



# Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project

Draft Environmental Impact Report

SCH#2020110320

*prepared by*

**City of Berkeley**

Department of Planning & Development

1947 Center Street, 2nd Floor

Berkeley, California 94704

Contact: Alisa Shen, Principal Planner

*prepared with the assistance of*

**Rincon Consultants, Inc.**

449 15<sup>th</sup> Street, Suite 303

Oakland, California 94612

**October 2021**



**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

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## **Appendices**

- Appendix A Notice of Preparation (NOP) and NOP Comments
- Appendix B August 2021 Draft R-BMU Development Standards and Joint Vision and Priorities Document
- Appendix C Historical Resources Evaluations
- Appendix D Adeline Corridor Specific Plan Cultural Resources Technical Report
- Appendix E Energy Modeling Worksheets
- Appendix F Greenhouse Gas Emissions Modeling Worksheets
- Appendix G Noise Measurement Data and Noise Modeling Worksheets
- Appendix H Transportation Analysis Methodology Memorandum
- Appendix I Water Supply Assessment
- Appendix J Special Status Species Evaluation Tables

# Executive Summary

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This document is an Environmental Impact Report for the Ashby and North Berkeley BART Stations Transit-Oriented Development (TOD) Zoning Project (“proposed project”). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

## Lead Agency/Project Proponent

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## Project Description

The Ashby and North Berkeley BART Stations Transit-Oriented Development (TOD) Zoning Project (“proposed project”) involves the adoption of new zoning district establishing transit-oriented zoning and development standards, and associated amendments to the Berkeley General Plan, at two Bay Area Rapid Transit (BART) station sites in the City of Berkeley. This section describes the project background, the proposed project, characteristics of the project sites, the key components of the development standards, potential buildout of the station sites, and the approvals needed to adopt the proposed project. Future development under the proposed zoning project would require subsequent approvals and permits including consideration of whether the environmental impacts of the project are addressed in this EIR or whether further environmental review is required.

Additional detail about the proposed project is included in Section 2, *Project Description*.

## Project Objectives

The objectives of the proposed project include:

- Comply with AB 2923
- Promote healthy, fossil-fuel free, energy- and water-efficient transit-oriented development that includes location efficiency and sustainable low carbon transportation modes

## Alternatives

As required by *CEQA Guidelines* §15126.6, this section of the EIR examines a range of reasonable alternatives to the proposed project. The following alternative is evaluated in this EIR:

- Alternative 1: No Project/Implement AB 2923 Standards
- Alternative 2: BART Rider Parking
- Alternative 3: Increased Height

Alternative 3 was determined to be environmentally superior to the proposed project.

Refer to Section 6, *Alternatives*, for the complete alternatives analysis.

## Areas of Known Controversy

The EIR scoping process identified several areas of known controversy for the proposed project including neighborhood impacts, transportation, and greenhouse gas (GHG) emissions. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Section 1, *Introduction*.

## Issues to be Resolved

There are no issues to be resolved that have been identified.

## Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

**Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

| Impact  | Mitigation Measure (s)   | Residual Impact                                  |
|---|--|--|
| <b>Aesthetics</b>   |  |  |
| <p>The project sites are within a transit priority area and as such meet the criteria of Senate Bill 743. Because implementation of the proposed rezoning would result in residential, mixed-use, and employment center projects on infill sites within a transit priority area, aesthetics impacts may not be considered significant impacts on the environment. (See Section 4.13.1, Aesthetics, in Section 4.13, <i>Effects Found not to Be Significant</i>).</p>  | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <b>Agricultural Resources</b>   |  |  |
| <p>There are no agricultural lands on or adjacent to the project sites. None of the properties on or adjacent to the project sites are under a Williamson Act contract. Also, no properties on or adjacent to the project sites are zoned for timberland or contain forest land or significant stands of trees. Therefore, there would be no impacts with respect to agricultural lands, Williamson Act contracts, timberland, or forest resources. see Section 4.13.2, Agricultural Resources, in Section 4.13, <i>Effects Found not to Be Significant</i>).</p> | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <b>Air Quality</b>  |  |  |
| <p><b>Impact AQ-1.</b> The proposed project would be consistent with BAAQMD’s 2017 Clean Air Plan because it would not result in significant and unavoidable criteria pollutant emissions, would support the primary goals of the 2017 Plan, and would include applicable 2017 Plan control strategies. This impact would be less than significant.</p>   | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <p><b>Impact AQ-2.</b> Future development under the proposed project would result in the temporary generation of air pollutants during construction, which would affect local air quality. Compliance with the BAAQMD Basic Construction Mitigation Measures would be required for future development within the project sites to implement measures to reduce construction emissions. This impact would be less than significant with mitigation incorporated.</p>   | <p><b>Mitigation Measure AQ-1: Construction Emissions Measures.</b> As part of the City’s development approval process, the City shall require applicants for future development projects within the project sites to comply with the current Bay Area Air Quality Management District’s basic control measures for reducing construction emissions of PM10 (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the May 2017 BAAQMD CEQA Guidelines).</p> | <p>Less than significant.</p>                    |

| Impact  | Mitigation Measure (s)  | Residual Impact                                  |
|---|---|--|
| <p><b>Impact AQ-3.</b> Development under the proposed zoning project would result in long-term operational criteria air pollutant emissions, primarily from vehicle emissions, which would affect regional air quality. However, development would be consistent with the applicable control measures of the 2017 Clean Air Plan and would not result in a VMT increase that would be proportionally greater than its anticipated population increase. Therefore, this impact would be less than significant.</p>   | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact AQ-4.</b> The proposed project would add a relatively low level of traffic to nearby Congestion Management Plan (CMP) roadways and would be consistent with the County CMP. Therefore, it would not expose sensitive receptors to substantial concentrations of carbon monoxide (CO). In addition, construction activities allowed under the project would occur over a limited period, and new residential units would be required to include filters that would minimize potential exposure to substantial toxic air contaminant (TAC) emissions. Therefore, this impact would be less than significant.</p> | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact AQ-5.</b> The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. No impact would occur.</p>   |   |  |
| <p><b>Biological Resources</b></p>  |   |  |
| <p>Future development under the proposed project could affect special status species. This impact would be less than significant with mitigation incorporated (see Section 4.13.3, Biological Resources, in Section 4.13, <i>Effects Found not to Be Significant</i>).</p>  | <p><b>Mitigation Measure BIO-1: Worker Environmental Awareness Program.</b> Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the construction area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction. All construction employees shall sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the City to document compliance.</p> | <p>Less than significant.</p>                    |

