, personal communication on December 13, 2022). This indicates that the older equipment is still being used, but as it wears out or is sold, it must be replaced by Tier 4f.

Due to the close proximity of residents to the construction site, and the availability of Tier 4 and electric equipment, the City determined it was reasonable and feasible to require the following mitigation measure while their standard COA is being reassessed:

Mitigation Measure AQ-1: All offroad construction equipment used on the site must be equipped with Tier 4 engines or Tier 2 or higher engines combined with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type as certified by the California Air Resources Board (CARB) to achieve a Tier 4 final level of diesel particulate matter control. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.

Finding: Compliance with Mitigation Measure AQ-1 and the City of Berkeley standard COAs would reduce the potential exposure of sensitive receptors to construction diesel particulate emissions to a less-than-significant level.

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

Less Than Significant Impact

The BAAQMD's 2017 CEQA Guidelines Update, Table 3-3, provides odor screening distances for land uses that have the potential to generate substantial odor complaints. The odor-generating uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants. The proposed project involves residential uses and does not include any of the uses identified by the BAAQMD as odor-generating uses. While occasional backyard grilling can emit odors and localized smoke, BAAQMD Regulation 5-110.1 adopted November 20, 2019, exempts "Fires set only for cooking of food for human beings" from regulation. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people and the impact would be less-than-significant.

4. Biological Resources

Environmental Setting

The project site is located in a developed commercial and residential area. Most of the site is covered by paving or existing buildings. The project site has experienced extensive human disturbance, including regular vehicle movement over much of the paved areas. Existing landscaping is limited to the edges of the parcel. There are no existing trees on the project site; two street trees are adjacent to the site on College Avenue.

Regulatory Setting

Migratory Bird Treaty Act

The MBTA makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California Fish and Game Code (§ 3500) also prohibits the destruction of any nest, egg, or nestling.

Local – Tree Removal

The City's General Plan Urban Design and Preservation Element contains relevant local requirements, including Policies UD-9 and UD-30, that discuss street trees, native plant use in landscaping, and the stated goal to protect local and regional environmental quality (City of Berkeley 2002d).

The City's General Plan Environmental Management Element contains relevant local requirements, including Policy EM-29 that requires the City to maintain and enhance street and park trees to improve the environment and provide habitat.

Under BMC Chapter 6.52, the removal of coast live oak trees is prohibited for any reason, unless such removal is deemed necessary for public safety by the City Manager. Any coast live oak tree with a single stem circumference of 18 inches or more or any multi-stemmed oak with an aggregate circumference of 26 inches or more at a distance of four feet from the ground is protected under this ordinance.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

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

Answers to CEQA Checklist Questions

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

Less Than Significant Impact with Mitigation Incorporated

The project site is in an urbanized area of Berkeley and contains vacant commercial structures and a parking lot, with limited perimeter landscaping. The surrounding area is developed with multi-story residential buildings, roadways, and limited perimeter landscaping and street trees. The site does not contain riparian habitat and is not located within a known regional wildlife movement corridor. Additional information about the distribution of special status species with the potential to

occur within the project area was compiled from the California Natural Diversity Database (California Department of Fish and Wildlife n.d.) for occurrences of special status species within a one-mile radius of the proposed project. Based on the developed nature of the area and lack of native or riparian habitat, no federal- or state-listed endangered, threatened, rare, or otherwise sensitive flora or fauna are anticipated to be located within the project site.

Existing trees on and around the project area could contain bird nests and birds that are protected under the MBTA. Protected birds include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others, including their body parts (feathers, plumes etc.), nests, and eggs. The proposed project may involve removal of the two street trees abutting the site. In addition, demolition and construction activities associated with the project may affect protected nesting birds in existing trees. However, development projects that require a use permit, including the proposed project, are required to comply with standard COA Avoid Disturbance of Nesting Birds, which prohibits initial site disturbance activities, including vegetation and concrete removal, during the nesting season (February 1 through August 30) unless a qualified biologist is consulted to ensure that potential direct and indirect effects to nesting birds are avoided.

The proposed project would increase the amount of reflective glass material in the area through the introduction of a new four-story, approximately 47-foot-tall building in the Southside neighborhood. Birds generally do not see glass, so they fly into it, causing injury and mortality. Annually, it is estimated that between 365 and 988 million birds are killed by window collisions in the United States. An increase in the amount of glass and the increased height of the building along College Avenue could increase the risk of birds colliding with windows, although the site is in an area with many buildings of similar height. In addition, at night, during spring and fall bird migrations when inclement weather occurs, birds can be attracted to lighted structures, although this is less common within developed urban environments. The majority of bird collisions occur during daytime hours.

The City considers the size and location of proposed new building construction within the City and applies applicable project-specific conditions related to bird safe building standards where necessary. The USFWS provides guidance and best practices for the use of building glass, lighting, and landscaping infrastructure and design. In addition, the City and County of San Francisco has adopted Standards for Bird Safe Buildings, which specifically identify expanses of uninterrupted glazed building segments of 24 sf or larger as a hazard to birds. The following mitigation measure, which incorporates relevant measures from the City's bird safe conditions applied to other development projects within sensitive areas, is required to ensure that the potential for bird strikes is reduced to the extent feasible. Implementation

of **Mitigation Measure BIO-1** would reduce potential window strikes of birds to a less-than-significant level.

Mitigation Measure BIO-1: The project sponsor shall implement applicable measures identified in the City's project-specific bird safe building standards and the U.S. Fish and Wildlife Service's best practices for reducing bird strikes with buildings (U.S. Fish and Wildlife Service 2016) to the satisfaction of the Planning Director. To make an effective virtual cue, all window treatment should be applied to at least the first two to three stories or the height of the adjacent vegetation. Measures shall include:

- Use architectural features to reduce the amount, reflectivity, and transparency of glass.
- Employ bird collision mitigation measures for clear glass.
- Keep the percentage of total glass below American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standard of 40% of surface area (ANSI/ASHRAE/IES Standard 90.1 2013).
- Avoid reflective glass.
- Follow the Leadership in Energy and Environmental Design Pilot Credit 55: Bird Collision Deterrence recommendations for new construction (http://www.usgbc.org/Docs/Archive/General/Docs10402.pdf).
- Minimize the number of or co-locate roof-top antennas. Make all antennas free standing (i.e., no guy wires).
- Use architectural features to reduce the amount, reflectivity, and transparency of glass.

Finding: Compliance with Mitigation Measure BIO-1 and the City of Berkeley standard COAs would ensure protection of nesting birds and reduce impacts to special status species to a less-than-significant level.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

No Impact

The site does not contain riparian habitat and is not located within a known regional wildlife movement corridor or other sensitive biological area identified by CDFW or USFWS. Therefore, the project would not have an adverse effect on these resources.

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

No Impact

The National Wetlands Inventory was reviewed to determine if wetland and/or non-wetland waters had been previously documented and mapped on or in the vicinity of the project site (U.S. Fish & Wildlife Service n.d.). No such features occur on or adjacent to the project site. There are no potential jurisdictional waters or wetlands in the vicinity of the site.

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

No Impact

As stated in response to 4(a), above, the site does not contain riparian habitat and is not located within a known regional wildlife movement corridor. Based on the developed nature of the area and lack of native or riparian habitat, no federal- or state-listed endangered, threatened, rare, or otherwise sensitive species are anticipated to use the project site.

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

Less Than Significant Impact

Construction activities associated with the proposed project would result in the removal of mature street trees near the project site. General Plan Policy EM-29 requires the City to maintain and enhance street and park trees to improve the environment and provide habitat. Ongoing implementation of the policy through site-specific review by the Berkeley Department of Planning and Development and Urban Forestry Unit would reduce any potential impact to locally significant trees. The plans for the proposed project would be reviewed twice, during the entitlement (use permit) review and for building permit approvals. Impacts related to General Plan policies would therefore be less than significant.

Under BMC Chapter 6.52, the removal of coast live oak trees is prohibited for any reason, unless such removal is deemed necessary for public safety by the City Manager. Any coast live oak tree with a single stem circumference of 18 inches or more or any multi-stemmed oak with an aggregate circumference of 26 inches or more at a distance of four feet from the ground is protected under this ordinance. While the project would involve removal of two street trees, none of the existing trees on or near the project site are coast live oak trees protected by the City's tree protection ordinance.

The proposed project does not include components that would conflict with or hinder implementation of the City's tree protection ordinance or other policies or ordinances for protecting biological resources. Impacts would be less than significant.

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

No Impact

The project site is not located in an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with such a plan and no impact would occur.

5. Cultural Resources

Environmental Setting

The area of potential effect (APE) for cultural resources includes the approximate 0.09-acre project area and the indirect APE is the area extending approximately 100 meters outside the area of direct effect. The project area contains two vacant structures and an asphalt parking lot.

Regulatory Setting

State

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify and evaluate California's historical resources and indicates which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (PRC §5024.1(a)). Any resource listed in, or eligible for listing in, the CRHR must be considered during the CEQA process.

CEQA

CEQA requires that a lead agency determine whether a project may have a significant effect on historical resources (PRC § 21084.1) and tribal cultural resources (PRC § 21084.2; see also PRC § § 21074 [a][1][A]-[B] and 21084.3). A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR, a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (California Association of Environmental Professionals n.d.).

A resource is considered historically significant if it (15064.5(a)(3)(A)-(D) citing PRC 5024.1 and 14 CCR 4852):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.

Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC § 21083.2[a], [b]).

PRC § 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Local

The BMC Chapter 3.24 addresses the preservation of historical heritage. 3.24.110 identifies the criteria used for consideration for landmarks, historic districts, and structures of merit:

General criteria which the commission shall use when considering structures, sites and areas for landmark or historic district designation are as follows:

"A. Landmarks and historic districts. General criteria which the commission shall use when considering structures, sites and areas for landmark or historic district designation are as follows:

1. Architectural merit:

   (a) Property that is the first, last, only or most significant architectural property of its type in the region;

   (b) Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer or master builder; or

   (c) Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.

Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social, and economic developments of the City;

Educational value: Structures worth preserving for their usefulness as an educational force;

Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States.

History may be social, cultural, economic, political, religious or military;

Any property which is listed on the National Register described in 16 United States Code (U.S.C.) § 470A.

B. Structures of merit. Criteria which the commission shall use when considering a structure for structure of merit designation are as follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.

Specific criteria include, but are not limited to one or more of the following:

(a) The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the City, or to the structure's neighborhood, block, street frontage, or group of buildings.

(b) The structure is compatible in size, scale, style, materials or design with a designated landmark structure within its neighborhood, block, street frontage, or group of building

(c) The structure is a good example of architectural design.

(d) The structure has historical significance to the City and/or to the structure's neighborhood, block, street frontage, or group of buildings. (Ord. 5686-NS § 1 (part), 1985: Ord. 4694-NS § 3.1, 1974).

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant Impact

Answers to CEQA Checklist Questions

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?

No Impact

A Historical Evaluation was performed on the existing building within the APE based on the City's evaluation criteria (Preservation Architecture 2022), which is consistent with the CEQA Guidelines § 15064.5. The Evaluation found that the building was constructed in 1929 as a gasoline service station. What remains of the former station is the roof canopy and the office enclosure, though the latter has also been altered at the exterior by the addition of wood shingles and boards, a replacement wood door, and window alterations. Permit records also indicate that, while vacant in the late-1960s, there was a fire in the enclosure, so the rear of the enclosure has been altered, possibly with an addition.

The former service station property and structures located at 2555 College Avenue are not eligible for designation as a Berkeley Landmark or Structure of Merit on the basis of any cultural value, as follows:

- In the context of 20th century automotive transportation and associated infrastructure, the remains of this small, standard, 1929 service station have no potential historic importance. Of standardized, pre-fabricated construction, these structures exemplify early 20th century, pre-fabricated stations that were once numerous. Other examples remain standing – even a few in Berkeley – though they are typically not found in urban environs, where their usefulness has been lost to larger and more centralized service stations. In addition, their increasingly valuable sites have been requisitioned for infill development. Moreover, a reality of their obsolescence, few surviving early-to-mid-20th century stations serve their original use. Altogether, this

property is not associated with the movement or evolution of religious, cultural, governmental, social, or economic developments of the City (Landmarks Preservation Ordinance [LPO] Section A.2).

- As the subject property shares a general and widely shared role as the site of a former service station, there is no potential educational value associated with the subject site or building. Therefore, the site is not worth preserving for usefulness as an educational force (LPO Section A.3).
- The subject property and structures have no potential to embody or express the history of Berkeley/Alameda County/California/United States (LPO Section A.4).

The subject building also is not eligible to be a City of Berkeley Landmark or Structure of Merit on the basis of architectural merit because:

- The subject building is not a "first, last, only or most significant architectural property of its type in the region" (LPO § A.1.a).
- The subject building is not a prototypical or outstanding example of its period or style, neither is it the work of an identifiable, individual architect, engineer, or builder. Such standard service station architecture has no historic architectural importance (LPO § A.1.b).
- This surviving service station building is not an architectural example worthy of preservation for any "potentially exceptional values relative to its neighborhood fabric" (LPO § A.1.c).
- This building is not worthy of potential preservation as part of its neighborhood, block, or street.

Therefore, the proposed project would have no impact on the significance of a historical resource.

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

Less Than Significant Impact

The search results indicated no archaeological sites or inventories were previously recorded within the APE, nor have any archaeological sites been formally recorded within 100 meters of the APE.

No cultural resources were identified within or adjacent to the APE. Based on the archival research and site reconnaissance conducted as part of the cultural resources investigation, the project-related disturbance would be limited to previously disturbed areas unlikely to hold archaeological potential. The project would be subject to City COAs related to the unanticipated discovery and treatment of archaeological resources. These include stopping work within 50 feet of the

resource, consulting with an archaeologist or architectural historian, and developing appropriate mitigation measures in consultation with the City. Compliance with the COA Archaeological Resources (*Ongoing throughout demolition, grading, and/or construction*) would ensure that any unanticipated finds during construction would be evaluated and treated by a qualified archaeologist. Therefore, the proposed project would have a less than significant impact on archaeological resources during construction.

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

Less Than Significant Impact

The discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, California Health and Safety Code § 7050.5 states that no further disturbance may occur until the county coroner has made a determination of origin and disposition pursuant to PRC § 5097.98. Therefore, in the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be Native American, the coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD would complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. Compliance with existing laws, regulations, and the standard COA Human Remains (*Ongoing throughout demolition, grading, and/or construction*) governing the identification and treatment of human remains if revealed during construction, impacts to human remains will be less than significant.

6. Energy

California's Building Standards Code (24 CCR) includes two parts 1) the Building Energy Efficiency Standards (Energy Code), Part 6 of Title 24, and 2) the California Green Building Standards (CALGreen Code), Part 11 of Title 24. The Energy Code applies to newly constructed buildings, additions, and alterations. Although the new standards were adopted in 2022, they are not yet in effect for projects that apply for building permits before January 2023, thus the 2019 standards apply to the proposed project. The 2019 standards focus on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa), residential and nonresidential ventilation requirements, and nonresidential lighting requirements. The ventilation measures improve indoor air quality, protecting homeowners from air pollution originating from outdoor and indoor sources.

Environmental Setting

Within the project area, electricity and natural gas were used historically during operation of the commercial auto facility. No natural gas will be used in the proposed project. Electricity is currently provided at the site by East Bay Community Energy (EBCE); EBCE will also provide electricity for the proposed project.

East Bay Community Energy

EBCE supplies electricity to the City by using transmission infrastructure operated and maintained by Pacific Gas and Electric Company (PG&E). EBCE is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses; their power mix is mostly sourced from renewable energy and large hydropower. EBCE Renewable 100, EBCE's service that is sourced from 100% California wind and solar, became the default program for residential customers in Berkeley in March 2022 – and will also become the default program for commercial customers in Oct 2022 (City of Berkeley 2022a). By comparison, as of 2021, EBCE's energy intensity factor for its base plan (Bright Choice) consisted of 42.3 percent eligible renewable energy resources (East Bay Community Energy 2022).

PG&E is one of the nation's largest electric and gas utility companies, and it maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (Pacific Gas & Electric n.d.). According to PG&E's 2018 Integrated Resource Plan, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt-hours and 37,370 gigawatt-hours (Pacific Gas & Electric n.d.).

In 2018, Alameda County consumed approximately 10,417 gigawatt-hours, which was approximately 13 percent of electricity consumption by PG&E customers and approximately four percent of statewide electricity (California Energy Commission n.d.).

City of Berkeley

BMC Chapter 12.80 prohibits the use of natural gas infrastructure in all new construction. The proposed new multi-use building would comply with this requirement.

BMC Chapter 19.36 adopts the California Energy Code, 2019 Edition. Pursuant to Berkeley Energy Code, BMC Chapter 19.36, the proposed project would be required to install solar panels.

BMC Chapter 19.37 adopts the California Green Building Standards Code (CALGreen). The proposed project would be required to comply with 2019 CALGreen standards and BMC Chapter 19.37, which include measures for energy and water efficiency.

The City of Berkeley has not yet adopted the 2022 Energy Code and CALGreen, and their local amendments. This will happen in December 2022, for an effective date of Jan 1, 2023.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less Than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The proposed project would introduce new residential land uses to the site. Energy consumption includes both construction and operational energy use. Construction energy demand accounts for anticipated energy consumption during project

construction, such as fuel consumed by construction equipment and construction workers' vehicles traveling to and from the project site. Operational energy demand accounts for the anticipated energy consumption during project operation, such as fuel consumed by cars, trucks, and public transit; and electricity consumed for building power needs, including but not limited to lighting, water conveyance, and air conditioning. Both construction and operation of the proposed project would result in energy consumption. The building will be all-electric, consistent with the requirements BMC Chapter 12.80; therefore, there would be no demand for natural gas.

As discussed in the Environmental Checklist Section 3, Air Quality, the project would implement BMPs to reduce use of fossil fuels and increase energy-efficiency of construction vehicles. The site is located on a bus corridor and is a near a BART Transit Station, both of which provide transportation alternatives for construction workers. Energy use during construction would be temporary, and construction equipment used would be typical of similar-sized construction projects in the region. Electric equipment would be used on-site during construction to the extent feasible. In addition, construction contractors would be required to comply with the provisions of 13 CCR 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption.

Consistent with BMC Chapter 19.37, the project would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris and 100 percent of concrete, asphalt, and land-clearing debris. These practices would result in efficient use of energy necessary to construct the project. Furthermore, in the interest of cost-efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

In addition, the project must comply with the Berkeley Green Code (BMC Chapter 19.37), which incorporates CALGreen, as adopted in July 2021. Chapter 4 Residential Mandatory Measures of the California Green Buildings Standards was adopted in its entirety subject to modifications concerning waste diversion, electric vehicle charging stations, reductions in the use of cement, and construction waste management.

The development would be constructed to be generally consistent with the goals and policies related to energy in the City's Climate Action Plan (CAP)(City of Berkeley 2022b). Energy-efficient features would be incorporated into the residential buildings in accordance with City and state requirements and recycling stations would be located on-site.

Nearby public transit would allow residents to easily reach job centers and other amenities, thereby reducing motor vehicle trips. Residents could also use non-motorized modes of transportation to reach existing services in the vicinity of the site, which would further reduce transportation fuel demand (see Environmental Checklist Section 17, Transportation). The proposed project includes 20 bicycles spaces to encourage this mode of travel.

Thus, the proposed project would not result in the inefficient, wasteful, or unnecessary use of energy.

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

Less Than Significant Impact

The City's CAP contains recommended goals intended to increase energy efficiency and expand the use of renewable energy. As discussed in Environmental Checklist Section 8, Greenhouse Gas Emissions, the proposed project would be consistent with the recommended goals of the City's CAP related to energy efficiency and renewable energy, including Sustainable Transportation and Land Use Goal 8 and Building Energy Use Goals 1 and 4.

Table 5 identifies the relevant General Plan policies and the project's consistency with those policies. The project would replace an older building with new construction that meets or exceeds current Title 24 construction requirements. Project construction would implement BMPs to reduce fossil fuel use by construction vehicles. Energy-efficient building exterior walls, utility systems, and appliances would be incorporated. As an infill housing project that replaces older buildings with an energy-efficient building in a transit priority area, the project would be consistent with adopted state and City goals and policies for energy efficiency and sustainability.

Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Table 5. Project Consistency with Applicable General Plan Measures

General Plan Element	Policy	Project Consistency
Environmental Management	**EM-5 "Green" Buildings**. Promote and encourage compliance with "green" building standards.	**Consistent:** The project is required to be constructed in accordance with the latest iteration of CALGreen, the California Building Energy Efficiency Standards, and the Berkeley Green Code (BMC Chapter 19.37), which include green building practices. In addition, new construction on the site would be fully electric per the requirements of BMC Section 12.80, which would reduce consumption of nonrenewable energy resources.
Environmental Management	**EM-8 Building Reuse and Construction Waste.** Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs.	**Consistent:** The proposed project would be required to divert 100 percent of concrete, asphalt, and land clearing debris, and at least 65 percent of nonhazardous construction and demolition debris per the requirements of BMC Chapter 19.37.
Environmental Management	**EM-35 Energy Efficient Design.** Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.	**Consistent:** The project would be required to be constructed in accordance with the most recent version of CALGreen, the California Building Energy Efficiency Standards, BMC Chapter 19.37, which include requirements for the use of energy-efficient design and technologies as well as provisions for incorporating renewable energy resources into building design. The project would also include additional green building features, including built-in composting and recycling centers, efficient clothes washing and drying machines, and high-efficiency lighting. Finally, new construction within the project site would be fully electric per the requirements of BMC Section 12.80, which would also reduce consumption of nonrenewable energy resources.

General Plan Element	Policy	Project Consistency
	EM-41 Fossil Fuel. Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.	**Consistent:** The project would increase housing density in an area which currently includes a mix of residential and commercial land uses in proximity to the downtown area. The site is within walking distance of several bus stops served by Alameda County Transit. In addition, the Downtown Berkeley BART station is located approximately 1.6 miles (walking distance) of the site. Therefore, the project would provide access by proximity through locating housing close to transportation and commercial services, thereby supporting efforts to reduce the use of fossil fuels by motor vehicles. In addition, new construction would be fully electric per the requirements of BMC Section 12.80, which would also reduce consumption of nonrenewable energy resources.
Housing	**H-30 Energy Efficiency and Waste Reduction.** Implement provisions of Berkeley's Climate Action Plan to improve building comfort and safety, reduce energy costs, provide quality housing, and reduce Greenhouse Gas Emissions.	**Consistent:** As discussed in Environmental Checklist Section 8, Greenhouse Gas Emissions, the proposed project would be consistent with the recommended goals of the City's CAP. The project would also include green building features beyond those required by CALGreen, including built-in composting and recycling centers, energy-efficient clothes washing and drying machines, and high-efficiency lighting.
Urban Design	**UD-33 Sustainable Design.** Promote environmentally sensitive and sustainable design in new buildings.	**Consistent:** The project would be required to be constructed in accordance with the most recent version of CALGreen, the California Building Energy Efficiency Standards, and BMC Chapter 19.37, which include environmentally sensitive and sustainable design practices. In addition, new construction would be fully electric per the requirements of BMC Section 12.80, which would reduce consumption of nonrenewable energy resources.

Source: (City of Berkeley 2002b)

7. Geology and Soils

Environmental Setting

Berkeley is situated within the Coast Ranges geomorphic province of California (California Division of Mines and Geology 1969). A geomorphic province is a region of unique topography and geology that is readily distinguished from other regions based on its landforms and geologic history. The Coast Ranges extend about 600 miles from the Oregon border south to the Santa Ynez River in Santa Barbara County. The Coast Ranges are composed of a complex assemblage of geologic units, including Mesozoic metasedimentary and metavolcanic rock of the Franciscan Complex, marine and nonmarine sedimentary rock of the Cretaceous Great Valley Complex, and Cenozoic marine and nonmarine shale, sandstone, and conglomerate (California Division of Mines and Geology 1969).

Regional Geologic Setting

Berkeley is located on the East Bay Plain (the Plain), a flat area that extends 50 miles from Richmond in the north to San Jose in the south. The Plain is about three miles wide in the Berkeley area. At its eastern edge, the Plain transitions into hills, rising to approximately 1,683 feet at Barberry Peak, the highest point in Berkeley's Claremont Hills neighborhood. On its western edge, the Plain slopes down to San Francisco Bay, the largest estuary on the California coast (City of Berkeley 2002c).

Berkeley is located in the United States Geological Survey's (USGS) Richmond and Oakland West Quadrangle 7.5-minute topographic map areas. The area is typified by low topographic relief, with gentle slopes to the west in the direction of San Francisco Bay. By contrast, the Berkeley Hills that lie directly east of Berkeley have more pronounced topographic relief, with elevations that exceed 1,000 feet above mean sea level (City of Berkeley 2002c).

As mapped by the U.S. Department of Agriculture's Natural Resource Conservation Service, the project site features Urban land-Tierra complex slopes that have from two to five percent slopes. Soils in the Tierra complex present a high rate of surface runoff and high shrink-swell potential (Natural Resources Conservation Service, United States Department of Agriculture n.d.).

Seismicity and Faulting

Similar to much of California, the project site is located in a seismically active region. The USGS defines active faults as those that have had surface displacement within the Holocene period (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had

surface displacement during the last 1.6 million years, and inactive faults have not had surface displacement within that period. Several faults are near the project site, including those listed below:

- **San Andreas Fault** – The most likely source of a major earthquake in California, this fault is located approximately 15 miles west of Berkeley. The San Andreas Fault is the primary surface boundary between the Pacific and the North American plates. There have been numerous historical earthquakes along the San Andreas Fault, and it generally poses the greatest earthquake risk to California. In general, the San Andreas Fault is likely capable of producing a Maximum Credible Earthquake of 8.0.
- **The Hayward Fault** – One of 10 major faults that make up the San Andreas Fault Zone, the Hayward Fault runs east of the along the eastern portion of Berkeley and links with the Rodgers Creek Fault to the north. Although the last major earthquake generated by the Hayward Fault was in 1868, pressure is slowly building again and will begin to overcome the friction and other forces that cause the fault zone to stick. According to a study of earthquake probabilities by the USGS, the fault system that includes the Hayward and Rodgers Creek faults has a 31 percent probability of generating an earthquake with a magnitude greater than or equal to 6.7 on the Mercalli Richter Scale in the next 20 years (City of Berkeley 2019a). The Hayward Fault would likely cause extensive damage throughout Berkeley area due to its close proximity to urban communities and infrastructure. The Hayward Fault and surrounding area is a designated Alquist-Priolo Zone. Although the project site is approximately one mile west of the Hayward Fault, it is not within a fault zone (California Department of Conservation n.d.).
- **Other active faults** near the site include the Wildcat and the Miller Creek faults and several potentially active faults and unnamed secondary faults adjacent to these. There are few or no studies pertaining to these additional secondary faults, and it is unknown whether they may or may not experience secondary ground rupture during a large earthquake.

Liquefaction

Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground-shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential

settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture. Earthquake hazard maps produced by ABAG indicate that a large Hayward Fault quake would trigger violent shaking throughout Berkeley and a high risk of liquefaction in certain areas within the city (City of Berkeley 2002b). However, the project site is in an area identified as having low susceptibility to liquefaction (City of Berkeley 2019a).

Seismically induced settlement occurs in loose to medium-dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

Landslides

Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground-shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards.

Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure. According to the Disaster Preparedness and Safety Element of the City's General Plan (City of Berkeley 2002a), landslide risk is low throughout the majority of Berkeley, including the area where the project site is located as it is level.

Soils

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moisture that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils.

Erosion is the wearing away of the soil mantle by running water, wind, or geologic forces. It is a naturally occurring phenomenon and ordinarily is not hazardous. However, excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. Removal of

vegetation tends to heighten erosion hazards. The City enforces grading and erosion control ordinances to reduce these hazards.

Paleontological Resources

The project site is underlain by one mapped geologic unit: late to middle Holocene alluvial fan and fluvial deposits (Qhaf)(Graymer 2000). Holocene-aged alluvial fan and fluvial deposits consist of medium dense to dense, gravelly sand or sandy gravel valleys and stream channels. Fossil-collection records from the Paleobiology Database and University of California Museum of Paleontology online database identify known fossil localities in Alameda County ("The Paleobiology Database" n.d.). The SVP has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (Society of Vertebrate Paleontology 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

Late to middle Holocene deposits (Qhaf) are too young (i.e., less than 5,000 years old) to preserve paleontological resources at or near the surface and are considered to have a low paleontological sensitivity at the surface as defined by SVP (2010) standards; however, late to middle Holocene deposits may grade downward into more fine-grained deposits of early Holocene to late Pleistocene age that could preserve fossil remains at shallow or unknown depths. The depths at which these units become old enough to contain fossils is highly variable and depend on the location of the site within a geologic basin (e.g., near or far from basin margins), the sedimentary relationship of the surface units underlying geologic units, and the erosional history of the region. The project is located near the base of the hills where older geologic units are exposed. Therefore, areas mapped as late to middle Holocene deposits (Qhaf) alluvial deposits, such as those found under the project site, are assigned a high paleontological sensitivity at depths greater than three feet (Society of Vertebrate Paleontology 2010).

Regulatory Setting

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval**.**

CEQA Checklist Summary

Would the project:

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

Answers to CEQA Checklist Questions

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

i Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for

the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact

The project area is not located within an Alquist-Priolo Earthquake Fault Zone that designates a known active fault. The closest active fault is the Hayward Fault, which is located approximately 1.5 mile east of the site. Thus, the likelihood of surface rupture occurring from active faulting at the site is remote.

The proposed project would be constructed in accordance with local, state, and federal earthquake safety regulations. Therefore, the project would have a less than significant impact related to loss of life and/or injury from a rupture of a known earthquake fault.

ii. Strong seismic ground-shaking?

Less Than Significant Impact

As with any site in the Bay Area, the project site is susceptible to strong seismic ground-shaking in the event of a major earthquake. Nearby active faults include the San Andreas Fault, and the Hayward Fault. These faults are capable of producing strong seismic ground-shaking within and near the project site.

Several applicable regulations and policies would reduce hazards related to seismic ground-shaking. The proposed project would involve replacement of older buildings subject to seismic damage with new structures built to current seismic standards that could better withstand the adverse effects of strong ground-shaking. The project would be required to conform to the California Building Code (CBC) (as amended at the time of permit approval) as required by law. The City has adopted the CBC by reference pursuant to Title 19, Chapter 28 of the BMC. The CBC includes requirements for foundation and structural design to resist seismic hazards. In addition, the CBC outlines specific instances of when geotechnical investigations are required based on soil conditions and proposed construction methods, including for any kind of multi-family development such as the proposed project. Moreover, such investigations are required to include, among other information, recommendations for foundation type and design criteria to address identified geological constraints.

As part of the project approval process, a geotechnical report would be prepared to provide guidance and requirements for design and construction activities. Registered geologists and registered engineers would prepare the report, which would describe the methods and results of a geotechnical investigation; develop design recommendations for foundation type, grading, pavement design, and other pertinent topics; and verify that the proposed project can develop the site as planned. The project would be built in conformance with the requirements of the CBC to withstand anticipated geologic risks.

The proposed project and Geotechnical Report would be reviewed by the City's Building and Safety Division during the normal plan review process to confirm that the necessary geotechnical investigations are completed. The City would also ensure that the project would be designed and constructed consistent with the current City Building Codes and with the findings and recommendations of the final site-specific geotechnical report, including those identified in the required project geotechnical report, to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction. Therefore, proper engineering, including compliance with the City Building Codes, would minimize the risk to life and property associated with potential seismic activity in the area. Impacts related to seismic shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact

As discussed in the Environmental Setting, based on the subsurface characteristics, the potential for soil liquefaction at the project site is low. All structures would be designed to withstand strong ground motion and ground failure (liquefaction) resulting from a design earthquake in accordance with the adopted standards. The proposed project would incorporate the recommended project design specifications outlined in the required geotechnical investigation; therefore, no additional project-specific mitigation measures are proposed and impacts resulting from liquefaction are anticipated to be less than significant.

iv. Landslides?

No Impact

Landslides are typically a hazard on or near slopes or hillside areas, rather than generally level areas like the project site and the surrounding area. Furthermore, the site is already developed, and the proposed building will be constructed on compacted soils. The lack of significant slopes on or near the proposed project site indicates that the hazard from slope instability, including landslides and debris flows, is negligible. Therefore, no impacts resulting from landslides are anticipated.

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

Less Than Significant Impact

Project construction, particularly demolition, grading, and site preparation, could result in erosion and loss of topsoil from the project site. However, local requirements would reduce impacts related to erosion and loss of topsoil. The BMC Chapter 21.40 requires that proposed projects comply with grading, erosion, and sediment control regulations on file in the Public Works Department, and BMC Chapter 17.20 requires that federal, state, and local erosion and sediment control BMPs be implemented to minimize erosion during construction. Construction BMPs

would include scheduling inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management.

In addition, the project would be required to comply with the standard COAs intended to limit impacts related to erosion, including covering loose materials at night and during rainy weather, providing barriers to prevent soils from being washed off site into the storm drain system, and providing an erosion prevention plan. Compliance with BMC requirements and the COA Public Works would reduce impacts from soil erosion and the loss of topsoil to less than significant levels.

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

No Impact

Lateral Spreading and Liquefaction

Lateral spreading occurs when the ground slides down very gentle slopes or toward stream banks riding on a buried liquefied layer. Within the City, lateral spreading caused by unstable soil is possible along riverbanks. There are no streams on or adjacent to the project site and there is no potential for lateral spreading or liquefaction in this area.

Subsidence

Subsidence is the downward movement of the ground supporting the building. Damage occurs because the movement is often uneven, causing cracks in walls, floors, and ceilings. Large groundwater withdrawals from certain types of rock, such as clay, can cause subsidence. The site does not contain clay or any fine-sediment soils that would cause shrinking and cracking to shift the ground, and no groundwater withdrawals or dewatering is anticipated.

Collapse

A collapse can occur during an earthquake if there is a failure of the structure or component that leads to a decrease in structure's integrity, such as can occur with unreinforced masonry. The site topography is level. As discussed above, the design of the building is required to adhere to the provisions of the most recent version of the CBC in effect at the time of the building permit issuance. Structures built according to the seismic design provisions of current building codes would be able to resist major earthquakes without collapse, but with some structural, as well as non-structural, damage. Given the project's adherence to the CBC requirements and the moderate seismic risk in the Bay Area region, the proposed project would not be subject to substantial risks associated with building collapse.

Therefore, the project would have no impact on lateral spreading, liquefaction, subsidence, or collapse.

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

No Impact

The project area does not contain expansive soils as defined in Table 18-1-B of the Uniform Building Code (1994). The project would comply with federal, state, and local building regulations to ensure the adequate design and construction of building foundations to resist soil movement. The project would not create substantial direct or indirect risks to life or property.

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

No Impact

The site is connected to the municipal sewer system. The project does not propose the use of in-ground sewage disposal such as septic tanks/leach fields and would not require use of alternative wastewater disposal services; therefore, there would be no impact from septic or alternative wastewater disposal systems.

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

Less than Significant

The Northwest Information Center records search revealed there are no paleontological resources identified within the project area. As described in the *Paleontological Setting* section above because the site is underlain by geologic units assigned a high paleontological sensitivity at depths of three feet and deeper, paleontological resources may be encountered during ground-disturbing activities associated with project construction (e.g., grading, excavation, or other ground-disturbing construction activity). Because of previous ground disturbance on the site, including deep excavations for installation and removal of former gasoline tanks, the potential for paleontological resources is considered low on the site. Demolition, site preparation, and construction activities associated with the proposed project could potentially adversely impact previously unidentified fossils if conditions require excavation below 5 feet, although the project only anticipates excavation depths of 2.5 feet. Such fossils, if present, could be identified during deep excavation. However, the project is required to comply with standard COAs Paleontological Resources (*Ongoing throughout demolition, grading, and/or construction*) that address unanticipated discoveries, construction monitoring by a

qualified paleontologist, worker environmental awareness training, the treatment of paleontological resources that may be discovered during construction, and reporting. Compliance with the above COAs would ensure the potential to destroy a unique paleontological resource would be less than significant.

8. Greenhouse Gas Emissions

The term greenhouse gas is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. Greenhouse gases of concern include CO_2, methane, nitrous oxide, and fluorinated gases. Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of greenhouse gases have a global impact.

Greenhouse gases differ by the amount of heat each traps in the atmosphere, known as global warming potential. Carbon dioxide is the most significant greenhouse gas, so the amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the warming potential of other gases is assessed as multiples of CO_2. Generally, estimates of all greenhouse gases are summed to obtain total emissions for a project or given time period, usually expressed in metric tons or million metric tons of CO_2e.

Environmental Setting

The proposed site is located in the City of Berkeley in Alameda County. The primary source of GHG within the City is from the transportation sector, representing approximately 60 percent of citywide GHG emissions. Other sources of GHG emissions include (City of Berkeley 2022b):

- Natural gas residential (approximately 17 percent)
- Natural gas commercial (approximately 15 percent)
- Landfill waste (approximately 3 percent)
- Electricity commercial (approximately 3 percent)
- Electricity residential (approximately 2 percent)
- Municipal buildings (approximately 0.3 percent)
- Water consumption and wastewater (approximately 0.3 percent)

Regulatory Setting

State

The State of California has taken several legislative steps including assembly bills, senate bills, and Executive Orders to reduce increases in GHG emissions. The California Air Resources Board (CARB) is the lead agency in the development of reduction strategies for greenhouse gases in California (California Air Resources

Board n.d.). California's GHG reduction requirements aim to reduce VMT, thereby improving air quality by reducing GHG emissions from automobiles.

Local

City of Berkeley Climate Action Plan

The City adopted the Berkeley Climate Action Plan (2009) that addresses the main sources of the emissions that cause global warming: the energy consumed in buildings, transportation, and the solid waste sent to landfills. The CAP builds on City policies and plans already adopted and Berkeley's official endorsement of the Kyoto Protocol (City of Berkeley 2022b).