| Impact  | Mitigation Measure (s)   | Residual Impact                                  |
|---|--|--|
| <p><b>Mitigation Measure BIO-2: Special-status Bat Species Avoidance and Minimization.</b> Development that involves removal of mature trees large enough to contain crevices and hollows that could support bat roosting, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to demolition or tree removal. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW prior to issuance of grading permit.</p> |  |  |
| <p><b>Cultural Resources</b></p>  |  |  |
| <p><b>Impact CR-1.</b> The proposed project would guide development on the Ashby BART station site, which qualifies as a historical resource pursuant to CEQA. However, with mitigation, impacts would be less than significant.</p>  | <p><b>Mitigation Measure CR-1: Ashby BART Station Interpretive Display.</b> The proposed project shall be designed to include a permanent, high-quality on-site interpretive display in a publicly-accessible location, preferably near or within the publicly accessible civic plaza at the Ashby BART Station. The display shall focus on the station’s history, particularly the community-led effort for the station to be underground and the subsequent use of the land by the community. The interpretive display will be prepared by a professional exhibit designer and historian meeting the Secretary of the Interior’s Professional Qualification Standards (36 CFR Part 61). The goal of the interpretive display is to educate the public about the property’s historic themes and associations within broader cultural contexts and shall include incorporate elements of public art as appropriate. Plans for the display shall be subject to review and approval by the Land Use Planning Division prior to installation.</p> | <p>Less than significant.</p>                    |
| <p><b>Impact CR-2.</b> Known individual historical resources, including three historic districts eligible for inclusion in the NRHP, have been identified adjacent to or in proximity to the ASHBY BART station project site. Development in the project site would introduce new visual elements that would alter the settings of known historical resources. However, impacts would be less than significant.</p>   | <p>None required</p>   | <p>Less than significant without mitigation.</p> |

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

| Impact   | Mitigation Measure (s) | Residual Impact                                  |
|--|------------------------|--|
| <p><b>Impact CR-3.</b> The North Berkeley and Ashby BART station sites do not contain known archaeological resources. Nonetheless, development facilitated by the proposed project has the potential to impact unrecorded archaeological resources. However, with compliance with City of Berkeley standard conditions of approval, impacts would be less than significant.</p>  | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <p><b>Impact CR-4.</b> Ground-disturbing activities associated with development under the proposed project could result in damage to or destruction of human burials. However, adherence to existing regulations regarding the discovery of human remains and to City of Berkeley standard conditions of approval would reduce potential impacts to a less than significant level.</p>   | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <p><b>Impact CR-5.</b> Project site preparation and construction associated with development and right-of-way improvements under the proposed project could adversely impact tribal cultural resources (TCR). However, with compliance with City of Berkeley standard conditions of approval, impacts would be less than significant.</p>  | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <p>Cumulative development in the project area could disturb areas that may contain cultural resources. Future development could occur within or in close proximity to any of the three known historic districts adjacent to the Ashby BART Station. The Adeline Corridor Specific Plan includes a framework for additional residential and commercial development in the corridor near the Ashby BART station. Policies and regulations would not in all cases preclude impacts to built environment historical resources, such as changes to the setting of known historic districts. It would be speculative to predict the specific level of cumulative impact of future development. Nevertheless, it is conservatively projected that development could result in the alteration or loss of some historical built environment resources, with potentially significant cumulative impacts.</p> | <p>None available.</p> | <p>Cumulatively considerable impact.</p>         |

| Impact  | Mitigation Measure (s)   | Residual Impact               |
|---|--|-------------------------------|
| <p><b>Geology and Soils</b></p> <p>Because the project sites are underlain by geologic units assigned a high paleontological sensitivity, paleontological resources may be encountered during ground-disturbing activities associated with project construction. Construction activities could potentially uncover and disturb paleontological resources beneath the surface. This impact would be less than significant with mitigation incorporated (see Section 4.13.4, Geology and Soils, in Section 4.13, <i>Effects Found not to be Significant</i>).</p> | <p><b>Mitigation Measure GEO-1: Paleontological Resources Studies.</b> Because the project sites are underlain by geologic units assigned a high paleontological sensitivity, paleontological resources may be encountered during ground-disturbing activities associated with project construction (e.g., grading, excavation, or other ground disturbing construction activity).</p> <ol style="list-style-type: none"> <li>1. <b>Qualified Paleontologist.</b> The project applicant shall retain a Qualified Paleontologist to implement the following measures prior to excavations that have potential to impact paleontological resources. 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). <ol style="list-style-type: none"> <li>a. The qualified professional paleontologist shall design a Paleontological Resources Mitigation and Monitoring Program (PRMMP) for submission to the City prior to the issuance of grading permits. The Plan will outline the procedures and protocol for conducting paleontological monitoring and mitigation. Monitoring shall be conducted by a qualified paleontological monitor who meets the minimum qualifications per standards set forth by the SVP. The PRMMP shall address the following procedures and protocols: <ul style="list-style-type: none"> <li>▪ Timing and duration of monitoring</li> <li>▪ Procedures for work stoppage and fossil collection</li> <li>▪ The type and extent of data that should be collected with any recovered fossils</li> <li>▪ Identify an appropriate curatorial institution</li> <li>▪ Identify the minimum qualifications for qualified paleontologists and paleontological monitors</li> <li>▪ Identify the conditions under which modifications to the monitoring schedule can be implemented</li> <li>▪ Details to be included in the final monitoring report.</li> </ul> </li> </ol> </li> </ol> | <p>Less than significant.</p> |