While the CAP is not considered a "qualified greenhouse gas reduction plan" for the purposes of streamlining GHG emissions analysis under CEQA, it is actively used by the City for GHG reductions. Since publication of the CAP, the City has pledged Berkeley's commitment to several additional climate commitments (Staff 2018):

- 100 percent renewable electricity by 2035
- Net-Zero Carbon Emissions by 2045, in alignment with Gov Brown's Executive Order B-55-18
- Declared a Climate Emergency and resolved to become a Fossil Fuel Free City

City of Berkeley Natural Gas Prohibition

BMC Chapter 12.80 prohibits the use of natural gas infrastructure in all new construction. The proposed building would comply with this requirement.

City of Berkeley General Plan

The City's General Plan Environmental Management Element contains the following policies specific to residential GHG emissions:

Policy EM-5 "Green" Buildings. Promote and encourage compliance with "green" building standards

Policy EM-8 Building Reuse and Construction Waste. Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs.

BAAQMD

In April 2022, BAAQMD adopted *CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans* (Bay Area Air Quality Management District 2022) which governs operational emissions. The BAAQMD does not have an adopted Threshold of Significance for construction-related GHG emissions. BAAQMD has determined that GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. For operational

emissions, BAAQMD has set thresholds for all land use projects (Table 6) and recommends that the thresholds be included into the design elements (Bay Area Air Quality Management District 2022). Sources of construction-related greenhouse gases only include exhaust from construction vehicles and machinery, for which the City's standard COA adopts the BAAQMD mitigation recommendations for diesel exhaust.

Table 6. BAAQMD Thresholds for Land Use Projects

Land Use Type	Threshold
Buildings	**a)** The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). **b)** The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines
Transportation	**a)** Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA (Governor's Office of Planning and Research 2018): I. Residential projects: 15 percent below the existing VMT per capita II. Office projects: 15 percent below the existing VMT per employee III. Retail projects: no net increase in existing VMT Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Source: Bay Area Air Quality Management District 2022

BAAQMD relies on the lead agency to quantify and disclose emissions that would occur during construction and determine the significance of greenhouse gas emissions in relation to meeting AB 32 greenhouse gas reduction goals. The BAAQMD also recommends implementing BMPs to reduce greenhouse gas emissions during construction.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The project would result in short-term, temporary increases in GHG emissions during construction due to equipment and vehicle use at the site. For a construction period of 286 working days, heavy equipment such as excavators, haul trucks, as well as worker commutes would generate exhaust. Emissions from construction equipment powered by gasoline and diesel engines would include carbon monoxide, NOx, volatile organic compounds, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants, such as diesel exhaust particulate matter.

Based on the air quality emissions analysis in Section 3, Air Quality, estimated total project construction CO2e would be 251 metric tons. While this is significantly less than the annual 1,100-metric-ton threshold for land use *operational* emissions, BAAQMD does not provide thresholds for *construction* emissions. BMPs are recommended for reducing construction emissions. The City requires BMPs such as using alternative fuel (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials through standard COAs as outlined in Section 12, Standard Conditions of Approval.

In addition, the project would comply with the standard COA Construction and Demolition Diversion and COA Low-Carbon Concrete for construction and demolition waste diversion and the use of low carbon concrete. As discussed in Environmental Checklist Section 6, Energy, the proposed project would be an all-electric building and would not include any natural gas appliances. Pursuant to COA Prohibition of Natural Gas Infrastructure in New Buildings, the project must also install solar per COA Solar Photovoltaic (Solar PV). The project would be consistent with BMC

Chapter 19.37 for the divergence of construction waste, with Berkeley Green Code, and with the City's CAP. Energy-efficient features would be incorporated into the residential buildings in accordance with City and state requirements and recycling stations would be located on-site. The proposed project is a multi-family housing development on a developed infill site in a Transit Priority Area that only provides bicycle parking. Therefore, the project falls below the BAAQMD's GHG thresholds for land use projects.

As explained in Environmental Checklist Section 3, Air Quality, development projects whose only operational emissions come from increased vehicular traffic such as residential can be screened from further analysis based on project size or activity. The proposed project would construct 11 units on an infill site, a size that is well below the BAAQMD operational screening levels for mid-size apartments (more than 494 units), and therefore would not exceed BAAQMD or state operational thresholds. As an infill site in a transit priority area, the project reflects the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA regarding VMT. The contributions of both project construction and operations to GHG emissions would be less than cumulatively considerable.

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

Less Than Significant Impact

As discussed above in 8(a), the project would have a less than significant contribution to GHG emissions during construction and operation. During construction, emissions would be short-term and well below the significance threshold. Operational emissions for 11 units located in in a transit priority area would also be well below the significance threshold.

The City has adopted updated climate commitments since approval of the CAP, including meeting 100 percent renewable electricity by 2035, Net-Zero Carbon Emissions by 2045 in alignment with Governor Brown's Executive Order B-55-18; and becoming a Fossil Fuel Free City. This includes new requirements that residential uses acquire all energy from wind and solar sources. The measures included in the CAP cover the main sectors of GHG emissions, including transportation and land use, building energy usage, and waste reduction and recycling. The measures applicable to the project are summarized in Table 7.

As stated above, standard COAs including COA Construction and Demolition Diversion and COA Low-Carbon Concrete would be implemented to reduce greenhouse gas emissions. The project also must verify compliance with the Berkeley Green Code (BMC Chapter 19.37) including use of concrete mix design with a cement reduction of at least 25 percent.

Once operational, the project would also help attain the state's goals defined in AB 32 as an infill housing project with transit access that redevelops a site to current Green Building Code standards. Therefore, the project would be consistent with applicable GHG reduction measures in the City's CAP, the City's updated climate action commitments, and state goals to reduce GHG emissions, and would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Table 7. Project Consistency with CAP Goals

Recommended Goals	Project Consistency
Sustainable Transportation and Land Use Goal 1: Increase density along transit corridors.	**Consistent**: The project would redevelop a former low density commercial site to increase residential density in a transit priority area, as defined in the PRC § 21064.3. The site is within walking distance of stops for several Alameda-Contra Costa Transit District bus lines and the Downtown BART Station.
Sustainable Transportation and Land Use Goal 2: Increase and enhance urban green and open space, including local food production, to improve the health and quality of life for residents, protect biodiversity, conserve natural resources, and foster walking and cycling.	**Consistent**: The project would involve infill development in the existing urban footprint of Berkeley. The project would involve new housing with access to existing walkable and bikeable neighborhoods.
Sustainable Transportation and Land Use Goal 3: Manage parking more effectively to minimize driving demand and to encourage and support alternatives to driving.	**Consistent**: The proposed project would involve new housing at a site that is within walking distance of public transit stops and shops and services in commercial areas. The project would also provide 20 bicycle parking spaces for residents, and no vehicular parking Given this access to services and alternative transportation methods, the project would minimize driving demand.
Building Energy Use Goal 1: Make green building business as usual in the new construction & remodel market.	**Consistent**: The proposed project would be required to be constructed in accordance with the latest iteration of CALGreen, the California Building Energy Efficiency Standards, and BMC Chapters 19.36 and 19.37, which include green building practices. In addition, the new building would be fully electric per the requirements of BMC Section 12.80, which would reduce GHG emissions associated with energy usage. As described in the Description of Project Section, the project would

Recommended Goals	Project Consistency
	also include additional green building features, including built-in composting and recycling centers, efficient clothes washing and drying machines, and high-efficiency lighting, and will strive to qualify as Silver using the Green Point system.
Waste Reduction and Recycling Goal 1: Increase residential recycling, composting, and source reduction.	**Consistent**: In accordance with the Alameda County Waste Management Authority Organics Reduction and Recycling Ordinance 2021-02, the proposed project would be required to provide recycling and organics/compost service for tenants. Furthermore, residents would be required to properly sort recyclable and compostable material into appropriate containers.
Waste Reduction and Recycling Goal 3: Increase recycling of construction & demolition debris.	**Consistent**: The proposed project would be required to divert 100 percent of concrete, asphalt, and land clearing debris, and at least 65 percent of nonhazardous construction and demolition debris per the requirements of BMC Chapter 19.37

Source: City of Berkeley 2022b

9. Hazards and Hazardous Materials

Environmental Setting

The project site is zoned as residential and is currently occupied by a vacant auto-repair business, consisting of a vacant, one-car auto maintenance garage, parking areas, and a former service station office/convenience store. The existing facility was built in 1929. Construction practices prior to 1978 typically involved the use of lead-based paint, asbestos-containing building materials, and other hazardous materials.

Regulatory database search results from the Phase I ESA (ACC Environmental Consultants [ACC] 2022) prepared for the project indicated that most sites in the vicinity of the project site (pursuant to Government Code 65962.5) are located in the commercial area approximately 0.70 miles west of the proposed project site. The Sites referred to in the Phase 1 ESA prepared by ACC are facilities that are listed in the Radius Report provided by Environmental Data Resources (EDR). Facilities listed in many databases comprise this report. Some of the facilities are reported because they undergo periodic inspections from local municipalities, some store, manufacture, and/or transport regulated chemicals or waste, and some have had releases of fuels or other hazardous materials to the environment. A facility's presence in one of the many databases does not mean that a release of hazardous material to the environment has occurred. One adjacent property was listed in the databases searched by EDR:

- **2601 College Avenue #106:** This property is adjacent to the south of the site and is listed on the Resource Conservation and Recovery Act NonGen/NLR database. According to the database listing, the facility was classified as a non-generator who has not generated hazardous waste since 2019. Based on the lack of evidence of a documented release and because the property is cross-gradient to the site, this listing is not expected to represent a significant environmental concern to the site.

Project Site Conditions

Historical use of the site has been for auto fuel and services since 1929. By 1929 the site was developed as gasoline service station and auto repair shop. The service station USTs were removed during October 1990, and the site was subsequently utilized only as an auto repair facility until 2019. Historical occupants include Texaco Service Station (1933), Victor Ruth Gas Station (1943), Vic’s Shell Service Station (1962), and Don’s Auto Clinic (1970 to 2019).

The site is identified as a former hazardous materials site on the State Water Board’s GeoTracker database. The limited information available indicates the site is the former Don’s Auto Clinic where leaking underground storage tanks (LUSTs)

released gasoline into groundwater (uses other than drinking water). According to records from the Berkeley Fire Department, the LUSTs associated with operations as a service station were removed during October 1990. Approximately 200 tons of hydrocarbon-impacted soils were removed from the site in October 1998 as part of remedial activities. Four monitoring wells were installed in November 1993 and monitoring concluded in February 2000. On June 20, 2001, the California Regional Water Quality Control Board (RWQCB) and City of Berkeley Toxics Management Division granted closure to the regulatory case involving the site. At the time of regulatory case closure (2001), residual concentrations of gasoline-range total petroleum hydrocarbons (TPH-g), benzene, toluene, ethylbenzene, and xylenes in *soil* were 240, 0.041, 0.13, 1.3, and 0.035 milligrams per kilogram (mg/kg), which do not exceed current San Francisco RWQCB Environmental Screening Levels (ESLs) for residential sites and are considered negligible. Residual concentrations of gasoline-range TPH-g, benzene, toluene, ethylbenzene, and xylenes in *groundwater* were 2.9, 0.013, 0.039, 0.073, and 0.035 micrograms per cubic meter (ug/L), which also do not exceed current Tier 1 San Francisco Bay RWQCB ESLs and are considered negligible.

A Phase I ESA was prepared to identify and confirm, to the extent feasible, the potential for Recognized Environmental Conditions resulting from the improper use, manufacture, storage, and/or disposal of hazardous or toxic substances at or in the vicinity of the project site that may be encountered during construction. The 2022 Phase I ESA identified potential concerns regarding volatile organic compounds (VOC) historically used at gasoline service stations and auto repair shops; VOCs present a concern for potential vapor intrusion. The Phase I did not address the potential for other near surface contaminants such as lead, asbestos, or arsenic.

Based on the Phase I findings, Phase II soil vapor sampling was conducted to assess the potential for vapor intrusion at the site. The results showed that the chlorinated solvents tetrachloroethene (PCE) and vinyl chloride were detected at concentrations of up to 32.5 and 0.511 micrograms per cubic meter ($\mu g/m^3$), respectively. These concentrations slightly exceed the corresponding Regional Water Quality Control Board (RWQCB) vapor intrusion screening levels for residential properties of 14 for PCE and 0.32 ug/m3 vinyl chloride and represent a vapor intrusion concern to indoor and ambient outside air.

Regulatory Setting

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

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

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The proposed project involves the construction of 11 units of multi-family housing with no parking, and will generally not involve the routine transport, disposal, or use of hazardous materials beyond those used during construction or normal maintenance.

The project's use of hazardous materials during construction would be limited to fuels and other maintenance-related chemicals to run equipment and machinery, and any hazardous materials used in construction would be managed according to

the City's stormwater requirements identified in BMC Chapter 17.20. For example, the required Stormwater Control Plan would ensure that equipment fueling and maintenance, if performed at the job site, be performed in a designated area utilizing secondary containment with a spill kit nearby. Rinsing of concrete tools and chutes would also be performed according to the Stormwater Control Plan, including utilizing concrete washouts and/or requiring that wastewater be kept within the concrete truck and hauled off-site for recycling.

The California Department of Transportation limits the transportation of hazardous waste that can be transported at one time to 15 gallons (combined total). Therefore, the use of hazardous materials during construction and operation would be limited and would not create a significant hazard to the public or the environment.

Operational use by households once construction is complete would consist mainly of cleaning, maintenance, and gardening supplies. Professional gardeners for the community landscaping would be responsible for the use and transport of gardening chemicals, which, based on the size of the site and limited landscaping, are anticipated to be minimal. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Potential for Unforeseen Conditions

Available information reviewed indicates the site was previously used as a former auto clinic that utilized underground storage tanks (USTs) and a probable piping distribution system. Previous work at the site resulted in a No Further Action determination issued by the RWQCB. Because of the commercial use of the site, and the many subsurface features associated with gas station and auto repair operations, there is a potential to encounter infrastructure (piping, small USTs, etc.) related to the former site use in the shallow subsurface that may not have been identified during the previous remediation activities that led to the site closure letter in 2001. In addition, the potential exists to also encounter impacted soils associated with these previously unidentified subsurface features if they are discovered during construction. If these types of unforeseen conditions are encountered, the procedures, protocols, and reporting requirements in the City's standard COA Toxics (see response to 9(b), below) that the contractor will need to follow will be fully described in the Soil and Groundwater Management Plan (SGMP) that is required to be submitted to the City's TMD for approval prior to construction. Following those procedures, which the TMD will enforce, will mitigate any additional construction related adverse impacts to the community that might result in dealing with unforeseen conditions.

Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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

Less than Significant Impact with Mitigation Incorporated

In addition to the unforeseen site conditions issues described above, construction would involve the demolition of two structures and improvements currently operating as an auto diagnostic business. According to the Alameda County Assessor's parcel records and other historic records, the site structure was built in 1929, prior to regulations prohibiting the use of lead and asbestos in building materials, including, but not limited to pipes, paint, insulation, adhesives, and joint compounds. Exposure to such contaminants by construction workers and site users would be a potentially significant impact.

Demolition and construction activities would be required to comply with BAAQMD Regulation 11, Rule 2, which governs the proper handling and disposal of asbestos-containing material for demolition, renovation, and manufacturing activities in the Bay Area, and California Occupational Safety and Health Administration (CalOSHA) regulations regarding lead-based materials. CCR §1532.1 requires testing, monitoring, containment, and disposal of lead-based materials, such that exposure levels do not exceed CalOSHA standards. The project also would be required to comply with the standard COA Toxics and managed by the City's TMD. This includes preparing environmental site assessments, a soil and groundwater management plan, building materials survey for lead and asbestos prior to demolition, and a hazardous materials business plan.

Implementation of the following mitigation measure would further reduce the expose or construction worked to hazards to less than significant.

- **HAZ-1**: The contractor shall develop and implement a Health and Safety Plan for construction workers. This Plan shall be submitted to and approved by the Berkeley Toxics Management Division prior to issuance of a grading permit. The protocols will specify how to eliminate or reduce exposure to soils where contamination may be present. Prior to any ground-disturbing activities, the contractor shall document that workers are trained on the protocols and shall maintain a copy of the final Health and Safety Plan on the job site.

Phase II soil vapor sampling was conducted at the site in March 2022. The investigation concluded that the chlorinated solvent PCE was detected in soil vapor beneath the site at concentrations ranging from 32.5 to 0.511 ug/m3. These concentrations exceed the San Francisco Bay RWQCB vapor intrusion screening

level criteria and represent a vapor intrusion concern to indoor and ambient outside air. An engineered vapor intrusion barrier shall be designed to the satisfaction of TMD and installed beneath the planned multi-residential structure to prevent intrusion of VOC vapors into the building.

- **HAZ-2**: A vapor intrusion mitigation system shall be designed to the satisfaction of the Berkeley Toxics Management Division and incorporated into building foundations during redevelopment of the site in order to mitigate vapor intrusion concerns.

Finding: Implementation of Mitigation Measure HAZ-1 would reduce potentially significant impacts to construction workers from exposure to hazardous materials during demolition to less than significant. Implementation of Mitigation Measures HAZ-2 would reduce residents' exposure to soil vapors to less than significant.

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

Less than Significant Impact

The nearest school is Maybeck High School, located approximately 0.3 miles south of the site. As discussed above, hazardous materials used as part of the proposed project are anticipated to be limited. Construction-related vehicles would produce routine emissions that would be temporary and less than significant. Ground disturbance during demolition and construction activities at the site are unlikely to initiate a significant release of VOCs into the ambient air in the site vicinity. For a discussion on air quality, see Environmental Checklist Section 3, Air Quality.

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

Less than Significant Impact with Mitigation Incorporated

EnviroStor is the DTSC's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further, also known as the Cortese List. The site is not found in the EnviroStor database. Former Cal Cleaners, an active dry-cleaning facility located approximately 900 feet west of the site, is listed on the EnviroStor database with an open regulatory case. No documents indicating that an environmental investigation of soil, soil vapor, or groundwater are shown in the EnviroStor database, suggesting that this has not yet occurred.

However, the proposed project site is listed on GeoTracker. According to the database, an unauthorized gasoline release impacting groundwater was discovered in October 1990. A UST case closure letter dated June 2, 2001, stated that three gasoline USTs were removed from the project site and that no further action related to the UST release or remedial efforts was required. This no further action relates to commercial uses, but not to a change of use to residential.

The proposed project involves a change in use from commercial to residential, and as noted above, shall implement **Mitigation Measure HAZ-1** to reduce potentially significant impacts to construction workers from exposure to hazardous materials during demolition to less than significant and **Mitigation Measure HAZ-2** to reduce residents' exposure to soil vapors to less than significant. The project would therefore not create a significant hazard to the public or the environment.

Finding: Implementation of standard COAs and Mitigation Measures HAZ-1 and HAZ-2 would reduce exposure public and environmental exposure to hazards to less than significant.

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

No Impact

The closest airport near the project site is Metropolitan Oakland International Airport, located approximately 13.2 miles south of the project site. The proposed project would not result in a safety hazard or excessive noise for people residing in the project area.

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

No Impact

The City's adopted emergency plan includes prearranged emergency response procedures. Emergency routes for the evacuation of Berkeley include Interstate 80 and Highway 24. The project involves infill redevelopment and would not have an impact on the existing adopted emergency response plan or evacuation plan.

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

No Impact

The project site is an urban infill parcel; no wildlands are adjacent to the proposed project area. The housing units would be designed and built according to current California Building Codes to reduce the risk exposure of people or structures

involving wildland fires. See Environmental Checklist Section 20, Wildfire, for further discussion of wildfire potential.

10. Hydrology and Water Quality

Environmental Setting

As discussed in the Project Description, the project area is located on an existing developed parcel in an urban setting. The project site is owned by 2555 College LLC. It covers approximately 0.09-acres (or 4,000 sf) in size and is bordered by a wooden and chain-link fence. The project site is currently occupied by a vacant auto repair shop consisting of a vacant auto-maintenance garage, parking areas, and a former service station office/convenience store. Outdoor areas and the auto maintenance garage are paved with a concrete slab. There are no waterways, drainages, or other surface water features bisecting the project area, or adjacent roadside drainages present.

The project is located within the Cerrito Creek-Frontal San Francisco Bay Estuaries hydrologic unit, within the larger Central Basin of the San Francisco Bay Basin.

Groundwater

The project is located within the Santa Clara Valley - East Bay Plain groundwater basin. Groundwater is an important component of the hydrologic system in the Region. Groundwater provides excellent natural storage, distribution, and treatment systems. Groundwater also supplies high quality water for drinking, irrigation, and industrial processing and service. As an important source of freshwater replenishment, groundwater may also discharge to surface streams, wetlands, and San Francisco Bay (San Francisco Regional Water Quality Control Board n.d.)

Based on quarterly groundwater monitoring conducted at the site from May 1997 through February 1998, groundwater was encountered at depths of 1.23 to 10.84 feet below ground surface (bgs). However, groundwater was reportedly confined to approximately 20 ft bgs in the ACC Phase I. The predominant groundwater flow direction is westerly (ACC Environmental Consultants 2022)

Flood, Tsunami and Seiche Hazards

The project is located on the Federal Emergency Management Agency Flood Insurance Rate Map 06001C0057G, effective 08/03/2009 (Federal Emergency Management Agency n.d.). The project site is in Zone X, an area of minimal flood risk, and is outside any regulated floodplain or flood zone hazard area. Pursuant to the California Department of Conservation's *Alameda County Tsunami Maps and Data* mapper (California Department of Conservation n.d.), the project area is outside of the tsunami hazard area. The project area is not located in an area near the ocean, nor a large body of water that would be affected by a seiche, tsunami, or mudflow.

Regulatory Setting

Federal

Clean Water Act and NPDES Permit

In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), with the goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C. § 1251(a)). The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from non-point sources. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the NPDES Program, to the SWRCB and the RWQCBs.

Section 402 of the CWA requires NPDES permits for stormwater discharges from municipal storm drain systems. The Water Quality Control Plan for the San Francisco Basin (Basin Plan)(San Francisco Regional Water Quality Control Board n.d.) is the San Francisco RWQCB's planning document. Stormwater discharges into the City's municipal stormwater drainage system are regulated by the San Francisco RWQCB under the San Francisco Bay Municipal Regional Stormwater Permit (MRP) NPDES Permit, Order No. R2-2022-0018; General Permit Number CAS612008 (Alameda Countywide Clean Water Program n.d.), otherwise known as the MS4 permit, which covers the City of Berkeley. Because the site is less than 10,000 square feet, most of the MS4 requirements do not apply. However, Section C.3.i requires small projects, which create and/or replace between 2,500 and 5,000 square feet of impervious surface, to install one or more site design measures (see next section).

Section 303(d) of the CWA authorizes the EPA to assist jurisdictions in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum levels of each pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. In California, the State and Regional water boards assess water quality monitoring data for the State's surface waters every two years to determine if they contain pollutants at levels that exceed protective water quality standards. Water bodies and pollutants that exceed these standards are placed on the State's 303(d) List. The determination is governed by the Water Quality Control Policy for developing California's Clean Water Act Section 303(d) List. Currently, the 2018 303(d) list is in effect (State Water Resources Control Board n.d.).

State

Statewide Construction General Permit

Projects that disturb one (1) or more acres of soil or that disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. The project is only 0.09 acres; therefore, this requirement does not apply.

Alameda County

Section C.3.i of the Alameda County Municipal Regional Stormwater Permit addresses small development and redevelopment projects that create and/or replace ≥ 2,500 square feet to <5,000 square feet of impervious surface (collectively over the entire project). Projects with new or replaced impervious surface of this size transport storm water pollutants that can be controlled through basic site design measures. The C.3.i. provision requires these projects to select and implement one or more stormwater site design measures from the following list:

- Direct roof runoff into cisterns or rain barrels for reuse.
- Direct roof runoff onto vegetated areas.
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
- Construct sidewalks, walkways, and/or patios with pervious pavement systems.
- Construct driveways, bike lanes, and/or uncovered parking lots with pervious pavement systems.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

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

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

Construction activities for proposed project could cause soil erosion from exposed soil, an accidental release of hazardous materials used for equipment such as vehicle fuels and lubricant, or temporary siltation from storm water runoff. Soil disturbance would occur during excavation and demolition of the two existing buildings and grading, including landscaping improvements. However, construction activities would be required to comply with federal, State and local water quality regulations designed to control erosion and protect water quality during

construction. This includes compliance with BMC Chapter 21.40, which requires that proposed projects comply with grading, erosion, and sediment control regulations on file in the Public Works Department, and BMC Chapter 17.20, which requires that BMPs, including those adopted by the SWRCB, be implemented to minimize non-stormwater discharges during construction.

Construction BMPs would include inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Construction activities associated with the proposed project would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated. Once constructed, the project would be connected to the City's existing storm drainage system located on College Avenue. Stormwater drainage would be directed into the San Francisco Bay and would be regulated by the BMC Chapter 17.20. Because the site is currently mostly covered in impervious surfaces such as buildings and parking, no net increase in stormwater runoff from the site due to the proposed project is anticipated.

The City ensures compliance with their NPDES permit through a standard COA Stormwater Requirements that require BMPs to limit pollutant discharges off site, require landscaping to have efficient irrigation and minimal uses of chemicals, and long-term operational controls to manage site drainage and avoid pollutants entering the storm drain system. In addition, the project would meet the requirements of MRP Section C.3.i by directing roof runoff onto vegetated areas.

Through compliance with MRP Section C.3.i and COA Stormwater Requirements, the proposed project would ensure that the City's NPDES permit requirements related to flows from the project area are met, and, by doing so, it is anticipated that water quality standards would not be adversely affected. Furthermore, due to implementation of the BMPs, it is expected that the proposed project would not violate any applicable permit requirements or water quality standards in receiving waters, and the proposed project would have less than significant impact on water quality.

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

No Impact

As discussed in the Environmental Setting, groundwater is anticipated to be at a depth greater than 20 feet below ground surface. Because the depth of construction for the project would not exceed three feet, encountering groundwater is not anticipated during construction. In addition, because the project site is already paved, there would be no change to groundwater recharge at the site due to the

project. Therefore, the proposed project would not decrease groundwater supplies or substantially interfere with groundwater recharge.

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

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

Less Than Significant Impact

The proposed project site is fully developed with paved, impervious surfaces. There would be no alterations to waterways or surface drainage systems associated with the project. The project does not involve a net change in permeability.

Construction activities associated with the proposed project would not accelerate erosion or sedimentation that could not be contained on-site with the implementation and maintenance of required BMPs. Once constructed, the project would be connected to the City's existing storm drainage system with no net increase in runoff and would not accelerate erosion or sedimentation. Therefore, impacts to water quality from erosion and sedimentation would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact

As discussed previously, once the project is constructed, stormwater drainage would be directed into the San Francisco Bay via the existing stormwater system and would be regulated by the City through requirements of the BMC Chapter 17.20 and MRP Section C.3.i. No net increase in stormwater runoff would be generated from the site. Therefore, the project would not increase the rate or amount of runoff resulting in flooding on or off site.

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

Less Than Significant Impact

As discussed in the Environmental Setting, the site is currently developed and paved with asphalt. During construction, the two buildings would be demolished and removed along with existing pavement and ancillary structures. Following rough grading, additional excavation would be required to bring the project area to final grade and prepare the soil for underground piping and structural slabs. Site-work would involve installing underground pipes, manholes, structural foundations, curbs, and gutters. Excavation for concrete foundations and underground drainage pipes would be performed with excavators and/or backhoes.

The site would be graded to establish appropriate building footing and establish site grade to direct runoff into the existing stormwater system, which consists of curbs, gutters, and City sewer inlets within the street ROWs.

The proposed project would not significantly increase stormwater flows into the City's existing system. Once constructed, the project would be connected to the City's existing storm drainage system with no net increase in runoff and would not accelerate erosion or sedimentation. In addition, the project would be subject to the requirements of the City's BMC Chapter 17.20 requirements. Standard stormwater BMPs, such as erosion controls, soil barriers, sedimentation basins, site contouring, and others would be used during construction activities to minimize runoff of soils and associated contaminants. Therefore, the proposed project would not result in significant effects related to water quality or contribute runoff which would exceed the capacity of the existing stormwater system.

iv) Impede or redirect flood flows?

No Impact

As discussed in the Environmental Setting, the project is located in flood hazard Zone X, which is an area with minimal flooding risk. Therefore, flood flows are not anticipated to occur at the site, and the anticipated typical stormwater runoff would be directed through the City's established stormwater conveyance network.

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

No Impact

The project is located in an urban setting outside of established tsunami, flood hazard, or seiche zones; therefore, there is no risk of inundation of the project site or release of pollutants due to location in hazard zones.

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

Less Than Significant Impact

The proposed project is not located within a groundwater basin and the area is not used for groundwater supplies. As explained in 10(a) above, the project would implement BMPs to protect water quality during construction and meet local, state, and federal standards.

11. Land Use and Planning

Environmental Setting

The project site is owned by 2555 College LLC. It covers approximately 0.09-acres (or 4,000 sf) in size and is bordered by a wooden and chain-link fence. The project site is currently occupied by a vacant auto repair shop consisting of a vacant auto-maintenance garage, parking areas, and a former service station office/convenience store. Outdoor areas and the auto maintenance garage are paved with a concrete slab.

The project site is situated in an area of residential properties ranging from two to five stories. The site is surrounded to the east by single-family residential homes, and on the west side along College Avenue by three- to four-story multi-family residential buildings. To the north immediately adjacent to the site is a multi-tenant five-story residential building. Another four-story multi-tenant residential building is to the south across Parker Street. Parker Street is characterized by two-story historic-era residential buildings, and two-to five-story residential buildings are located along College Avenue. The University of California, Berkeley, Clark-Kerr Campus is located 1,000 feet to the east, and the main campus is located approximately 2,000 feet north, which is an easy walking/biking distance to campus for students.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less Than Significant Impact

Answers to CEQA Checklist Questions

a) Would the project physically divide an established community?

No Impact

The proposed project is located in an urbanized area. The project would be constructed within the existing parcel and would not extend roadways into surrounding areas. The proposed project would not result in the physical division of any established community or neighborhood, nor would it include changes to the

existing circulation network in a mixed-use area. Therefore, there would be no impact related to dividing an established community.

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

Less Than Significant Impact

The project site is designated as MDR in the City's 2002 General Plan. The General Plan characterizes the MDR as "a mix of single-family homes and small-to-medium-sized multi-family structures." Building density ranges from 20 to 40 dwelling units per net acre, and the population density generally ranges from 44 to 88 persons per acre. Appropriate uses for these areas include residential, community services, schools, home occupations, recreational uses, open space, and institutional facilities.

The project applicant is requesting a State Density Bonus, subject to California Government Code Sections 65915-65918 and BMC Chapter 23C.14. Because the project would provide one (1) very-low-income unit, it is entitled to a 46.2 percent increase in density above the maximum allowable density in the R-3 District. The State Density Bonus Law also allows concessions or incentives to provide financial feasibility for the affordable units in the project, and waivers of development standards to accommodate the density bonus dwelling units. In this case, the project would involve concessions to reduce the usable open space and parking requirements, and floor-area ratio requirements, as well as waiving front, side, and back yard setback requirements.

The City's General Plan identifies goals policies to guide land use patterns to strategically accommodate future growth while preserving and enhancing the City as a whole. The proposed project would be consistent with the General Plan policies listed below (Table 8) as well as the site's General Plan land use designation. Impacts related to General Plan consistency would be less than significant.

Table 8. Proposed Project Consistency with General Plan Policies

Plan/Policy	Project Consistency
General Plan Land Use Element. LU-3 Infill Development. Encourage infill development that is architecturally and environmentally sensitive, embodies principles of sustainable planning and construction, and is compatible with neighboring land uses and architectural design and scale.	Yes
General Plan Land Use Element. LU-7 Neighborhood Quality of Life, Action A. Require that new development be consistent with zoning	Yes

Plan/Policy	Project Consistency
standards and compatible with the scale, historic character, and surrounding uses in the area.	
General Plan Housing Element. H-33 Regional Housing Needs. Encourage housing production adequate to meet the housing production goals established by ABAG's Regional Housing Needs Determination for Berkeley.	Yes
General Plan Housing Element. H-12 Transit-Oriented New Construction. Encourage construction of new medium- and high-density housing on major transit corridors and in proximity to transit stations consistent with zoning, applicable area plans, design review guidelines, and the Climate Action Plan.	Yes
General Plan Housing Element. H-30 Energy Efficiency and Waste Reduction. Implement provisions of Berkeley's Climate Action Plan to improve building comfort and safety, reduce energy costs, provide quality housing, and reduce Greenhouse Gas Emissions.	Yes
General Plan Urban Design and Preservation Element. UD-33 Sustainable Design. Promote environmentally sensitive and sustainable design in new buildings.	Yes

Source: City of Berkeley 2002b

Consistency with Berkeley Municipal Code

The project site is in the Multiple-Family Residential District (R-3), which allows a variety of residential uses, including single and multi-family residences, senior housing, dormitories, and nursing homes. As a multi-family housing development, the project is consistent with the permitted uses in the R-3 zoning district.

The project would also be subject to the following discretionary approvals by the City:

1. Use Permit to demolish a non-residential main building, under BMC Section 23.326.070
2. Use Permit pursuant to BMC Section 23.204.060.B.4 to construct a mixed-use residential development
3. Use Permit pursuant to BMC Section 23.204.030.B to construct 5,000 sf or more of new floor area
4. Use Permit pursuant to BMC Section 23.204.050.D to increase the maximum average height limit to 50 feet and 4 stories

All requested use permits for the project would be subject to review and approval by the Berkeley Zoning Adjustments Board (ZAB). In order to approve such

permits, the ZAB must find that the project is consistent with applicable zoning and General Plan regulations.

With approval of the above use permits, the proposed project would be consistent with applicable zoning regulations in the BMC and the General Plan land use designation; therefore, the project would have a less than significant impact.

12. Mineral Resources

Environmental Setting

Minerals are naturally occurring chemical elements or compounds, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat, and oil-bearing rock, but excluding geothermal resources, natural gas, and petroleum.

According to the California Department of Conservation, there are no known active mining facilities within the City (California Department of Conservation n.d.).

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	No Impact

Answers to CEQA Checklist Questions

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

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

No Impact

The project site is within an urbanized area with no current oil or gas extraction. According to the Environmental Management Element of the City's General Plan, Berkeley does not contain mineral deposits of regional significance (City of Berkeley 2002c). Therefore, no mineral resource activities would be altered or displaced by the proposed project.

13. Noise

Environmental Setting

Noise is defined as a sound or series of sounds that are intrusive, objectionable, or disruptive to daily life. Noise levels are measured to regulate ambient noise and protect residents of Berkeley from exposure to excessive noise. The acoustic environment on and near the project site is dominated by noises typical of residential and commercial neighborhoods, including vehicular traffic, pedestrian conversations, and doors slamming. The primary noise source in the surrounding area is vehicle traffic. In addition, construction associated with the proposed project would be a temporary noise source. The site contains an auto-repair facility that is vacant.

Regulatory Setting

The City sets noise standards for a variety of situations to protect residents and workers.

BMC Section 13.40, Community Noise, sets the City's standards for on-site operational noise and construction noise. BMC Section 13.40.050, Exterior Noise Standards, provides the exterior noise limits not to be exceeded for more than 30 minutes in any hour in various zoning districts (Table 9). If the measured ambient noise level exceeds these limits, the allowable noise exposure standard would be the ambient noise level.

Table 9. City of Berkeley Exterior Noise Limits

Zone	Time Period	L_{50}[1] Noise Level, dBA
R-1, R-2	7:00 a.m. – 10:00 p.m.	55
R-1, R-2	10:00 p.m. – 7:00 a.m.	45
R-3 and Above	7:00 a.m. – 10:00 p.m.	60
R-3 and Above	10:00 p.m. – 7:00 a.m.	55
Commercial	7:00 a.m. – 10:00 p.m.	65
Commercial	10:00 p.m. – 7:00 a.m.	60
Industry	Anytime	70

[1] L_{50} is the noise level that cannot be exceeded for more than 30 minutes in any hour.
Source: BMC Section 13.40.050

BMC Section 13.40.060, Interior Noise Standards, sets interior noise limits for multi-residential units as follows:

- 45 dBa (Leq) from 7:00 a.m. to 10:00 p.m.
- 40 dBa (Leq) from 10:00 p.m. to 7:00 a.m.

BMC Section 13.40.070 sets standards for construction noise. This section prohibits construction activity between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, and 8:00 p.m. to 9:00 a.m. on weekends and holidays, so that construction does not create a noise disturbance across a residential or commercial property line. Table 10 lists the City's maximum sound levels for mobile and stationary equipment during construction activity, "where technically and economically feasible" during permitted hours (BMC Section 13.40.070.B).

Table 10. Construction Noise Standards

Equipment Type	Day/Times	Residential (R-1, R-2)	Multi-Family Residential (R-3, R-4)	Commercial/ Industrial
Mobile[1]	Weekdays: 7:00 a.m. – 7:00 p.m.	75 dBA	80 dBA	85 dBA
Mobile[1]	Weekends and Holidays: 9:00 a.m. – 8:00 p.m.	60 dBA	65 dBA	70 dBA
Stationary[2]	Weekdays: 7:00 a.m. – 7:00 p.m.	60 dBA	65 dBA	70 dBA
Stationary[2]	Weekends and Holidays: 9:00 a.m. – 8:00 p.m.	50 dBA	55 dBA	60 dBA

[1] BMC Section 13.40.070 defines mobile equipment as "nonscheduled, intermittent, short-term operation (less than 10ays).
[2] BMC Section 13.40.070 defines stationary equipment as "repetitively scheduled" and for "relatively long-term operation (period of 10 days or more).
Source: Adapted from Table 13.40-3 and Table 13.40-4 of the City 's Construction Noise Standards

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project result in:

CEQA Question	Impact Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

Construction Noise

Existing land uses in the general vicinity include numerous commercial, recreational and transportation activities. The closest residence is adjacent to the project site.