| Impact | Mitigation Measure (s)   | Residual Impact |
|--------|--|-----------------|
|        | <p>Prior to issuance of a grading permit, copies of the PRMMP shall be submitted for review to the Department of Planning and Development at the City of Berkeley.</p> <p>2. <b>Paleontological Worker Environmental Awareness Program (WEAP).</b> Prior to any 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 fossils be discovered by construction staff. 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. Following the initial WEAP training, all new workers and contractors must be trained prior to conducting ground disturbance work.</p> <p>3. <b>Paleontological Monitoring.</b> Paleontological monitoring shall be conducted during any ground disturbing construction activities (i.e., grading, trenching, foundation work) in previously undisturbed (i.e., intact) Pleistocene alluvial fan and fluvial deposits (Qpaf), as well as ground disturbance exceeding depths of five feet within project areas mapped as Quaternary young (late to middle Holocene) alluvial and fluvial deposits (Qhaf)). Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring will be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, he/she may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological monitoring is not required for ground-disturbing activities that impact previously disturbed sediments (e.g., artificial fill) only.</p> |                 |

| Impact | Mitigation Measure (s)   | Residual Impact |
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|        | <p>4. <b>Fossil Discoveries.</b> 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:</p> <ul style="list-style-type: none"> <li>a. <b>Salvage of Fossils.</b> If fossils are discovered, all work in the immediate vicinity shall be halted to allow the paleontological monitor, and/or lead paleontologist to evaluate the discovery and determine if the fossil may be considered significant. If the fossils are determined to be potentially significant, the qualified paleontologist (or paleontological monitor) shall recover them following standard field procedures for collecting paleontological as outlined in the PRMMP prepared for the project. 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 paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. If fossils are discovered, the Qualified Paleontologist (or Paleontological Monitor) shall recover them as specified in the project's PRMMP.</li> <li>b. <b>Preparation and Curation of Recovered Fossils.</b> 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 UCMP), 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.</li> </ul> <p>5. <b>Final Paleontological Mitigation Report.</b> Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and</p> |                 |

| Impact   | Mitigation Measure (s)  | Residual Impact                                  |
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|  | <p>the scientific significance of those fossils, and where fossils were curated. 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.</p>  |  |
| <b>Energy</b>  |   |  |
| <p><b>Impact E-1.</b> Project construction and operation would require temporary and long-term consumption of energy resources. However, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. This impact would be less than significant.</p>  | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact E-2.</b> The project would be consistent with the energy efficiency and renewable energy policies of the City’s Climate Action Plan (CAP) and General Plan. This impact would be less than significant.</p>   | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <b>Greenhouse Gas Emissions</b>  |   |  |
| <p><b>Impact GHG-1.</b> Construction and operation of future development under the proposed project would generate temporary and long-term increases in GHG emissions. However, with mitigation, the project’s year 2030 emissions would not exceed the locally-applicable, project-specific 2030 efficiency threshold of 1.2 MT of CO<sub>2</sub>e per person per year. This impact would be less than significant with mitigation.</p> | <p><b>Mitigation Measure GHG-1: Renewable Electricity Resources.</b> Applicants for future development allowed under the proposed project shall prepare and implement a Greenhouse Gas Reduction Program (GGRP) that includes on-site GHG reduction measures to reduce the project’s total remaining GHG emissions to 1.2 MT of CO<sub>2</sub>e per service person per year or less (a total of approximately 1,027 MT of CO<sub>2</sub>e per year). Potential options include, but would not be limited to:</p> <ul style="list-style-type: none"> <li>▪ Supply 100 percent of electricity from renewable energy resources. Current options include opting into EBCE’s Renewable 100, PG&amp;E’s Solar Choice, or PG&amp;E’s Regional Renewable Choice.</li> <li>▪ Install additional electric vehicle charging stations beyond those required under BMC Chapter 19.37 within proposed parking areas.</li> <li>▪ Implement a transportation demand program that includes measures beyond those required City of Berkeley Transportation Demand Management (TDM) requirements. Program measures may include priority parking spaces for carpools, electric rideshare vehicles for residents and employees, and a bicycle sharing program.</li> <li>▪ Prohibit installation of natural gas fireplaces.</li> <li>▪ Use electric-powered construction equipment.</li> <li>▪ Use electric-powered landscape equipment.</li> </ul> | <p>Less than significant.</p>                    |

| Impact   | Mitigation Measure (s)  | Residual Impact                                  |
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| <p><b>Impact GHG-2.</b> The proposed project would be consistent with the goals of Plan Bay Area 2040 and the City’s CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be less than significant.</p>  | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Hazards and Hazardous Materials</b></p>  |   |  |
| <p><b>Impact HAZ-1.</b> Implementation of the proposed project would include development of residential or commercial land uses that could involve the use, storage, disposal, or transportation of hazardous materials. Upset or accident conditions on the project sites could involve the release of hazardous materials into the environment. However, required adherence to existing regulations and the nature of the proposed land uses would ensure that impacts would be less than significant.</p>   | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact HAZ-2.</b> Implementation of the proposed project would not involve facilities that would produce or emit hazardous materials near schools. This impact would be less than significant.</p>   | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact HAZ-3.</b> There is one listed site located on or potentially adjacent to the North Berkeley BART station site. In addition, there are unknown former commercial and industrial uses within the North Berkeley BART station site and Ashby BART station site that may have included the use and storage of hazardous materials, including a gasoline service station. Therefore, hazardous materials in subsurface soils may be encountered during grading (construction) and construction workers or nearby residents could be exposed to contaminated soil resulting from development of a contaminated property. This impact would be less than significant with mitigation.</p> | <p><b>Mitigation Measure HAZ-1: Property Assessment – Phase I and II ESAs.</b> Prior to issuance of a grading permit, the project applicant will retain a qualified environmental professional (EP), as defined by ASTM E-1527 to prepare a project specific Phase I ESA in accordance with standard ASTM methodologies, to assess the land use history of the property that will be developed.</p> <p>The determination of specific areas that require a Phase II ESA (i.e., soil, groundwater, soil vapor subsurface investigations) will be evaluated by the project applicant after the site-specific Phase I ESAs have been completed. The Phase II ESA will be completed prior to construction and will be based on the results of the Phase I ESA. Specifically, if the Phase I ESAs identify recognized environmental conditions or potential concern areas, the project applicant will retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase II ESA of the project site that will be developed, to determine whether the soil, groundwater, and/or soil vapor has been impacted at concentrations exceeding regulatory screening levels for commercial/industrial land uses.</p> <p>As part of the Phase II ESA, the qualified environmental consultant will screen the analytical results against the San Francisco Regional Water Quality Control Board environmental screening levels (ESL). These ESLs are risk-based screening</p> | <p>Less than significant.</p>                    |