During construction, workers and persons residing in the area would be temporarily exposed to noise generated by construction equipment, such as compaction equipment, excavators, backhoes, and loaders. No pile driving is anticipated for the project, which is the primary source of ground-borne vibrations and noise during construction. As shown in Table 11, construction noise could be as high as approximately 81 dBA Leq at existing residential receptors that would be located approximately 100 feet from the center of construction activity. Such levels would exceed existing ambient noise levels and would be audible at adjacent buildings. The closest sensitive receptors to the site include residential properties adjacent to the site.

Table 11. Estimated Noise Levels by Construction Phase

Construction Phase	Equipment	Estimated Noise (dBA Leq) at 100 feet
Demolition	Concrete saws, tractor	80
Site Preparation	Grader, dozer, roller, tractor	80
Grading	Grader, excavator, dozer, tractor, compactor	81
Building Construction	Generator, tractor, lift, crane, drill rig truck, compactor	79
Paving	Cement mixers, paver, roller, paving equipment	74
Architectural Coating	Air compressors	68

Source: Roadway Construction Noise Model.

As described above in the Regulatory Setting section, the BMC limits the hours of construction to the less sensitive hours of the day (7:00 a.m. – 7:00 p.m. weekdays, 9:00 a.m. – 8:00 p.m. weekends and holidays). Therefore, construction would not occur during normal sleeping hours for residents, which is the most sensitive time for exposure to noise. This section also states that during the construction period, where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum sound levels from stationary equipment at affected properties will not exceed 65 dBA Leq on weekdays and 55 dBA Leq on weekends and holidays in the R-3 zoning district, and 70 dBA Leq on weekdays and 60 dBA Leq on weekends and holidays in commercial districts. As shown in Table 11, it is anticipated that noise from construction of the proposed project would exceed these limits without implementation of noise reduction measures.

However, the standard COA Construction Hours further restricts this to between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday, and between 9:00 a.m. and 4:00 p.m. on Saturday. No construction-related activity shall occur on Sunday or any Federal Holiday. COA Construction Hours-Exceptions allows only pre-approved exceptions for certain operations that require continuous activity like placement of concrete. Therefore, construction would not be expected to occur during normal sleeping hours for residents, which are the most sensitive time for exposure to noise. The City standard COA Project Construction Website and COA Construction Noise Management – Public Notice Required ensures residents are notified of any exceptions and the construction schedule. The COA Construction Noise Reduction Program requires measures such as equipment maintenance, operation, and location to reduce construction noise from the levels estimated in Table 11. These measures will ensure construction noise is managed to minimize local, temporary effects.

Operational Noise

Noise anticipated during project operations would be generated by mechanical equipment, such as heating, ventilation, and air conditioning systems, vehicle traffic on local roadways, and outdoor activities from residents. These noise sources would also be generally consistent with the ambient noise levels and attenuated at the closest sensitive receptors.

Mechanical Equipment. At a distance of 50 feet to the nearest sensitive receptor, it is estimated that HVAC units would generate a noise level of up to 60 dBA Leq during both daytime and nighttime hours. Even without accounting for shielding by enclosures or parapets, estimated HVAC noise would not exceed the exterior daytime noise limit of 60 dBA. However, HVAC noise could exceed the nighttime noise limit of 55 dBA.

The project would be subject to COA HVAC Noise Reduction measures related to HVAC noise reduction, which ensure the nighttime noise limits are met.

Traffic Noise. The proposed project would provide 20 bicycle spaces and no parking for vehicles. As a small infill project in a transit priority zone, the project is not expected to increase traffic on area roadways significantly above what the site produced as an auto repair business. As discussed in Environmental Checklist Section 17, Transportation, the project meets the State Office of Planning and Research (OPR) and City screening criteria for proximity to transit stations and would have a minor impact on VMT and on College Avenue traffic volumes. Traffic noise would be less than significant.

Mail Delivery and Trash/Recycling Trucks. Noise from delivery trucks and trash/recycling hauling trucks serving the project site would generate periodic noise at the project site. Trash/recycling hauling trucks would access the site primarily via Parker Street, via the driveway to the parking and trash area, and mail and package delivery could be from either College Avenue or Parker Street. Both mail delivery and trash hauling trucks would periodically idle while performing duties. The average noise level for a single idling truck is estimated at 80 dBA Leq at a distance of 10 feet. Garbage trucks have been measured at 65 dBA Leq at a distance of 50 feet while idling and up to 80 to 90 dBA while emptying dumpsters (DSA Engineers 2003). However, estimated noise from idling trucks would not be substantially louder or occur more frequently than under recent conditions, as trash/recycling-hauling trucks and delivery trucks serve all the land uses in the area so no change would occur with the change in use. Standard COA Loading would further limit all deliveries to the hours of 7:00 a.m. to 10:00 p.m. daily. As such, noise from delivery and trash trucks would be consistent with existing noise levels and be controlled by standard COAs; thus, the project would have a less than significant impact on sensitive receptors.

Outdoor Activities from Residents. Outdoor activities such as parties, gatherings in the stairwell, and in the planned open space could be sources of nuisance noise for nearby neighbors. The City's Municipal Code Chapter 13.40 addresses community noise, which finds that "every person is entitled to an environment in which the noise is not detrimental to their life, quality of life, health, or enjoyment of property." This code prohibits amplified sound on private property after 8:00 p.m. This code also applies to the operation or playing of any radio, television set, phonograph, drum, musical instrument, or similar device which produces or reproduces sound in such a manner as to violate the exterior or interior noise standards specified in the chapter. Loud or raucous yelling, shouting, whistling, or singing so as to cause a noise disturbance is prohibited. The violation of any of the provisions of Chapter 13.40 is considered a public nuisance and may be abated. Any violation of this chapter may be charged as either a misdemeanor or an infraction. Required compliance with the City's Municipal Code community noise standards would result in a less than significant.

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

Less Than Significant Impact

Construction of the proposed project would intermittently generate vibration on and adjacent to the project site. Vibration-generating equipment may include bulldozers and loaded trucks to move materials and debris, and vibratory rollers for paving. It is understood that pile drivers, which generate strong groundborne vibration, would not be used during construction.

Unlike construction noise, vibration levels are not averaged over time to determine their impact. The most important factors are the maximum vibration level and the frequency of vibratory activity. Therefore, it is appropriate to estimate vibration levels at the nearest distance to sensitive receptors that equipment could be used, even though this equipment would typically be located farther from receptors. This analysis assumes that vibration-generating equipment could be located as close as 25 feet from sensitive receptors adjacent to construction at the project site, which is the reference distance for vibration levels provide by the California Department of Transportation (Caltrans). Typical vibration levels for construction equipment at noise-sensitive receptors include (California Department of Transportation 2013):

- Vibratory Roller: 0.210 peak particle velocity (PPV) (in./sec) at 25 feet
- Large Bulldozer: 0.089 PPV (in./sec) at 25 feet
- Loaded Trucks: 0.076 PPV (in./sec) at 25 feet
- Jackhammer: 0.035 PPV (in./sec) at 25 feet

Construction activity would generate vibration levels reaching an estimated 0.210 PPV at a distance of 25 feet if vibratory rollers are used to pave asphalt. Vibration-generating equipment would be operated on a transient basis during construction.

A maximum vibration level of 0.210 PPV during the potential use of vibratory rollers would not exceed 0.25 PPV, Caltrans' recommended criterion for distinctly perceptible vibration from transient sources. Construction activity that generates loud noises (and therefore vibration) also would be limited to daytime hours on weekdays and Saturdays, which would prevent the exposure of sensitive receptors to vibration during evening and nighttime hours. As a result, it would not result in substantial annoyance to people of normal sensitivity. In addition, the vibration level would not exceed the Caltrans' recommended criterion of 0.5 PPV for potential damage to historic and old buildings from transient vibration sources. Therefore, the impacts of vibration on people and structures would be less than significant.

As a residential development, the proposed project would not generate significant stationary sources of vibration after construction, such as manufacturing or heavy equipment operations. Operational vibration in the project vicinity would be generated by vehicular travel on local roadways; however, any increase in traffic-related vibration levels would not be perceptible because, as described in the Environmental Checklist Section 17, Transportation, the project would not provide vehicular parking or significantly increase VMT.

In addition, the standard COA for Damage Due to Construction Vibration requires an analysis of potential damage due to construction prior to, or concurrent with a demolition building permit. Implementation of this COA would ensure construction of the proposed project would not result in substantial groundborne vibration on properties adjacent to the project site. Therefore, impacts associated with groundborne vibration and groundborne noise levels during construction would be less than significant.

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

No Impact

The nearest airport to the project site is the Oakland International Airport, located approximately 13.3 miles south of the site. The project site is located entirely outside the noise contours associated with the airport. The proposed project would not subject people at the site to excessive noise, and there would be no impact.

14. Population and Housing

Environmental Setting

As of 2020, Berkeley had an estimated population of 123,065 residents and an estimated housing stock of 50,046 dwelling units, reflecting a growth rate of approximately 1.0 percent annually (California Department of Finance n.d.). Projections suggest that this population growth will continue. The population is expected to increase from 123,065 to 140,100 by the year 2040 (City of Berkeley 2015).

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Less Than Significant Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The City's 2015-2023 Housing Element anticipates a citywide population of approximately 140,100 by the year 2040 (City of Berkeley 2015). The proposed project qualifies for a density bonus and would construct 11 new housing units in a transit priority area, with one unit available to very-low-income renters, near public transportation, dedicated bike lanes, downtown services, and existing parking garages.

Utilizing data provided by the California Department of Finance (2021), the City has an average of 2.90 persons per household. When applying the average household size to the proposed project, the project, once constructed, would house approximately 32 residents. The current population of Berkeley is estimated at 123,065 (California Department of Finance n.d.). The addition of new residents from operation of the proposed project would therefore increase the population of the City of Berkeley to 123,262. ABAG estimates that the City's population will

increase to 131,005 by 2025, an increase of 7,677 residents (Metropolitan Transportation Commission and Association of Bay Area Governments 2021).

The City also currently has 50,646 housing units (California Department of Finance n.d.). The addition of 11 units would bring the total number of housing units to 50,657. The latest ABAG projections also estimate that the number of housing units in the City in 2025 will be 53,475 (Metropolitan Transportation Commission and Association of Bay Area Governments 2021), an increase of 2,296 units. The housing and population growth associated with the project are within ABAG projections. Therefore, the proposed project would not induce substantial unplanned population growth in the City.

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

No Impact

The proposed project would not result in the displacement of persons or housing and would therefore not require construction or replacement of housing elsewhere. Therefore, the project would have no impact.

15. Public Services

Environmental Setting

Fire Protection

The Berkeley Fire Department (BFD) provides fire protection and emergency medical services to the project site, as well as for the entire city. The Fire Department provides fire suppression, paramedic ambulance service, search and rescue, fire prevention inspections/permits, public fire education programs, emergency preparedness planning and other services based on community needs. BFD also reviews development projects and building permit applications for compliance with California Building and Fire Codes with local City of Berkeley amendments and other regulations intended to prevent or reduce fire hazards. The proposed project would be required to adhere to the COAs set forth by the BFD based on their review of the project plans. The BFD Station 3 serves the project site. Station 3 is located approximately 0.4 miles to the south of the site and provides 24-hour emergency service for medical emergencies, fire suppression, water rescue, and disaster response.

Police Protection

The Berkeley Police Department serves the project site, which is within Northern Beat District 7. Police headquarters are located at 2100 Martin Luther King Jr. Way, approximately 1.6 miles west of the project site. In case of emergencies and non-emergency calls, the community can reach an on-call first responder on a 24-hour basis at the Berkeley Public Safety Communications Center.

Medical Facilities

Alta Bates Summit Medical Center and Lifelong Immediate Urgent Care are approximately 0.8 miles southwest of the site. Lifelong is a nonprofit community health center network. The Alta Bates Summit Medical Center provides high-quality medical, dental, and behavioral health services to people of all ages regardless of ability to pay or immigration status. Alta Bates Summit Medical Center offers comprehensive services with physicians, nurses, and other healthcare professionals who have special training in treating critical injuries to the head, spine, and vital organs. Numerous medical facilities are available throughout the urban area.

Schools

The proposed project is within the Berkeley Union School District. The nearest schools are Emerson Elementary School (0.5 miles southeast), Willard Middle School (0.5 miles southwest), and Berkeley High School (1.4 miles west). Maybeck High School is a private school located approximately 0.3 miles south of the project

site. Residential growth within Berkeley continues to put pressure on schools to expand their facilities in order to accommodate residents in the area. The Berkeley Union School District has prepared for this by adopting development fees for any new residential project (Berkeley Unified School District 2017).

Parks

The Berkeley Parks and Recreation Department provides services to City residents. The district operates community centers, aquatic facilities, open space sites, parklands, parks, and a marina. The nearest public park is People's Park; located 0.3 miles northwest of the site and Willard Park; located 0.3 miles southwest of the site.

4.1.1 CEQA Checklist Summary

Would the project result in:

CEQA Question	Impact Determination
a) Would the project result in substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services? i) Fire protection? ii) Police protection? iii) Schools? iv) Parks? v) Other public facilities?	Less Than Significant Impact

4.1.2 Answers to CEQA Checklist Questions

a) Would the project result in substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?

i) Fire protection?

ii) Police protection?

iii) Schools?

iv) Parks?

v) Other public facilities?

Less Than Significant Impact

The proposed project would redevelop an existing auto facility into a multi-family residential complex that would house approximately 32 residents. The project would construct 11 new dwelling units at the proposed project location and thus would increase demand for public services such as police and fire protection, emergency medical services, schools, libraries, or parks.

The project would be required to implement basic building design standards for residential buildings as mandated by the Berkeley Fire Code, under BMC Section 19.48 and abatement of fire-related hazards and pre-fire management prescriptions as outlined under the California Health and Safety Code and the California Fire Plan. Further, the project would be subject to Fire Department review to ensure compliance with the Fire Code and to ensure that adequate levels of service can be provided in accordance with BMC Section 19.48 and General Plan Policy S-22. As required by the California Fire Code, the project would be required to include site-specific design features such as ensuring appropriate emergency access and requiring structures to be built with approved building materials. Conformance with this code reduces the risks associated with fire hazards. In case of emergency, the entire building would be accessible from both Parker Street and College Avenue. Moreover, the project would be reviewed by the Fire Department before City approval of building permits.

The new population of approximately 32 residents (see Environmental Checklist Section 14, Population and Housing) would generate an increased demand on schools, libraries, and other public services. As of 2020, the City had an estimated population of 123,065 residents, which is consistent with the City's current projections for population growth in the Housing Element. The population is expected to increase from 123,065 to 140,100 by the year 2040 (City of Berkeley 2015). The City has prepared for increased population growth and the services needed to provide for a growing population. Therefore, the proposed project would not require new or physically altered governmental services and/or facilities to maintain acceptable service ratios, response times, or other performance objectives, and would have a less-than-significant impact.

16. Recreation

Environmental Setting

Parks and other recreation facilities in Berkeley are under the jurisdiction of the Berkeley Parks, Recreation and Waterfront Department. The department manages the City's parks, playgrounds, pools, camps, community centers, and waterfront facilities; provides diverse recreation programs and special events throughout the year; delivers resident camp opportunities for youth, families, and seniors; and operates the largest public marina on the Bay (City of Berkeley n.d.). The nearest public parks are People's Park (located 0.3 miles northwest of the site) and Willard Park (located 0.3 miles southwest of the site). While schools are not direct recreation providers, school facilities are also available for public use.

In addition to the public open space managed by the department, the City contains parts of the Bay Trail and the 1,854-acre McLaughlin Eastshore State Park. Residents are adjacent to the East Bay Regional Park District's 2,079-acre Tilden Regional Park, and the 208-acre Claremont Canyon Regional Preserve is located approximately 1.3 miles east of the site. The East Bay Regional Park District is a system of parklands throughout Alameda and Contra Costa Counties; the system comprises 125,000 acres, 73 parks, and over 1,250 miles of trails (East Bay Regional Park District 2022).

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The proposed project is a residential development that would include 11 new residential units and indoor amenities, with approximately 32 residents. Although

the increased population at this location would increase demand for recreational services, the net increase in demand on recreation is anticipated to be small compared to the City's population of 123,065, and an increased demand for park services is included in the growth projections for the City. Therefore, the proposed project would not result in substantial physical deterioration of existing neighborhood and regional parks and recreational facilities and would have a less-than-significant impact.

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

Less Than Significant Impact

The proposed project would not involve the development of new recreational facilities as described in the project description. The project would not generate sufficient demand to require the construction or expansion of other recreational facilities, and incremental housing growth and the need for services to serve that growth is anticipated in the General Plan and regional projections. Therefore, construction of the project would not require the construction or expansion of recreational facilities and would have a less than significant impact.

17. Transportation

Environmental Setting

The proposed project would be located on the northeast corner of College Avenue and Parker Street. The following is a brief description of these roadways:

- College Avenue is a four-lane arterial roadway extending from Clifton Street south of the project and terminating north of the project at Bancroft Way. It serves school, residential, and commercial traffic and is an important north-south travel route. It is designated as a major street and a primary transit route in the City's General Plan.
- Parker Street is a two-lane residential street extending west from Seventh Street and terminating to the east at Derby Street. It serves school, residential, and commercial traffic.

Transit Service

The Downtown Berkeley BART station is located on Shattuck Avenue at Center Street, approximately 1.6 miles northwest from the project site. This station is located on the Richmond-Fremont Line, which connects to other destinations in the Bay Area at the MacArthur Station. There is also direct service to Downtown San Francisco as well as continuing service to Millbrae. Alameda-Contra Costa County Transit and the University of California shuttle services provide extensive bus transit service at the BART Station. There is also a bus stop adjacent to the site on College Avenue for the transit lines 51B, 604, 605, and 851; these routes provide access to major medical centers and shopping centers throughout the City, with connections to regional networks.

Pedestrian and Bicycle Facilities

Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following three classes:

- Class I: Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- Class II: Provides a restricted ROW designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
- Class III: Provides a ROW designated by signs or permanent markings and shared with pedestrians and motorists.

In the vicinity of the project, Hillegass Avenue is a Class II bike route and is designated as a bicycle boulevard with signage and markings encouraging motorists to share the road with bicyclists. Bike boulevards are streets with low traffic volumes and speeds, designed to prioritize bicycle travel (National Association of City Transportation Officials 2012). The Milvia Street bike route is approximately 0.15 miles west of the project site.

Regulatory Setting

State

The CEQA Guidelines Section 15064.3(b) indicates that land use projects would have a significant impact if the project would result in VMT exceeding an applicable threshold of significance. The OPR recommends that residential development that would generate vehicle travel that is 15 or more percent below the existing residential VMT per capita, measured against the region or city, may indicate a less than significant transportation impact (Governor's Office of Planning and Research 2018).

Local and Regional Transportation

In June 2020, the City developed VMT Criteria and Thresholds for VMT analysis for residential developments using the OPR guidance (City of Berkeley 2020):

- A residential project's VMT impact is considered less-than-significant if its household VMT per capita is at least 15 percent below the regional average household VMT per capita.