| Impact | Mitigation Measure (s)  | Residual Impact |
|--------|---|-----------------|
|        | <p>levels for direct exposure of a construction worker under various depth and land use scenarios. The lead agency will review and approve the Phase I ESA prior to demolition and grading (construction).</p> <p>If the Phase II ESA for the development site indicates that contaminants are detected in the subsurface at the project site, the project applicant will take appropriate steps to protect site workers and the public. This may include the preparation of a Soil Management Plan for Impacted Soils (see Mitigation Measure HAZ-2) prior to project construction.</p> <p>If the Phase II ESA for the contaminant site indicates that contaminants are present at concentrations exceeding hazardous waste screening thresholds for contaminants in soil and/or groundwater (California Code of Regulations [CCR] Title 22, Section 66261.24 Characteristics of Toxicity), the project applicant will take appropriate steps to protect site workers and the public. This may include the completion of remediation (see Mitigation Measure HAZ-3) at the project site prior to onsite construction.</p> <p><b>Mitigation Measure HAZ-2: Soil Management Plan for Impacted Soils.</b> If impacted soils or other impacted wastes are present at the project site, the project applicant will retain a qualified environmental consultant (PG or PE), to prepare a Soil Management Plan (SMP) prior to construction. The SMP, or equivalent document, will be prepared to address onsite handling and management of impacted soils or other impacted wastes, and reduce hazards to construction workers and offsite receptors during construction. The plan must establish remedial measures and/or soil management practices to ensure construction worker safety, the health of future workers and visitors, and the off-site migration of contaminants from the site. These measures and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>▪ Stockpile management including stormwater pollution prevention and the installation of BMPs</li> <li>▪ Proper disposal procedures of contaminated materials</li> <li>▪ Monitoring and reporting</li> <li>▪ A health and safety plan for contractors working at the site that addresses the safety and health hazards of each phase of site construction activities with the requirements and procedures for employee protection</li> <li>▪ The health and safety plan will also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.</li> </ul> |                 |

| Impact  | Mitigation Measure (s)   | Residual Impact                                  |
|---|--|--|
|   | <p>The City of Berkeley will review and approve the development site Soil Management Plan for Impacted Soils prior to issuance of a grading permit.</p> <p><b>Mitigation Measure HAZ-3: Remediation.</b> If soil present within the construction envelope at the development site contains chemicals at concentrations exceeding hazardous waste screening thresholds for contaminants in soil (California Code of Regulations [CCR] Title 22, Section 66261.24), the project applicant will retain a qualified environmental consultant (PG or PE), to conduct additional analytical testing and recommend soil disposal recommendations, or consider other remedial engineering controls, as necessary.</p> <p>The qualified environmental consultant will utilize the development site analytical results for waste characterization purposes prior to offsite transportation or disposal of potentially impacted soils or other impacted wastes. The qualified environmental consultant will provide disposal recommendations and arrange for proper disposal of the waste soils or other impacted wastes (as necessary), and/or provide recommendations for remedial engineering controls, if appropriate.</p> <p>The project applicant will review and approve the disposal recommendations prior to transportation of waste soils offsite, and review and approve remedial engineering controls, prior to construction.</p> <p>Remediation of impacted soils and/or implementation of remedial engineering controls may require additional delineation of impacts; additional analytical testing per landfill or recycling facility requirements; soil excavation; and offsite disposal or recycling.</p> <p>The City of Berkeley will review and approve the development site disposal recommendations prior to transportation of waste soils offsite and review and approve remedial engineering controls, prior to issuance of a grading permit.</p> |  |
| <p><b>Impact HAZ-4.</b> The project sites are not located in an airport land use plan. No impact would occur.</p>   | <p>None required</p>   | <p>Less than significant without mitigation.</p> |
| <p><b>Impact HAZ-5.</b> Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be less than significant.</p> | <p>None required</p>   | <p>Less than significant without mitigation.</p> |

| Impact  | Mitigation Measure (s) | Residual Impact                           |
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| <b>Hydrology and Water Quality</b>  |                        |   |
| <p><b>Impact HYD-1.</b> Future development under the proposed project would involve ground-disturbing activities and the use of heavy machinery that could release materials, including sediments and fuels, which could adversely affect water quality. In addition, operation of potential future development could result in discharges to storm drains that could be contaminated and affect downstream waters. However, compliance with required permits and existing regulations, and implementation of Best Management Practices contained therein, would ensure that potential water quality impacts would be less than significant.</p>      | None required          | Less than significant without mitigation. |
| <p><b>Impact HYD-2.</b> Construction of future development facilitated by the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Further, implementation of low impact development measures and on-site infiltration required under the C.3 provisions of the MRP, compliance with General Plan goals and policies, and compliance with the Berkeley Municipal Code would increase the potential for groundwater recharge. Impacts would be less than significant.</p> | None required          | Less than significant without mitigation. |
| <p><b>Impact HYD-3.</b> Future development facilitated by the proposed project would not substantially alter the existing drainage pattern of the project sites, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site or substantially increase the rate or amount of surface runoff in a manner which would result in flooding or exceed the capacity of stormwater drainage systems. Impacts related to drainage patterns would be less than significant.</p>  | None required          | Less than significant without mitigation. |
| <p><b>Impact HYD-4.</b> Development facilitated by the proposed project would not impede or redirect flood flows or expose people or structures to other flood hazards such as tsunamis or seiches. Impacts would be less than significant.</p>   | None required          | Less than significant without mitigation. |

| Impact  | Mitigation Measure (s)  | Residual Impact                                  |
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| <b>Land Use and Planning</b>  |   |  |
| <p><b>Impact LU-1.</b> Implementation of the proposed project would not result in the physical division of an established community. This impact would be less than significant.</p>  | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact LU-2.</b> The proposed project would implement and be consistent with the goals and policies of applicable land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect. This impact would be less than significant.</p>  | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <b>Mineral Resources</b>  |   |  |
| <p>The project sites are not designated as a significant mineral resources zone and mineral resource extraction in this area would be generally incompatible with existing and planned uses. As such, no mineral resource impacts would occur. (See Section 4.13.5, Mineral Resources, in Section 4.13, <i>Effects Found not to Be Significant</i>).</p>  | <p>None required</p>  | <p>Less than significant without mitigation.</p> |
| <b>Noise</b>  |   |  |
| <p><b>Impact N-1.</b> Future development under the proposed project would temporarily generate high noise levels near the project sites. Although conditions of approval would restrict the hours of construction activity and minimize noise from equipment to the extent feasible, construction noise could still exceed the city’s standards at sensitive receptors. Therefore, the impact from a temporary increase in construction noise would be significant and unavoidable.</p> | <p><b>Mitigation Measure N-1: Foundation Pile Noise and Vibration Reduction Measures.</b> The City shall require the construction contractor at individual future developments on the project sites to implement one of the following measures to minimize noise and vibration from the installation of pile foundations:</p> <ul style="list-style-type: none"> <li>▪ Use of an impact or sonic pile driver shall not occur; or</li> <li>▪ Use of drilled piles only with temporary noise barriers and/or blankets with a minimum height of 10 feet shall be constructed along the southern project site boundary. The temporary noise barriers and/or blankets may be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations. Temporary noise barriers and/or blankets may be constructed of, but not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, and hay bales; or</li> <li>▪ If an alternative method for foundation piles is proposed other than drilled piles (e.g., micro piles), the method shall be reviewed by a qualified acoustician to ensure that noise and vibration levels do not exceed the City’s noise standards and applicable Caltrans vibration criteria for human annoyance. The analysis shall be performed prior to project approval from the City.</li> </ul> | <p>Significant and unavoidable.</p>              |

| Impact  | Mitigation Measure (s)  | Residual Impact                                  |
|---|---|--|
| <p><b>Impact N-2.</b> The proposed project would facilitate new development that would introduce additional operational noise sources on the project sites. With implementation of mitigation to reduce noise from on-site mechanical equipment and trash hauling activity, operational noise would not exceed applicable standards. Operational noise impacts would be less than significant with mitigation.</p>      | <p><b>Mitigation Measure N-2: HVAC Noise Reduction Measures.</b> Prior to the issuance of building permits, applicants for development projects on the project sites shall retain a qualified acoustical consultant to review the type, location, and design of heating, ventilation, and cooling (HVAC) equipment. The acoustical consultant shall determine specific noise reduction measures as necessary to comply with the City’s daytime and nighttime exterior noise standards in Section 13.40.050 of the Berkeley Municipal Code at properties in the R-1, R-2, and C-SA zones. Noise reduction measures could include, but are not limited to, selecting HVAC equipment that emits low noise levels, locating HVAC equipment as far from off-site sensitive receptors as possible, and installing equipment enclosures. The City’s Planning and Development Department shall review the type, location, and design of HVAC equipment in site plans to verify that the project has incorporated recommended noise reduction measures.</p> <p><b>Mitigation Measure N-3: Trash Hauling Noise Reduction Measures.</b> Prior to the issuance of building permits, applicants for development projects on the project sites shall retain a qualified acoustical consultant to review the location and design of proposed loading areas. The acoustical consultant shall recommend measures as necessary to ensure that trash hauling noise at loading areas does not exceed the City’s exterior noise standards in Section 13.40.050 of the Berkeley Municipal Code at neighboring properties. This includes compliance with noise standards that may not be exceeded for any period of time and for more than one minute in a given hour. Noise reduction measures could include, but are not limited to, locating loading areas as far as possible from off-site sensitive receptors, shielding loading areas to block the line of sight to sensitive receptors, and installing a damping treatment on dumpsters. The City’s Planning and Development Department shall review the layout and design of loading areas in site plans to verify that the project has incorporated recommended noise reduction measures.</p> | <p>Less than significant.</p>                    |
| <p><b>Impact N-3.</b> Construction allowed by the proposed project would generate groundborne vibration within and adjacent to the project sites. Mitigation would be required to prevent annoyance from the potential use of pile drivers. Implementation of standard conditions of approval would avoid structural damage from vibration. Therefore, this impact would be less than significant after mitigation.</p> | <p><b>Mitigation Measure N-1: Foundation Pile Noise and Vibration Reduction Measures</b> (sed Impact N-1).</p>  | <p>Less than significant without mitigation.</p> |

| Impact  | Mitigation Measure (s) | Residual Impact                                  |
|---|------------------------|--|
| <p><b>Impact N-4.</b> The station sites are located outside of noise contours associated with airports. Therefore, new development facilitated by the proposed project would not be exposed to excessive noise levels from aircraft operations, and no impact would occur.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Population and Housing</b></p>  |                        |  |
| <p><b>Impact PH-1.</b> Implementation of the proposed project could allow up to a combined 2,400 new residential units and 125,000 square feet of new non-residential uses on the project sites, which would result in an additional approximately 5,424 residents and 465 jobs. This population growth would not exceed planned growth in Berkeley and would occur in a designated transit-rich, Priority Development Area. Therefore, this impact would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact PH-2.</b> There is no existing housing within either of the project sites. Implementation of the proposed project would not displace existing housing units or people and would increase the city’s housing stock. No impact would occur.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Public Services and Recreation</b></p>  |                        |  |
| <p><b>Impact PS-1.</b> Future development under the proposed project would introduce new residential and non-residential uses on the project sites, contributing to the potential future need for a new fire station in Berkeley. If the Fire Department proposes a new station and identifies an appropriate site, the City will conduct a separate evaluation of the station’s environmental impacts under CEQA. A potential future facility would likely be infill development and is unlikely to cause additional significant environmental impacts. Therefore, the proposed project would have a less than significant impact related to fire protection facilities.</p> | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