In addition, the City has developed screening criteria to provide project applicants with a conservative indication of whether a project could result in potentially significant VMT impacts. If the screening criteria are met by a project, the applicant would not need to perform a detailed VMT assessment for their project. The City's screening criteria include the following:

- Projects within Transit Priority Areas.
- Low-income housing projects.
- Small Projects: Projects defined as generating 836 daily VMT or less.
- Locally Serving Public Facility: Projects that generally encompass government, civic, cultural, health, and infrastructure uses which contribute to and support community needs and mostly generate trips within the local area.
- Projects in Low VMT Areas: Projects that are located in low-VMT areas and that have characteristics similar to other uses already located in those areas can be presumed to generate VMT at similar rates.

- Residential projects will be screened out if located in an area that has household VMT per capita that is 15 percent lower than the baseline regional average.
- Office and industrial projects will be screened out if located in an area that has home-work VMT per worker that is 15 percent lower than the baseline regional average.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less Than Significant Impact
b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	Less Than Significant Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

The proposed project is a multi-family housing development on a developed infill site in a Transit Priority Area. As screened (see Response 17(b), below), the project would have a minimal impact on VMT. The project would provide 20 bicycle parking spaces for residents.

The proposed project is located adjacent to a bus stop that provides access to commercial, institutional, and medical facilities throughout the region. The

Downtown Berkeley BART Station is approximately 1.6 miles northwest of the proposed site. College Avenue and Parker Street contain curbs, sidewalk, and gutters on both sides of the street. The proposed project would not interfere with existing bus routes and would not remove or relocate existing bus stops. As an infill housing development in a Transit Priority Area, the proposed project would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

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

Less Than Significant Impact

CEQA Guidelines § 15064.3(b) pertains to the use of VMT to analyze transportation impacts. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) provides technical recommendations regarding the assessment of VMT, non-binding thresholds of significance, potential exemptions, presumptions of less than significant CEQA impacts, and mitigation measures.

Many factors affect travel behavior. These factors include density, 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 developments that are far from other land uses and with poor access to non-private vehicular modes of travel generate more automobile travel than developments located in urban areas with a higher density mix of land uses and a variety of travel. Because the proposed project is in an urban area with multiple transportation options (public transportation, bicycle, and pedestrian facilities) and a mix of land uses, the project site would be expected to generate low VMT. Therefore, no VMT analysis is required.

OPR (2018) recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT. If a project meets at least one of the following screening criteria, then it is presumed that VMT impacts would be less than significant for the project and a detailed VMT analysis is not required:

- Small Projects – Projects that would generate fewer than 110 vehicle trips per day
- Map-Based Screening for Residential and Office Projects – Residential and office projects located in low-VMT areas
- Proximity to Transit Stations – Projects within one-half mile of an existing major transit stop or a stop along a high-quality transit corridor

- Affordable Residential Development – 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations

The project meets the OPR and City's screening criteria to provide project applicants with a conservative indication of whether a project could result in potentially significant VMT impacts. The project meets the City's screening criteria for Small Projects. Small Projects are defined as generating 836 daily VMT or less. Based on recent data from the California Household Travel Survey, this level of VMT would equate to 20 units of residential use or up to 10,000 sf of non-residential use.

The project would construct 11 units on an infill site. A bus stop is adjacent to the project site and provides access to medical facilities, job centers, shopping, and services throughout the region and runs 365 days per year. As a Small Project on an infill site, the proposed project would have a less than significant impact on VMT.

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

No Impact

The project would be constructed on a previously developed infill site and would not alter or effect existing streets or intersections. The proposed project would be required to comply with the City's design standards for vehicular access and circulation and the Fire Code. The project plans would be reviewed by the City's Transportation Engineer and Fire Department to ensure compliance with these design standards prior to approval of building permits for the project. Compliance would prevent hazardous design features and would ensure adequate and safe site access and circulation. The proposed project would involve residential uses on a site designated for residential uses; therefore, the project would not introduce incompatible uses, including incompatible vehicles or equipment, to the site or the surrounding area. There would be no Impact.

d) Would the project result in inadequate emergency access?

Less Than Significant Impact

The project would provide adequate emergency access via College Avenue and Parker Street. The proposed project would be required to comply with all building, fire, and safety codes, and specific development plans would be subject to review and approval by the City's Public Works Department, Building and Safety Department, and Fire Department. Required review by these departments would ensure that the circulation system for the project site would provide adequate emergency access. In addition, the proposed project would not require permanent closures to roadways or changes to existing roadway configurations.

Temporary closures to roadways during construction activities would be subject to the City's standard COA Transportation Construction Plan, which addresses alterations, closures, or blockages to sidewalks, pedestrian paths, or vehicle travel lanes (including bicycle lanes); storage of building materials, dumpsters, debris anywhere in the public right-of-way (ROW); exclusive contractor parking on-street; and/or significant truck activity. This COA would ensure that adequate emergency access would be maintained during construction activities. Impacts would be less than significant.

18. Tribal Cultural Resources

Environmental Setting

The Bay Area has been inhabited by prehistoric peoples since the terminal Pleistocene (Moratto 1984). By the time of Spanish settlement in 1769, seven native languages were spoken within the region, including Southern Pomo, Wapo, Patwin, Coast Miwok, Bay Miwok, Karkin Costanoan, and San Francisco Costanoan (Miliken 2007).

Ethnographic literature indicates the region surrounding the proposed APE was near the northwestern extent of the Ohlone or Costanoan people's pre-contact territory (Levy 1978). Their territory ranged from the San Francisco Peninsula in the north to Big Sur in the south and from the Pacific Ocean in the west to the Diablo Range in the east. Their vast region included the San Francisco Peninsula, Santa Clara Valley, Santa Cruz Mountains, Monterey Bay Area, as well as present-day Alameda County, Contra Costa County, and the Salinas Valley.

The Ohlone people today belong to one of several geographically distinct groups. The Muwekma Ohlone Tribe has members from around the Bay Area and is composed of descendants of the Ohlones from the San Jose, Santa Clara, and San Francisco missions. The Ohlone Costanoan Esselen Nation, consisting of descendants of intermarried Rumsen Costanoan and Esselen speakers of Mission San Carlos Borromeo, are centered within the Greater Monterey Bay Area.

Regulatory Setting

Native American Consultation

In accordance with Assembly Bill 52, as identified in PRC § 21080.3.1(b)(2), Native American tribes (tribes) identified by the NAHC must be invited to consult on projects.

Local – Standard COAs

The City's Planning Department requires standard COAs to reduce potential effects of projects. The standard Conditions of Approval discussed in the analyses below are listed in full in Section 12, Standard Conditions of Approval.

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i. Listed or eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k), or	Less Than Significant Impact with Mitigation Incorporated
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

i. Listed or eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k)?

Less Than Significant Impact with Mitigation Incorporated

or

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

Less Than Significant Impact

The City conducted a records search at the Northwest Information Center for resources within the APE as well as resources in the vicinity around the APE (archival study area). No listed tribal resources were identified.

Native American correspondence was initiated with a letter and attached maps to the NAHC on May 31, 2022. The letter requested a record search of their Sacred Lands File and a contact list for regional tribes that may have knowledge of cultural or tribal resources within or immediately adjacent to the project area. A response was received on June 28, 2022, that indicated tribal resources are in the vicinity of the project site.

In lieu of a timely response from NAHC, inquiry letters were mailed to the tribes using a list identified by NAHC for the nearby 2136-2154 San Pablo Avenue project in Berkeley, California. These letters were mailed on June 7, 2022, on City of Berkeley letterhead; follow-up phone calls and emails were made as listed in Table 12 below.

Table 12. Native American Consultation Log

Representatives	Affiliation	Letter Results	Phone Call and Email Results
Irenne Zwierlein	Amah Mutsun Tribal Band of Mission San Juan Bautista	Letter received on 5/16/2022. No written response to date.	On 6/15/2022, spoke to Ms. Zwierlein who requested workers sensitivity training occur prior to ground disturbing activities. On 6/17/2022, a follow-up email was sent reiterating the conversation. On 7/7/2022, the worker environmental awareness program (WEAP) mitigation measure the City plans to implement was sent to Ms. Zwierlein via email for he review. On 7/8/2022, a voicemail was left for Ms. Zwierlein regarding the WEAP mitigation measure. No response to date.
Corrina Gould	The Confederated Villages of Lisjan	Letter received on 6/21/2022. No written response to date.	On 6/15/2022, attempted to call Ms. Gould, but mailbox was full.

Representatives	Affiliation	Letter Results	Phone Call and Email Results
			On 6/17/2022, a follow-up email was sent. On 6/21/2022, Ms. Gould responded via email requesting additional project information and if the SLF response was positive or negative to determine possible consultation. On 7/1/2022, a response email was sent to Ms. Gould with the positive SLF response from NAHC attached. The email identified the City representative for Ms. Gould to contact and requested available dates and times if she prefers a meeting with the City. On 7/5/2022, Ms. Gould responded via email requesting a copy of the records search environmental document, and archaeological report for the project either mailed or through email. On 7/14/2022, a response email was sent to Ms. Gould containing a link to the full Northwest Information Center records search results and a link to the City's online project portal. The email outlined the current recommended mitigation measures and that the project-type did not require an archaeological survey and report. The email identified the IS that is in

Representatives	Affiliation	Letter Results	Phone Call and Email Results
			progress and can be sent to the Tribe once complete. It also suggested the Tribe can either review the standard mitigation measures or provide their own to be implemented. On 7/14/2022, an automatic email response was received stating the Tribal offices were closed for ceremony and will reopen on 8/1/2022. Consultations are ongoing.
Tony Cerda	Costanoan Rumsen Carmel Tribe	Letter sent – receipt unknown and no written response to date.	On 6/17/2022, a follow-up email was sent to Michael Derry, Tribal Historic Preservation Officer (THPO). No response to date.
Donald Duncan	Guidiville Indian Rancheria	Letter received on 5/17/2022. No written response to date.	On 6/7/2022, attempted to call and was given the email for Michael Derry, THPO. On 6/7/2022, a follow-up email was sent to Mr. Derry.
Ann Marie Sayers Kanyon Sayers-Roods	Indian Canyon Mutsun Band of Costanoan	Letter sent to Ms. Sayers – receipt unknown and no written response to date Letter received by Ms. Sayers-Roods on 5/16/2022. No written response to date.	Ms. Sayers number and email provided by NAHC are disconnected. On 6/15/2022, attempted to call Ms. Sayers-Roods, but mailbox was full. On 6/17/2022, a follow-up email was sent to Ms. Sayers-Roods. No response to date.
Monica Arellano	Muwekma Ohlone Indian Tribe of the SF Bay Area	Letter received on 5/16/2022. No written response to date.	On 6/15/2022, call was attempted but mailbox was full. On 6/17/2022, a follow-up email was sent. No response to date.

Representatives	Affiliation	Letter Results	Phone Call and Email Results
Katherine Perez Timothy Perez	North Valley Yokuts Tribe	Letter received on 5/16/2022. No written response to date.	On 6/15/2022, attempted to call Ms. Perez and left a voicemail. Attempted to call Mr. Perez and left a voicemail. On 6/17/2022, a follow-up email was sent. No response to date.
Andrew Galvan	The Ohlone Indian Tribe	Letter sent – receipt unknown and no written response to date.	On 6/17/2022, a follow-up email was sent. No response to date.
Kenneth Woodrow	Wuksache Indian Tribe/Eshom Valley Band	Letter received on 5/16/2022. No written response to date.	On 6/15/2022, attempted to call and left a voicemail. On 6/17/2022, a follow-up email was sent. No response to date.

Although no tribal cultural resources are known to be present on-site, there is the possibility of encountering undisturbed cultural resources that may later be recommended as a tribal cultural resource by tribal organizations. The project would be subject to the City's standard COA Halt Work/Unanticipated Discovery of Tribal Cultural Resources. This COA requires that in the event that cultural resources of Native American origin are identified during construction, all work within 50 feet of the discovery shall be redirected and the City notified. The City will contact any tribes who have requested consultation under Assembly Bill (AB) 52, as well as contact a qualified archaeologist, to evaluate the resources and situation and provide recommendations. If it is determined that the resource is a tribal cultural resource and thus significant under the California Environmental Quality Act (CEQA), a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. If the resource cannot be avoided, additional measures to avoid or reduce impacts to the resource and to address tribal concerns may be required.

As shown in Table 12, the Amah Mutsun Tribal Band of Mission San Juan Bautista also requested that worker sensitivity training be provided to ensure the appropriate handling of unanticipated discoveries. The following mitigation measure would further reduce potential impacts due to unanticipated discovery of tribal cultural resources:

Mitigation Measure TCR 1: Provide a Worker Environmental Awareness Program (WEAP) for relevant project personnel and construction workers in the conditions of approval for the project.

a. The City shall provide a tribal cultural resources sensitivity and awareness training program (WEAP) for all personnel involved in project construction, including field consultants and construction workers, at their own expense. The WEAP shall be developed in coordination with interested Native American Tribes.

b. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The training may be done in coordination with the project archaeologist.

c. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training.

Finding: Compliance with Mitigation Measure TRC-1 and the City's standard COAs would ensure impacts related to tribal cultural resources would be less than significant.

19. Utilities and Service Systems

Environmental Setting

Water Supply

Water supply to the project site and surrounding area is provided by EBMUD. Approximately 90 percent of the water used by EBMUD comes from the Mokelumne River watershed, and EBMUD transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights that allow for delivery of up to a maximum of 325 million gallons per day (mgd) from this source, subject to the availability of runoff and to the senior water rights of other users, downstream fishery flow requirements, and other Mokelumne River water uses. EBMUD is obligated to meet multiple operating objectives, including providing municipal water supply benefits, stream flow regulation, fishery/public trust interests, flood control, temperature management, and obligations to downstream diverters. Among these factors, EBMUD's Mokelumne River flow commitments are generally tied to the variability in the Mokelumne River watershed rainfall and runoff patterns which govern the release requirements for the year.

EBMUD completed development of a revised Water Supply Management Program (WSMP) 2040 in April of 2012, which is the District's plan for providing water to its customers through 2040. According to the WSMP, EBMUD's water supplies are estimated to be sufficient during the planning period (2010-2040) in normal and single dry years. The WSMP 2040 emphasizes maximum conservation and recycling, with a total of 50 mgd of future supply to be provided from those two strategies. However, looking beyond 2040, EBMUD's current supply is projected to be insufficient to meet customer needs during multi-year droughts despite EBMUD's aggressive water conservation and recycled water programs. Supplemental supply will also be needed to reduce the degree of rationing and to meet the need for water in drought years.

The Urban Water Management Planning Act of 1983 amended the California Water Code to require all urban water suppliers in California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet per year of water. EBMUD adopted its first UWMP in 1985 and has been updating the plan every five years, adjusting for current and projected water usage, water supply programs, and conservation and recycling programs. Water demand projections described in the UWMP account for anticipated future water demands within the EBMUD service territory, and changes in land uses including but not limited to densification and associated increases in water usage. EBMUD's 2020 UWMP estimated the average daily water demand in its

service area to be 180 mgd (East Bay Municipal Utility District 2020), an increase of 10 mgd since 2015.

Wastewater Infrastructure

The City's collection system includes approximately 254 miles of City-owned sanitary sewers, 7,200 manholes and other sewer structures, seven sewage pump stations, and approximately 31,600 service laterals. The City is responsible for maintenance and repair of the lower portion of the service laterals (located within the public ROW) from the property line cleanout to the connection to the City's sewer main. Wastewater generated in the City's collection system is conveyed to the EBMUD wastewater interceptor system and is treated at EBMUD's Main Wastewater Treatment Plant (WWTP) located near the eastern terminus of the San Francisco-Oakland Bay Bridge.

There is a sanitary sewer line located at the back of sidewalk on College Avenue. Wastewater from the project site enters the City's wastewater collection system and is then conveyed to EBMUD's WWTP. The WWTP provides primary treatment for up to 320 mgd and secondary treatment for up to 168 mgd; storage basins provide plant capacity for a short-term hydraulic peak of 415 mgd. On average, about 63 million gallons of wastewater are treated daily at the WWTP (East Bay Municipal Utility District n.d.).

Solid Waste, Recycling, and Compost

All projects must provide refuse recycling and organics/compost collection areas for occupants, clearly marked on site plans, which comply with the Alameda County Mandatory Organics Reduction and Recycling Ordinance (2021-02). The City is one of the few cities in Northern California to operate its own Transfer Station and provide curbside refuse, dual-stream recycling, and compost collections in addition to roll-off service. The City also supports a material recovery/drop-off and buyback facility operated by Community Conservation Centers. Solid waste, construction recyclable materials, and compostable materials collected by the City and its contracted companies are transported from the Berkeley Transfer Station, located at 1201 Second Street, for disposal, sorting, or composting. Curbside recycling is collected by the City and its contracted company and taken to Community Conservation Centers for sorting. Effective July 1, 2021, the Berkeley Transfer Station currently has a permitted capacity of 193,440 tons per year. One permitted landfill in Alameda County has the capacity to accommodate solid waste generated in Berkeley, the Altamont Landfill. The Altamont Landfill has sufficient disposal capacity through 2045. Currently, the City sends all solid waste for disposal to the Altamont Landfill, which is located near the Altamont Pass, northeast of the City of Livermore (Waste Management n.d.). Organic materials such as green waste and

food scraps that are delivered properly sorted to the Transfer Station are then processed into Compost at Recology's commercial compost facility in Vernalis, CA.

Electrical Services

East Bay Community Energy (EBCE) supplies electricity to the City by using transmission infrastructure operated and maintained by Pacific Gas and Electric (PG&E) Company. EBCE is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. As of 2018, EBCE's energy intensity factor for its base plan (Bright Choice) consisted of 41 percent eligible renewable energy resources (East Bay Community Energy n.d.). PG&E is one of the nation's largest electric and gas utility companies, and it maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. According to PG&E's 2018 Integrated Resource Plan, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt-hours and 37,370 gigawatt-hours (Pacific Gas & Electric n.d.).

CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less Than Significant Impact
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less Than Significant Impact
d) Generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less Than Significant Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less Than Significant Impact

Answers to CEQA Checklist Questions

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

Less Than Significant Impact

Water Supply

Water would be provided to the project site via existing water mains to provide for irrigation, domestic water use, and emergency fire connection. The project would also extend the emergency water supply system to hydrants located on-site to provide adequate pressure and flowrate for the project. The project would not require the construction or relocation of new water mains, but only connections to the existing main. As described in the environmental setting section above, EBMUD's 2020 UWMP estimated the average daily water demand in its service area to be 180 million gallons per day (gpd).

According to reference material provided by EBMUD, the average water demand of dwelling units such as the units proposed under the project is 65 gpd per resident (Metcalf & Eddy, Inc. 1991). As described in Environmental Checklist Section 14, Population and Housing, the project could generate up to 32 total residents. Therefore, operation of the proposed project could generate a demand for up to 2,080 gpd. The additional water demand created by the project represents about 0.00001 percent of the current water demand. In addition, EBMUD's future water supply assessment is based on population growth and as discussed in Section 14, the proposed project would not increase population beyond the growth expected for the City. Therefore, EBMUD infrastructure and facilities would have adequate capacity to service the project, and construction and operation of the project would not require new or expanded water supply facilities.

Wastewater

The proposed project would generate an increase in wastewater at the project site compared to existing conditions and would require connection to the City's existing sanitary sewer system. There is a sanitary sewer line located at the back of sidewalk on College Avenue. As described above, the City's owns and operates the wastewater collection system and is responsible for conveying wastewater to EBMUD's WWTP. As part of the project design and approval process, the project will be required to prepare an analysis of the wastewater flows generated by the project, show how the sewer lateral design will have capacity to handle such flows, and assess whether the sewer main has sufficient capacity to serve the project. Because the proposed structure would have only a one (1) foot setback from the property line on College Avenue, the project has the potential to place a new load

on the existing sanitary sewer pipe. The project cannot increase loadings on the existing sewer or alter access to the sewer main. This can be mitigated through the design of the foundation, or the project will relocate the City's sewer infrastructure to not increase loading or alter access to the sewer pipe. The City will review this information and determine if the project needs to increase the sewer main capacity and/or protect the existing sewer line from additional load.

EBMUD's WWTP receives and treats an average of 63 mgd with a maximum primary treatment capacity of 320 mgd and secondary treatment for up to 168 mgd. Wastewater demand is based on population growth and as discussed in Section 14, the proposed project would not increase population beyond the growth expected for the City. EBMUD has determined that the WWTP has enough long-term capacity for Housing Element buildout within the region due to increased water conservation efficiencies and requirements, and a continuing reduction in per capita wastewater demand (East Bay Municipal Utility District n.d.).

Stormwater

As discussed in Environmental Checklist Section 10, Hydrology and Water Quality, the project would not add impervious area to the existing developed site and would not result in an increase in surface runoff compared to existing conditions. In addition, the proposed project would be required to comply with all applicable stormwater management requirements, including the City's Municipal Regional Stormwater Permit. Therefore, the proposed project would not result in the need for new off-site stormwater drainage facilities. Site runoff would be directed to the City's existing municipal storm drainage system.

Electric Power and Telecommunications

Within the City, electricity is managed by EBCE and there are numerous telecommunication providers. The project site, which is fully developed, is located within an urban environment. The infill nature of the project site would support access to existing power and telecommunication lines and services.

Conclusion

As an infill development replacing an existing use, the project would result in a minor increase in demand for water and sewer capacity and would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, or telecommunications facilities. Therefore, the proposed project would not result in the construction of new or expanded utility facilities and would have a less than significant impact.

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

Less Than Significant Impact

As described under questions (a) and (c), potable water to the project site would also be provided by EBMUD. According to their 2025 UWMP, EBMUD anticipates having an adequate water supply to meet demand in its service area. EBMUD can meet customer demand to 2050 during normal years and single dry years; however, during multi-year droughts, even with customer demand reduction measures in place, EBMUD will need to obtain supplemental supplies to meet customer demands (East Bay Municipal Utility District 2020).

EBMUD's system storage generally allows EBMUD to continue serving its customers during dry-year events. EBMUD typically imposes water use restrictions based on the projected storage available at the end of September and, based on recent changes to its Demand Management Plan (DMP) Guidelines, may also implement water restrictions in response to a State of California mandate. By imposing water restrictions in the first dry year of potential drought periods, EBMUD attempts to minimize water use restrictions in subsequent years if a drought persists. Throughout dry periods, EBMUD must continue to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies. The UWMP 2020 includes DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. Under DMP Guidelines, water use restrictions may be determined based upon either projected end-of-September Total System Storage (TSS) or water-use-restriction mandates from the SWRCB. When state-mandated water use restrictions exceed the reductions that would otherwise be called for based upon end-of-September TSS, EBMUD's water use reduction requirements may be guided by the applicable state mandates. Under either scenario, while EBMUD strives to keep water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent. The proposed project would be subject to the same drought restrictions that apply to all EBMUD customers.

The proposed project would generate a demand of approximately 2,080 gpd, or approximately 0.00001 percent of the current water demand. The actual net demand would be even lower since this is an infill site with prior water demand. Despite the conclusions in the UWMP that deficits are projected for multi-year droughts, compliance with the water conservation regulations and policies would help to maintain sufficient supplies for the proposed project. The project would be subject to the California Code of Regulations concerning water-efficient landscapes (23 CCR §§ 490-495) and to the Water Conservation Act of 2009. The Water Conservation Act of 2009 set an overall goal of reducing per capita urban water use

by 20 percent by December 31, 2020. Statewide water use in June 2022 was 7.6 percent lower than in June 2020, and 12.6 percent in the Bay Area in the same period (Water Board press release, August 2, 2022). Moreover, in the event of a multi-year drought, residents of the proposed project and other EBMUD customers would be subject to a Demand Management Plan and other water conservation requirements that will address any shortage in supply. Therefore, there would be sufficient water supply to serve the project and overall service area demand, with demand management during multi-year drought conditions. The project is an urban infill redevelopment project consistent with the UWMP that must comply with the California Green Building Code, including low-flow toilets and other water-efficient fixtures to achieve a 20-percent reduction in indoor water use, and will generate a negligible (0.00001 percent) demand on existing potable water resources. Therefore, impacts related to water supply would be less than significant.

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

Less Than Significant Impact

The proposed project would connect to the existing sewer main that leads to the EBMUD's WWTP. As described above, in 2020 EBMUD's WWTP received and treated an average of 63 mgd with a primary treatment capacity of 320 mgd and secondary treatment for up to additional capacity of 168 mgd. EBMUD has determined the WWTP has enough long-term capacity for Housing Element buildout within the region due to increased water conservation efficiencies and requirements, and a continuing reduction in per capita wastewater demand (East Bay Municipal Utility District n.d.).

The project would be required to comply with the requirements of the California Green Building Code, including low-flow toilets and other water-efficient fixtures to achieve a 20-percent reduction in indoor water use. The flow analysis will determine whether the existing sewer capacity is sufficient. The project will mitigate any deficiency by upsizing and/or relocating the sewer main. Therefore, the project would have a less than significant impact on the regional wastewater treatment system.

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

Less Than Significant Impact

Demolition and construction activities associated with the project would generate solid waste requiring disposal at the County's landfill. However, recyclable or

compostable construction waste generated during project construction, such as vegetation debris, concrete, and wood, should be diverted from landfill by sorting materials and/or using appropriate processing facilities. Projects must meet the minimum requirement to divert 100 percent of concrete, asphalt, and land clearing debris, and at least 65 percent of non-hazardous construction and demolition debris per the requirements of BMC Chapter 19.37.

It is anticipated that the proposed project, once constructed, would utilize solid waste, recycling, and compost collection services currently provided by the City. The proposed project would increase solid waste generation in Berkeley by adding new residential units to the City's housing supply. CalRecycle estimates that multi-family residential uses generate an average of four pounds of solid waste per unit per day (CalRecycle n.d.). Without considering recycling programs or State-mandated diversion requirements, operation of the proposed project would generate an estimated 128 net pounds per day of solid waste, or 0.06 tons per day. As discussed above in the Environmental Setting, Altamont Landfill has a sufficient capacity of 65.4 million cubic yards or 52.3 million tons to receive waste from the proposed project.

In accordance with California's Integrated Waste Management Act of 1989, cities and counties are required to divert 50 percent of all solid wastes from landfills. The City has achieved a solid waste diversion rate of 74 percent (City of Berkeley 2021) and this rate does not include the State-mandated 2022 green waste requirements. Assuming that this diversion rate continues to apply to new development in Berkeley, the project would generate less than 0.016 tons per day of solid waste for disposal at landfills. This total need for waste disposal would represent less than 0.001 percent of the current total remaining landfill capacity for the landfills that serve Berkeley. Therefore, solid waste generated by the project would not exceed the capacity of local solid waste infrastructure.

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

Less Than Significant Impact

Waste generation from construction would be temporary and there is sufficient capacity at Altamont Landfill for the project's demolition and construction debris. Disposal of construction waste would be required to comply with federal, state, and local statutes and regulations related to solid waste. Prior to construction activities, the project applicant would be required to prepare a Construction Demolition Recycling Plan and obtain a demolition permit. The purpose of the plan is to divert as much debris as possible from the waste stream. Future waste from residential use would be separated into waste, recyclables, and compost per SB 1383; therefore, the project would comply with federal, state, and local management and

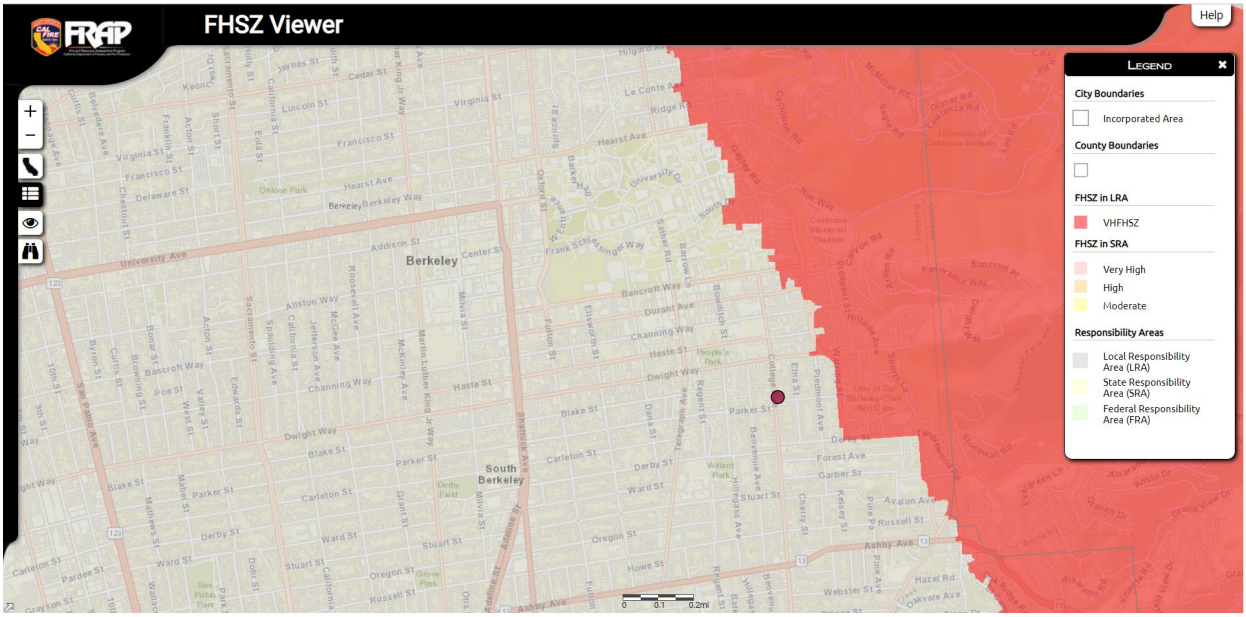
reduction statutes and regulations related to solid waste and would have a less-than-significant impact.

20. Wildfire

Environmental Setting

The California Department of Forestry and Fire Protection (CAL FIRE) designates fire hazard severity zones for areas under state jurisdiction. For areas under local jurisdiction, CAL FIRE identifies areas that they consider to be Very High Fire Hazard Severity Zones (VHFHSZs); the local jurisdiction must choose whether to adopt the CAL FIRE recommendations. The City has adopted the recommended local designation of VHFHSZ (City of Berkeley 2019a); the site is not within a VHFHSZ (Figure 10).

Figure 10. VHFHSZ Map



Source: California Department of Forestry and Fire Protection (CAL FIRE) 2022.

Regulatory Context

Title 24 Regulations

The Office of the State Fire Marshal (OSFM) is responsible for promulgating regulations that promote fire and life safety for inclusion into the state building codes, including the California Building Code, CALGreen Code, California Fire Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Historical Building Code (CCR Title 24). The process incorporates a great deal of public participation and is guided by the California Building Standards Law.

OSFM works with local governments, fire officials, building officials, and the private sector to develop fire- and life-safety building standards addressing roof coverings,

fire alarm systems, and hazardous materials. OSFM also regulates the adoption of building standards in assembly, institutional, educational, and residential buildings

Local

BMC Section 19.48.010 provides guidelines for development of a residential building within the City of Berkeley limits to reduce fire and to promote public safety.

CEQA Checklist Summary

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

CEQA Question	Impact Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

Answers to CEQA Checklist Questions

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency

water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact

The project site is not located in or near a state responsibility area or VHFHSZ for wildland fires (California Department of Forestry and Fire Protection n.d.). The closest VHFHSZ is approximately 0.3 miles east of the project site, and intervening areas are developed with urban uses. Therefore, there would be no impacts related to wildfire.

21. Mandatory Findings of Significance

CEQA Checklist Summary

CEQA Question	Impact Determination
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less Than Significant Impact with Mitigation Incorporated
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, or the effects of probable future projects.)	Less Than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact with Mitigation Incorporated

Answers to CEQA Mandatory Findings of Significance Questions

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

Less Than Significant Impact with Mitigation Incorporated

Based on the information and analysis provided throughout this Initial Study, implementation of the proposed project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of rare or endangered plants or animals. The City's standard COA for nesting birds and **Mitigation Measure BIO-1** would ensure impacts on birds protected under the MBTA would be less than significant.

The City's standard COAs would reduce potential impacts of disturbing archaeological and tribal cultural resources and human remains during construction.

The Amah Mutsun Tribal Band of Mission San Juan Bautista also requested that worker sensitivity training be provided to ensure the appropriate handling of unanticipated discoveries. As discussed in the Environmental Checklist Section 18, Tribal Cultural Resources, implementation of **Mitigation Measure TCR-1** and the City's standard COA Halt Work/Unanticipated Discovery of Tribal Cultural Resources would ensure impacts related to tribal cultural resources would be less than significant.

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

Less Than Significant Impact

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the CEQA Guidelines requires evaluation of potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of "reasonably foreseeable probable future" projects, per CEQA Section 15355. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

For all of the topics discussed in this Initial Study, the proposed project's impacts would be individually limited and not cumulatively considerable, because the impacts are either temporary in nature (i.e., limited to the construction period) or limited to the project site (i.e., accidental discovery). Additionally, for each of the topics analyzed in the Initial Study, the proposed project would have no impacts, less-than-significant impacts, or less-than-significant impacts with mitigation incorporated, and therefore would not substantially contribute to any potential cumulative impacts.

When future development proposals are considered by the City, these proposals would undergo environmental review pursuant to CEQA, and when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval, relevant policies and mitigation measures, and the General Plan, and compliance with applicable regulations would ensure that significant impacts would be avoided or otherwise mitigated to less-than-significant levels.

Implementation of these measures would ensure that the impacts of the project and other projects within the vicinity would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project development. Therefore, cumulative impacts would be less than significant.

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

Less Than Significant Impact with Mitigation Incorporated

All potential impacts associated with construction and implementation of the project identified in this Initial Study are either less than significant after mitigation or less than significant and do not require mitigation. Implementation of BMPs and standard COAs, and compliance with state and federal regulations protecting human and environmental health during construction would ensure that potential impacts are less-than-significant or reduced to a less-than-significant level.

Due to the close proximity of residential uses to the site, construction could expose sensitive receptors to TACs. However, the City's standard COAs combined with **Mitigation Measure AQ-1** would reduce this impact to less than significant levels by controlling emissions from construction engines. For Hazards and Hazardous Resources, the project could encounter asbestos-containing materials, lead based paint, or other hazardous materials in the existing buildings on-site; however, the City's standard COA requires the applicant assess and abate the buildings before demolition. With implementation of **Mitigation Measure HAZ-1,** impacts would be reduced to less than significant levels by the implementation of a Health and Safety Plan to eliminate or reduce exposure to soils or groundwater where contamination is present. Soil vapors on the site were measured and found to exceed residential ESLs. Implementation of **Mitigation Measure HAZ-2** would ensure a vapor intrusion mitigation system is incorporated into the building foundations during construction to ensure hazardous vapors do not enter the residential structure.

Mitigation Monitoring and Reporting Plan

Pursuant to PRC section 21081.6(a)(1) and CEQA Guidelines section 15097(a), CEQA requires the lead agency to report on and monitor mitigation measures adopted as part of the environmental review process. CEQA Guidelines section 15126.4(a)(2) requires mitigation measures to be fully enforceable through permit conditions, agreements, or other legally binding instruments. As the lead agency, the City of Berkeley would adopt this mitigation monitoring and reporting program (MMRP) if the project is approved by Zoning Adjustments Board. This Mitigation Monitoring and Reporting Plan (MMRP) is designed to aid the City in their implementation and monitoring of measures proposed in the IS for the proposed project.

Table 13 contains the MMRP for the proposed project. The MMRP lists the mitigation measures identified in the IS. The MMRP also describes the actions that must take place to implement each mitigation measure, the timing of those actions, and the entities responsible for implementing and monitoring the actions.

Table 13. Mitigation and Monitoring Plan

Mitigation Measure	Mitigation Activities	Implemented By	Monitored By	Timing and Frequency	Verification of Compliance
AQ-1	All offroad construction equipment used on the site must be equipped with Tier 4 engines or Tier 2 or higher engines combined with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type as certified by the California Air Resources Board (CARB) to achieve a Tier 4 final level of diesel particulate matter control. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications.	Contractor	Berkeley Public Works Department	Prior to building permit	Verified by: Date:
BIO-1	The project sponsor shall implement applicable measures identified in the City's project-specific bird safe building standards and the U.S. Fish and Wildlife Service's best practices for reducing bird strikes with buildings (U.S. Fish and Wildlife Service 2016) to the satisfaction of the Planning Director. To make an effective virtual cue, all window treatment should be applied to at least the first two to three stories or the height of the adjacent vegetation. Measures shall include: • Use architectural features to reduce the amount, reflectivity, and transparency of glass. • Employ bird collision mitigation measures for clear glass. • Keep the percentage of total glass below American Society of Heating, Refrigerating, and Air-	Berkeley Planning & Development Department	Berkeley Planning & Development Department	Prior to building permit	Verified by: Date:

Mitigation Measure	Mitigation Activities	Implemented By	Monitored By	Timing and Frequency	Verification of Compliance
	Conditioning Engineers standard of 40% of surface area (ANSI/ASHRAE/IES Standard 90.1 2013). • Avoid reflective glass. • Follow the Leadership in Energy and Environmental Design Pilot Credit 55: Bird Collision Deterrence recommendations for new construction (http://www.usgbc.org/Docs/Archive/General/Docs10402.pdf). • Minimize the number of or co-locate roof-top antennas. Make all antennas free standing (i.e., no guy wires).				
HAZ-1	The contractor shall develop and implement a Health and Safety Plan for construction workers. This Plan shall be submitted to and approved by the Berkeley Toxics Management Division prior to issuance of a grading permit. The protocols will specify how to eliminate or reduce exposure to soils where contamination may be present. Prior to any ground-disturbing activities, the contractor shall document that workers are trained on the protocols and shall maintain a copy of the final Health and Safety Plan on the job site.	Applicant/ Contractor	City of Berkeley, Toxics Management Division	Prior to grading permit	Verified by: Date:
HAZ-2	A vapor intrusion mitigation system shall be designed to the satisfaction of the Berkeley Toxics Management Division and incorporated into building foundations during redevelopment of the site in order to mitigate vapor intrusion concerns.	Applicant/ Contractor	City of Berkeley, Toxics Management Division	Prior to building permit	Verified by: Date:

Mitigation Measure	Mitigation Activities	Implemented By	Monitored By	Timing and Frequency	Verification of Compliance
TCR-1	Provide a Worker Environmental Awareness Program for relevant project personnel and construction workers in the Standard Construction Specifications for the project. a. The City shall provide a tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers, at their own expense. The WEAP shall be developed in coordination with interested Native American Tribes. b. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will	Developer/ Contractor	City Building Division	Prior to start of construction	Verified by: Date:

Mitigation Measure	Mitigation Activities	Implemented By	Monitored By	Timing and Frequency	Verification of Compliance
	discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The training may be done in coordination with the project archaeologist. c. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training.				