| Impact  | Mitigation Measure (s) | Residual Impact                                  |
|---|------------------------|--|
| <p><b>Impact PS-2.</b> Implementation of the proposed project would facilitate development of new residential and non-residential uses to the project sites, generating additional need for the City of Berkeley Police Department’s protection services. If the Police Department proposes a new station serving either of the project sites and identifies an appropriate site, the City will conduct a separate evaluation of the station’s environmental impacts under CEQA. Therefore, the proposed project would have a less than significant impact related to police protection services.</p> | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact PS-3.</b> Implementation of the proposed project would generate an estimated 230 students to each project site and a total of 460 overall. However, with payment of state-mandated school impact fees, impacts related to public school operating capacity would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact PS-4.</b> Implementation of the proposed project would add an estimated combined 2,400 residential units and an estimated 5,424 residents to the project sites, which would increase use of parks. However, the project sites are served by existing and future proposed parks and recreational facilities and would not require the construction or expansion of such facilities. Therefore, impacts would be less than significant.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Transportation</b></p>  |                        |  |
| <p><b>Impact T-1.</b> The proposed project would not conflict with an applicable plan, ordinance, or policy. This impact would be less than significant.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact T-2.</b> The proposed project would not exceed an applicable VMT threshold of significance. This impact would be less than significant.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact T-3.</b> The proposed project would not substantially increase hazards due to a design feature or incompatible use. This impact would be less than significant.</p>  | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact T-4.</b> The proposed project would not result in inadequate emergency access. This impact would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |

| Impact   | Mitigation Measure (s) | Residual Impact                                  |
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| <p><b>Impact T-5.</b> The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in a significant cumulative impact. Impacts would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Utilities and Service Systems</b></p>  |                        |  |
| <p><b>Impact UTL-1.</b> New development facilitated by the proposed project would include new sources of wastewater, which would flow through the existing pipe network and to EBMUD’s main wastewater treatment plant (MWWTP). The wastewater treatment plant has adequate capacity to serve development under the proposed project. Local conveyance infrastructure would be upgraded as necessary during implementation of the proposed project, in already developed utility corridors. Impacts related to wastewater infrastructure would be less than significant.</p> | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact UTL-2.</b> Development facilitated by the proposed rezoning would increase water demand. Existing and projected water supply would be adequate to serve the project sites demands, with demand management measures required by EBMUD. Impacts related to water supplies would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Impact UTL-3.</b> Implementation of the proposed rezoning would generate an increase of approximately 5.3 tons of solid waste per day, or 10.6 cubic yards per day. Because landfills that serve the City of Berkeley have adequate capacity to serve development facilitated by the proposed project, impacts related to solid waste facilities would be less than significant.</p>   | <p>None required.</p>  | <p>Less than significant without mitigation.</p> |
| <p><b>Wildfire</b></p>   |                        |  |
| <p>The project sites are not located in or near a VHFHSZ, as both are approximately 1.2 miles away from the nearest such zone, which is in the eastern margins of the city in the Berkeley Hills. Therefore, the project would not impair an adopted emergency response or evacuation plan related to wildfire; exacerbate wildfire risks; or expose people to post-fire risks related to runoff, flooding, or landslides. No impact would occur. (See Section 4.13.6, Wildfire, in Section 4.13, <i>Effects Found not to Be Significant</i>).</p>                           | <p>None required</p>   | <p>Less than significant without mitigation.</p> |

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# 1 Introduction

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This document is a Program Environmental Impact Report (EIR) that evaluates the potentially significant environmental effects associated with implementation of the North Berkeley and Ashby BART Stations Transit-Oriented Development (TOD) Zoning (“proposed project”).

This section discusses: (1) the project background; (2) the basis for preparing a Program EIR pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (*CEQA Guidelines*; California Code of Regulations, Title 14); (3) the scope and content of the EIR; (4) the lead, responsible, and trustee agencies; (5) the intended uses of the EIR; and (6) the environmental review process required under CEQA. The proposed project is described in detail in Section 2, *Project Description*.

## 1.1 Project Background

California Assembly Bill (AB) 2923, enacted in 2018, requires the adoption of Transit-Oriented Development (TOD) zoning standards for BART-owned properties within ½-mile of station entrances in Alameda, Contra Costa and San Francisco counties that establish minimum local zoning requirements for height, density, parking, and floor area ratio by July 1, 2022. In 2020, the City of Berkeley began a community planning process to prepare zoning/site planning scenarios for two of the three BART station sites within the City of Berkeley: the Ashby and North Berkeley BART station sites.<sup>1</sup> The proposed project includes the adoption and implementation of zoning standards that comply with AB 2923, which would be applied to each of these station sites, as well as associated changes to the General Plan land use classifications of the properties that make up the sites.

## 1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Berkeley; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with *CEQA Guidelines* §15121, the purpose of this EIR is to serve as an informational document that:

“will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.”

This EIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in *CEQA Guidelines* §15168, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the City (as Lead Agency) with the opportunity to consider broad policy alternatives and program-wide mitigation measures and provides the City with greater flexibility to address environmental issues and/or cumulative impacts on a comprehensive basis. Agencies generally prepare Program EIRs for programs or a

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<sup>1</sup> The Downtown Berkeley BART Station does not include land that is subject to AB 2923.

series of related actions that are linked geographically; are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or are individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways. By its nature, a Program EIR considers the “macro” effects associated with implementing a program (such as a rezoning action) and does not, and is not intended to, examine the specific environmental effects associated with individual actions that may be undertaken under the larger program (such as a specific development proposal).

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program’s effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (*CEQA Guidelines* §15168(c)). When a Program EIR is relied on for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (*CEQA Guidelines* §15168(c)(3)). If a subsequent activity would have significant effects not addressed in the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration (ND), Mitigated Negative Declaration (MND), or project level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The *CEQA Guidelines* §15168(b) encourages the use of Program EIRs, citing five advantages:

1. Provision of a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
2. Focus on cumulative impacts that might be slighted in a case-by-case analysis;
3. Avoidance of continual reconsideration of recurring policy issues;
4. Consideration of broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them; and,
5. Reduction of paperwork by encouraging the reuse of data (through tiering).

As a “macro” level environmental document, for some impacts, this EIR uses program-level level thresholds as compared to the project-level thresholds that might be used for an EIR on a specific development project.

### 1.3 EIR Scope

In accordance with the *CEQA Guidelines*, a Notice of Preparation (NOP) of a Draft EIR was circulated to public agencies and potentially interested parties on November 20, 2020. The NOP, included in Appendix A, indicated that the following issue areas would be evaluated in the EIR:

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| ▪ Air Quality                     | ▪ Land Use and Planning          |
| ▪ Cultural and Historic Resources | ▪ Noise                          |
| ▪ Energy                          | ▪ Population and Housing         |
| ▪ Greenhouse Gas Emissions        | ▪ Public Services and Recreation |
| ▪ Hazards and Hazardous Materials | ▪ Transportation                 |
| ▪ Hydrology and Water Quality     | ▪ Tribal Cultural Resources      |
|                                   | ▪ Utilities and Service Systems  |

Aesthetics, Agricultural Resources, Biological Resources, Geology and Soils and Mineral Resources are discussed in Section 4.15, *Effects Found Not to be Significant*.

The City received written comments about the NOP regarding the scope and content of the EIR during the scoping period. These comments are included in Appendix A. The City also held an EIR scoping meeting as part of the regularly scheduled Planning Commission meeting on December 2, 2020. Approximately 20 people attended the hearing. Applicable written and verbal comments received by the City are summarized in Table 1-1 and are addressed in the analysis contained in the various subsections of Section 4, *Environmental Impact Analysis*. Opinions on the merits of the projects or the project components are not summarized in the table but are part of the public record and will be considered by City decision-makers.

**Table 1-1 NOP Comments and EIR Response**

| Committer/Topic                                    | Comment/Request  | Response/How and Where it was Addressed   |
|--|--|---|
| <b>Public Agencies (organized by commenter)</b>    |  |   |
| California Department of Transportation (Caltrans) | <ul style="list-style-type: none"> <li>▪ Requests clarification on how the proposed amendments may result in achieving the City's vehicle miles traveled (VMT) reduction thresholds.</li> <li>▪ Requests a schematic illustration of conditions to evaluate safety issues, analysis of the project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities, and transit performance, and clarification of intensity of events/receptions to be held at the location and how travel demand and VMT will be mitigated.</li> <li>▪ States the EIR should include a robust Transportation Demand Management (TDM) program to reduce VMT and greenhouse gas (GHG) emissions and recommends TDM measures.</li> <li>▪ States the analysis should identify project-generated travel demand and estimate costs of transit and active transportation improvements necessitated by the project so viable funding sources, such as development and/or transportation impact fees can be identified.</li> <li>▪ States the City of Berkeley is the lead agency responsible for all project mitigation, including any needed improvements to the State Transportation Network (the network of transportation facilities within Caltrans' jurisdiction).</li> </ul> | <p>Transportation related impacts including VMT impacts and impacts related to pedestrian, bicycle, and transit facilities as well as trip generation estimates are discussed in Section 4.11, <i>Transportation</i>. Impacts relating to GHG emissions are discussed in Section 4.4, <i>Greenhouse Gas Emissions</i>. The proposed project involves zoning changes. While the project would guide development on BART station sites, the project does not specifically include modifications to transportation facilities or the transportation network, such as by reconfiguring the street network or changing BART schedules or routes. No fiscal analysis is included, as this is outside the scope of CEQA.</p> |
| East Bay Municipal Utilities District (EBMUD)      | <ul style="list-style-type: none"> <li>▪ States that a Water Supply Assessment (WSA) is required for the project.</li> <li>▪ Water service for new multi-unit structures is required to be individually metered or sub-metered in compliance with Senate Bill (SB) 7, and EBMUD water services will be conditioned for all development projects that are subject to SB-7 requirements and will be released only after the project sponsor has satisfied all requirements and provided evidence of conformance with SB-7.</li> </ul>  | <p>A WSA was prepared by EBMUD and the results are summarized in Section 4.12, <i>Utilities and Service Systems</i>. This section also includes an analysis of wastewater capacity and water efficiency requirements. The City already complies with the Model Water Efficient Landscape Ordinance as described in Section 4.6.1 of Section 4.6, <i>Hydrology and Water Quality</i>.</p>  |

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

| Committer/Topic   | Comment/Request   | Response/How and Where it was Addressed   |
|---|---|---|
|   | <ul style="list-style-type: none"> <li>▪ EBMUD’s Central Pressure Zone serves the project sites, and a water main extension and/or off-site pipeline improvements may be required.</li> <li>▪ EBMUD will not install pipes or conduct service in contaminated soils.</li> <li>▪ EBMUD’s Main Wastewater Treatment Plan and interceptor system have adequate capacity to accommodate the proposed wastewater flow in dry conditions. However, additional wastewater infrastructure may be required to accommodate proposed wastewater flow in wet conditions.</li> <li>▪ Recommends mitigation options for potential impacts.</li> <li>▪ States that the project is not a candidate for recycled water, but a future recycled water pipeline expansion could potentially serve the project sites.</li> <li>▪ Requests City include compliance with AB 325 “Model Water Efficient Landscape Ordinance” as condition of approval.</li> </ul> |   |
| <p>Alameda County Transportation Commission</p>             | <ul style="list-style-type: none"> <li>▪ States if the project generates at least 100 p.m. peak hour trips over existing conditions, the Congestion Management Program (CMP) Land Use Analysis Program requires the City to conduct a transportation impact analysis of the project utilizing the Alameda Countywide Travel Demand Model for CMP Land Use Analysis.</li> <li>▪ Identifies Metropolitan Transportation System facilities, service operators in area and requests all potential impacts to these facilities, operators, and users be addressed in the DEIR.</li> <li>▪ Discusses mitigation measure requirements and suggestions, including multimodal tradeoffs, TDM measures, and consistency with transportation plans.</li> </ul>   | <p>Transportation impact analyses are included in Section 4.11, <i>Transportation</i>.</p>  |
| <p><b>Interested Organizations (organized by topic)</b></p> |   |   |
| <p>Ashby Recreation &amp; Community Housing</p>             | <ul style="list-style-type: none"> <li>▪ Requests that the Ashby BART station project include specific language enabling mixed-use housing and recreation uses.</li> </ul>  | <p>Section 2, <i>Project Description</i>, provides details of the proposed zoning analyzed in this EIR. As discussed therein, the project envisions development of mixed-use housing and commercial uses that could accommodate these uses.</p> |