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Appendix A

CalEEMod Calculations

2555 College Berkeley Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	2555 College Berkeley
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	2.80
Location	Berkeley, CA, USA
County	Alameda
City	Berkeley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1537
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	11.0	Dwelling Unit	0.09	11,000	200	—	74.0	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-12	Sweep Paved Roads
Transportation	T-1	Increase Residential Density
Transportation	T-4	Integrate A ordable and Below Market Rate Housing
Transportation	T-15	Limit Residential Parking Supply
Transportation	T-31-A*	Locate Project in Area with High Destination Accessibility
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Transportation	T-33*	Locate Project near Bike Path/Bike Lane
Transportation	T-34*	Provide Bike Parking
Energy	E-12-A	Install Alternative Type of Water Heater in Place of Gas Storage Tank Heater in Residences
Energy	E-15	Require All-Electric Development
Water	W-5	Design Water-Efficient Landscapes
Waste	S-4*	Recycle Demolished Construction Material

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

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

Unmit.	1.59	1.32	14.0	11.9	0.05	0.61	5.50	6.11	0.56	2.62	3.18	—	8,076	8,076	0.45	1.13	15.8	8,439
Mit.	0.68	0.31	9.40	10.4	0.05	0.15	2.26	2.30	0.15	1.05	1.09	—	8,076	8,076	0.45	1.13	15.8	8,439
% Reduced	57%	77%	33%	13%	—	76%	59%	62%	74%	60%	66%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73	31.1	6.00	7.33	0.01	0.28	0.14	0.36	0.26	0.03	0.28	—	1,403	1,403	0.06	0.02	0.02	1,410
Mit.	0.60	31.1	3.68	8.30	0.01	0.17	0.14	0.31	0.16	0.03	0.19	—	1,403	1,403	0.06	0.02	0.02	1,410
% Reduced	17%	—	39%	-13%	—	40%	—	13%	40%	—	32%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.63	1.98	2.37	< 0.005	0.09	0.07	0.16	0.08	0.02	0.11	—	464	464	0.02	0.01	0.08	468
Mit.	0.12	0.52	0.83	2.62	< 0.005	0.04	0.05	0.09	0.03	0.01	0.05	—	464	464	0.02	0.01	0.08	468
% Reduced	53%	16%	58%	-11%	—	59%	31%	47%	59%	39%	55%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.11	0.36	0.43	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	76.9	76.9	< 0.005	< 0.005	0.01	77.5
Mit.	0.02	0.10	0.15	0.48	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	76.9	76.9	< 0.005	< 0.005	0.01	77.5
% Reduced	53%	16%	58%	-11%	—	59%	31%	47%	59%	39%	55%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

2023	1.59	1.32	14.0	11.9	0.05	0.61	5.50	6.11	0.56	2.62	3.18	—	8,076	8,076	0.45	1.13	15.8	8,439
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.73	31.1	6.00	7.33	0.01	0.28	0.14	0.36	0.26	0.03	0.28	—	1,403	1,403	0.06	0.02	0.02	1,410
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.24	0.63	1.98	2.37	< 0.005	0.09	0.07	0.16	0.08	0.02	0.11	—	464	464	0.02	0.01	0.08	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.04	0.11	0.36	0.43	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	76.9	76.9	< 0.005	< 0.005	0.01	77.5

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.68	0.31	9.40	10.4	0.05	0.15	2.26	2.30	0.15	1.05	1.09	—	8,076	8,076	0.45	1.13	15.8	8,439
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.60	31.1	3.68	8.30	0.01	0.17	0.14	0.31	0.16	0.03	0.19	—	1,403	1,403	0.06	0.02	0.02	1,410
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.12	0.52	0.83	2.62	< 0.005	0.04	0.05	0.09	0.03	0.01	0.05	—	464	464	0.02	0.01	0.08	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.10	0.15	0.48	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	76.9	76.9	< 0.005	< 0.005	0.01	77.5

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.27	0.53	0.13	1.75	< 0.005	—	—	—	—	—	—	11.2	260	271	1.14	0.01	1.03	305
Mit.	0.20	0.47	0.09	1.38	< 0.005	—	—	—	—	—	—	11.2	184	195	1.14	0.01	0.72	228
% Reduced	26%	12%	31%	21%	—	—	—	—	—	—	—	—	29%	28%	< 0.5%	27%	30%	25%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.47	0.14	1.17	< 0.005	—	—	—	—	—	—	11.2	245	257	1.14	0.02	0.10	290
Mit.	0.14	0.40	0.10	0.79	< 0.005	—	—	—	—	—	—	11.2	174	185	1.14	0.01	0.10	217
% Reduced	33%	13%	33%	33%	—	—	—	—	—	—	—	—	29%	28%	< 0.5%	28%	8%	25%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.22	0.48	0.13	1.35	< 0.005	—	—	—	—	—	—	11.2	236	247	1.14	0.01	0.47	281
Mit.	0.16	0.43	0.09	1.01	< 0.005	—	—	—	—	—	—	11.2	168	179	1.14	0.01	0.34	211
% Reduced	28%	12%	32%	25%	—	—	—	—	—	—	—	—	29%	28%	< 0.5%	27%	27%	25%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.09	0.02	0.25	< 0.005	—	—	—	—	—	—	1.86	39.1	41.0	0.19	< 0.005	0.08	46.5
Mit.	0.03	0.08	0.02	0.18	< 0.005	—	—	—	—	—	—	1.86	27.8	29.7	0.19	< 0.005	0.06	34.9
% Reduced	28%	12%	32%	25%	33%	—	—	—	—	—	—	—	29%	28%	< 0.5%	27%	27%	25%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.21	0.20	0.12	1.13	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	236	236	0.01	0.01	0.95	241
Area	0.06	0.33	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.67	1.67	< 0.005	< 0.005	—	1.67
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.27	0.53	0.13	1.75	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	260	271	1.14	0.01	1.03	305
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.19	0.14	1.17	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	223	223	0.02	0.01	0.02	227
Area	0.00	0.28	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.20	0.47	0.14	1.17	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	245	257	1.14	0.02	0.10	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.18	0.13	1.04	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	213	213	0.01	0.01	0.39	217
Area	0.03	0.31	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.82	0.82	< 0.005	< 0.005	—	0.83
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	21.0	21.0	< 0.005	< 0.005	—	21.2

Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.22	0.48	0.13	1.35	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	236	247	1.14	0.01	0.47	281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.03	0.02	0.19	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.3	35.3	< 0.005	< 0.005	0.06	36.0
Area	0.01	0.06	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.14	0.14	< 0.005	< 0.005	—	0.14
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.47	3.47	< 0.005	< 0.005	—	3.51
Water	—	—	—	—	—	—	—	—	—	—	—	0.12	0.24	0.36	0.01	< 0.005	—	0.77
Waste	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.04	0.09	0.02	0.25	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	1.86	39.1	41.0	0.19	< 0.005	0.08	46.5

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.08	0.76	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	159	159	0.01	0.01	0.64	162
Area	0.06	0.33	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.67	1.67	< 0.005	< 0.005	—	1.67
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08

Vegetatio	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.20	0.47	0.09	1.38	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	184	195	1.14	0.01	0.72	228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.10	0.79	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	150	150	0.01	0.01	0.02	153
Area	0.00	0.28	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.14	0.40	0.10	0.79	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	174	185	1.14	0.01	0.10	217
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.13	0.12	0.09	0.70	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	143	143	0.01	0.01	0.26	146
Area	0.03	0.31	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.82	0.82	< 0.005	< 0.005	—	0.83
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.16	0.43	0.09	1.01	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	11.2	168	179	1.14	0.01	0.34	211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.02	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	0.04	24.2
Area	0.01	0.06	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.14	0.14	< 0.005	< 0.005	—	0.14
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.73	3.73	< 0.005	< 0.005	—	3.76

Water	—	—	—	—	—	—	—	—	—	—	—	0.12	0.23	0.36	0.01	< 0.005	—	0.77
Waste	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Vegetation	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Total	0.03	0.08	0.02	0.18	< 0.005	NaN	NaN	NaN	NaN	NaN	NaN	1.86	27.8	29.7	0.19	< 0.005	0.06	34.9

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.54	4.99	5.91	0.01	0.21	—	0.21	0.20	—	0.20	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.21	0.21	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.45	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	90.0	90.0	< 0.005	< 0.005	0.41	91.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	167	167	0.01	0.03	0.36	175
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.57	4.57	< 0.005	< 0.005	< 0.005	4.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.17	2.31	5.54	0.01	0.06	—	0.06	0.05	—	0.05	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.13	0.13	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.06	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.04	0.03	0.45	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	90.0	90.0	< 0.005	< 0.005	0.41	91.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	167	167	0.01	0.03	0.36	175
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.57	4.57	< 0.005	< 0.005	< 0.005	4.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.54	5.02	5.57	0.01	0.27	—	0.27	0.25	—	0.25	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.22	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	45.0	45.0	< 0.005	< 0.005	0.20	45.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.58	0.16	8.97	3.54	0.05	0.13	0.52	0.65	0.13	0.17	0.31	—	7,173	7,173	0.41	1.12	15.6	7,533
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	0.02	20.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.25	3.25	< 0.005	< 0.005	< 0.005	3.41

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.42	5.99	0.01	0.02	—	0.02	0.02	—	0.02	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.22	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	45.0	45.0	< 0.005	< 0.005	0.20	45.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.58	0.16	8.97	3.54	0.05	0.13	0.52	0.65	0.13	0.17	0.31	—	7,173	7,173	0.41	1.12	15.6	7,533
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	0.02	20.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.25	3.25	< 0.005	< 0.005	< 0.005	3.41

3.5. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	1.28	12.6	11.4	0.02	0.60	—	0.60	0.55	—	0.55	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.32	5.32	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	67.5	67.5	< 0.005	< 0.005	0.31	68.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.59	0.23	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	471	471	0.03	0.07	1.02	495
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.71
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45

3.6. Grading (2023) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	0.84	9.79	0.02	0.03	—	0.03	0.03	—	0.03	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.33	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	67.5	67.5	< 0.005	< 0.005	0.31	68.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.59	0.23	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	471	471	0.03	0.07	1.02	495
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.71
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45

3.7. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.62	1.92	< 0.005	0.08	—	0.08	0.07	—	0.07	—	357	357	0.01	< 0.005	—	359
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.30	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.2	59.2	< 0.005	< 0.005	—	59.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	71.3	71.3	< 0.005	< 0.005	0.32	72.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	32.2	32.2	< 0.005	< 0.005	0.08	33.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.31	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	66.1	66.1	< 0.005	< 0.005	0.01	67.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	32.2	32.2	< 0.005	< 0.005	< 0.005	33.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.2	18.2	< 0.005	< 0.005	0.04	18.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.83	8.83	< 0.005	< 0.005	0.01	9.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.02	3.02	< 0.005	< 0.005	0.01	3.06
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.28	2.36	7.97	0.01	0.12	—	0.12	0.11	—	0.11	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.28	2.36	7.97	0.01	0.12	—	0.12	0.11	—	0.11	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.65	2.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	357	357	0.01	< 0.005	—	359

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.2	59.2	< 0.005	< 0.005	—	59.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	71.3	71.3	< 0.005	< 0.005	0.32	72.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	32.2	32.2	< 0.005	< 0.005	0.08	33.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.31	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	66.1	66.1	< 0.005	< 0.005	0.01	67.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	32.2	32.2	< 0.005	< 0.005	< 0.005	33.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.2	18.2	< 0.005	< 0.005	0.04	18.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.83	8.83	< 0.005	< 0.005	0.01	9.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.02	3.02	< 0.005	< 0.005	0.01	3.06
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.61	5.32	0.01	0.22	—	0.22	0.20	—	0.20	—	823	823	0.03	0.01	—	826
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.69	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	146	146	< 0.005	0.01	0.02	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	3.62	5.42	0.01	0.17	—	0.17	0.16	—	0.16	—	823	823	0.03	0.01	—	826
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.69	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	146	146	< 0.005	0.01	0.02	148
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	0.93	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	31.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30

Architect Coatings	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	13.2	13.2	< 0.005	< 0.005	< 0.005	13.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2023) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	0.93	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	31.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	13.2	13.2	< 0.005	< 0.005	< 0.005	13.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.21	0.20	0.12	1.13	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	236	236	0.01	0.01	0.95	241

Total	0.21	0.20	0.12	1.13	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	236	236	0.01	0.01	0.95	241
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.20	0.19	0.14	1.17	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	223	223	0.02	0.01	0.02	227
Total	0.20	0.19	0.14	1.17	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.02	—	223	223	0.02	0.01	0.02	227
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.03	0.03	0.02	0.19	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.3	35.3	< 0.005	< 0.005	0.06	36.0
Total	0.03	0.03	0.02	0.19	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.3	35.3	< 0.005	< 0.005	0.06	36.0

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.14	0.13	0.08	0.76	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	159	159	0.01	0.01	0.64	162
Total	0.14	0.13	0.08	0.76	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	159	159	0.01	0.01	0.64	162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.14	0.13	0.10	0.79	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	150	150	0.01	0.01	0.02	153
Total	0.14	0.13	0.10	0.79	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	150	150	0.01	0.01	0.02	153
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	0.02	0.02	0.02	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	0.04	24.2
Total	0.02	0.02	0.02	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	0.04	24.2

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	21.0	21.0	< 0.005	< 0.005	—	21.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3.47	3.47	< 0.005	< 0.005	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.47	3.47	< 0.005	< 0.005	—	3.51

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	22.5	22.5	< 0.005	< 0.005	—	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3.73	3.73	< 0.005	< 0.005	—	3.76
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.73	3.73	< 0.005	< 0.005	—	3.76

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.06	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.67	1.67	< 0.005	< 0.005	—	1.67
Total	0.06	0.33	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.67	1.67	< 0.005	< 0.005	—	1.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.28	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.14	0.14	< 0.005	< 0.005	—	0.14
Total	0.01	0.06	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.14	0.14	< 0.005	< 0.005	—	0.14

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.06	0.06	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.67	1.67	< 0.005	< 0.005	—	1.67
Total	0.06	0.33	0.01	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.67	1.67	< 0.005	< 0.005	—	1.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.28	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.14	0.14	< 0.005	< 0.005	—	0.14
Total	0.01	0.06	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.14	0.14	< 0.005	< 0.005	—	0.14

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.12	0.24	0.36	0.01	< 0.005	—	0.77
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.24	0.36	0.01	< 0.005	—	0.77

4.4.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64

Total	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Total	—	—	—	—	—	—	—	—	—	—	—	0.75	1.42	2.17	0.08	< 0.005	—	4.64
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.12	0.23	0.36	0.01	< 0.005	—	0.77
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.23	0.36	0.01	< 0.005	—	0.77

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6

Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06
Total	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06

4.5.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06
Total	—	—	—	—	—	—	—	—	—	—	—	1.73	0.00	1.73	0.17	0.00	—	6.06

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.6.2. Mitigated

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

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

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Native	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	NaN	NaN	NaN	NaN	NaN	NaN	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/15/2023	6/29/2023	5.00	10.0	Remove old garage
Site Preparation	Site Preparation	6/30/2023	7/1/2023	5.00	1.00	—
Grading	Grading	7/2/2023	7/4/2023	5.00	2.00	—
Building Construction	Building Construction	7/5/2023	11/22/2023	5.00	100	—
Paving	Paving	11/23/2023	11/30/2023	5.00	5.00	—
Architectural Coating	Architectural Coating	12/1/2023	12/8/2023	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Forklifts	Diesel	Tier 4 Final	1.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.30	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	99.0	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

Grading	—	—	—	—
Grading	Worker	7.50	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	6.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	7.92	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	1.18	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.58	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.30	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	99.0	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	6.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	7.92	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	1.18	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.58	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	22,275	7,425	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,000	—
Site Preparation	—	1,000	0.50	0.00	—
Grading	100	—	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	59.8	54.0	45.0	20,763	280	252	210	97,003

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	40.2	36.3	30.2	13,952	188	170	141	65,183

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
22275	7,425	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	37,526	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	40,279	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	390,619	2,777

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	390,619	1,404

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	2.88	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	2.88	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
Native	6.00	—	—

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
Native	6.00	—	—

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.10	annual days of extreme heat
Extreme Precipitation	7.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	2	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	3.12
AQ-PM	40.2
AQ-DPM	74.8
Drinking Water	4.21

Lead Risk Housing	40.2
Pesticides	0.00
Toxic Releases	59.3
Traffic	16.1
Effect Indicators	—
CleanUp Sites	64.9
Groundwater	77.5
Haz Waste Facilities/Generators	94.9
Impaired Water Bodies	23.9
Solid Waste	0.00
Sensitive Population	—
Asthma	10.9
Cardio-vascular	10.6
Low Birth Weights	10.9
Socioeconomic Factor Indicators	—
Education	3.52
Housing	94.4
Linguistic	42.8
Poverty	63.9
Unemployment	57.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	43.66739381
Employed	73.4377005

Median HI	41.57577313
Education	—
Bachelor's or higher	99.74335943
High school enrollment	100
Preschool enrollment	95.7141024
Transportation	—
Auto Access	2.810214295
Active commuting	99.69203131
Social	—
2-parent households	42.08905428
Voting	46.52893622
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	96.59951238
Supermarket access	94.25125112
Tree canopy	61.52957783
Housing	—
Homeownership	4.914667009
Housing habitability	32.15706403
Low-inc homeowner severe housing cost burden	60.33619915
Low-inc renter severe housing cost burden	32.54202489
Uncrowded housing	73.51469267
Health Outcomes	—
Insured adults	95.90658283
Arthritis	98.3
Asthma ER Admissions	90.6

High Blood Pressure	98.8
Cancer (excluding skin)	89.7
Asthma	72.9
Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	97.7
Diagnosed Diabetes	98.7
Life Expectancy at Birth	97.6
Cognitively Disabled	94.6
Physically Disabled	97.9
Heart Attack ER Admissions	91.3
Mental Health Not Good	83.6
Chronic Kidney Disease	98.6
Obesity	97.0
Pedestrian Injuries	73.2
Physical Health Not Good	98.5
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	14.4
Current Smoker	88.4
No Leisure Time for Physical Activity	94.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	95.8
Elderly	55.7
English Speaking	36.9
Foreign-born	74.2

Outdoor Workers	89.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	13.2
Traffic Density	35.5
Traffic Access	87.4
Other Indices	—
Hardship	10.3
Other Decision Support	—
2016 Voting	52.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	89.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
CE-3: Post a Clear, Visible Enforcement and Complaint Sign	Social Equity

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Added project specifics that over-ride defaults, increased population from the default 32 to reasonable worst case 74. 37 bedrooms occupied by 2 people each = 74 total people.
Construction: Construction Phases	Add project specifics
Operations: Hearths	All electric building
Operations: Energy Use	All electric building