| Commenter/Topic   | Comment/Request   | Response/How and Where it was Addressed   |
|---|---|---|
| <b>Public Written and Verbal Comments (organized by topic)</b>                                |   |   |
| Aesthetics/Land Use Compatibility   | <ul style="list-style-type: none"> <li>▪ Concern about aesthetics impacts to adjacent neighborhoods.</li> <li>▪ Concerns about height of buildings shading solar panels on adjacent residences.</li> <li>▪ Concerns about shadows and shading potentially caused by project buildings.</li> <li>▪ Concerns about glare off new windows.</li> <li>▪ Concerns about building height and bulk.</li> </ul>      | <p>Aesthetic impacts are discussed in Section 4.13, <i>Effects Found Not to be Significant</i>, of this EIR.</p> <p>Impacts related to consistency with applicable land use regulations are discussed in Section 4.8, <i>Land Use and Planning</i>.</p> |
| Biological Resources  | <ul style="list-style-type: none"> <li>▪ Concerns about trees that may support urban wildlife, habitat, and food sources for urban wildlife and bees.</li> </ul>  | See the analysis related to biological resources in Section 4.13, <i>Effects Found Not to be Significant</i> .  |
| Energy  | <ul style="list-style-type: none"> <li>▪ Desire for energy-efficient and/or net zero development.</li> </ul>  | See Section 4.3, <i>Energy</i> .  |
| Greenhouse Gases  | <ul style="list-style-type: none"> <li>▪ Concerns about the City waiver that allows high-rise buildings to use natural gas and the effect on City and State GHG goals.</li> </ul>   | See Section 4.4, <i>Greenhouse Gases</i> .  |
| Population and Housing  | <ul style="list-style-type: none"> <li>▪ Concerns about population increases.</li> </ul>  | See Section 4.9, <i>Population and Housing</i> and in Section 5, <i>Other CEQA Considerations</i> .   |
| Transportation  | <ul style="list-style-type: none"> <li>▪ Concerns about a lack of parking at the sites.</li> <li>▪ Concerns about pedestrian safety.</li> <li>▪ Concerns about parking on nearby streets.</li> <li>▪ Concerns about traffic in nearby areas.</li> <li>▪ Suggests prioritizing pedestrian and cycling infrastructure/accessibility.</li> <li>▪ Concerns about emergency evacuation routes/access.</li> </ul> | See Section 4.11, <i>Transportation</i> .   |
| Utilities and Service Systems   | <ul style="list-style-type: none"> <li>▪ Concerns about increased service demand on water and sewer infrastructure.</li> <li>▪ Concerns about increased solid waste production and landfill capacity.</li> <li>▪</li> </ul>   | See Section 4.12, <i>Utilities and Service Systems</i> .  |
| Public Services   | <ul style="list-style-type: none"> <li>▪ Concerns about increased service demand on fire, police, and other emergency services, and local schools.</li> </ul>   | See Section 4.10, <i>Public Services and Recreation</i> .   |
| Parks and Recreation  | <ul style="list-style-type: none"> <li>▪ Concerns about increased service demands for neighborhood parks.</li> </ul>  | See Section 4.10, <i>Public Services and Recreation</i> .   |
| Note: Complete copies of the NOP comments received are included in Appendix A of this report. |   |   |

## 1.4 EIR Content

This EIR references pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*. In-text citations include the last name of the author or agency abbreviation and the year with no comma in between [e.g.: (City of Berkeley 2012)]. If there are multiple citations with the same author and year, then a letter is added after the year [e.g.: (City of Berkeley 2012a; City of Berkeley 2012b)]. In-text citations correlate to the list in Section 7: References.

The Alternatives section of this EIR (Section 6) was prepared in accordance with *CEQA Guidelines* §15126.6 and focuses on alternatives that are capable of eliminating or reducing the significant adverse effects of the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and two alternative zoning scenarios.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA. *CEQA Guidelines* §15151 provides the standard of adequacy on which this document is based. The *Guidelines* state:

“An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.”

## 1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The City of Berkeley is the lead agency for this EIR because it holds principal responsibility for approving the proposed project.

Responsible agencies are other agencies that are responsible for carrying out/implementing a specific component of the proposed project. *CEQA Guidelines* §15381 defines a “responsible agency” as:

A public agency which proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For purposes of CEQA, responsible agencies include all public agencies other than the lead agency that have discretionary approval authority over the project.

There are no responsible agencies for the proposed project. However, State, regional and/or local government permits may be required for development facilitated under the proposed zoning, whether or not they are explicitly listed below. State and regional agencies that may have jurisdiction over some aspects include (but are not limited to):

- California Department of Fish and Wildlife
- San Francisco Bay Regional Water Quality Control Board
- California Department of Transportation (Caltrans)

- Department of Toxic Substances Control
- Bay Area Rapid Transit (BART)

Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have a legal authority over approving or carrying out the project. See *CEQA Guidelines* §15386. There are no trustee agencies for the proposed project.

## 1.6 Intended Uses of this EIR

This EIR is an informational document for use in the City's review and consideration of the North Berkeley and Ashby BART Station Transit-Oriented Development Zoning Project. It is to be used to evaluate the impacts of implementing the proposed project and to ensure that the project mitigates significant impacts to the greatest extent feasible. The proposed project will guide subsequent actions taken by the City in its review of new development projects within the project sites and its establishment of new and/or revised programs for the sites. This EIR discloses the possible environmental consequences associated with the proposed project. The information and analysis in this EIR will be used by the Berkeley Planning Commission, City Council and the general public.

## 1.7 Environmental Review Process

This Draft EIR will be circulated for public review and comment for a minimum of 45 days. A copy of the Draft EIR can be reviewed on the City's website at:

<https://www.cityofberkeley.info/bartplanning/>. Comments may be provided in writing to Alisa Shen, Principal Planner, Planning and Development Department, 1947 Center Street, 2<sup>nd</sup> Floor Berkeley, CA 94704, or send via email to [bartplanning@cityofberkeley.info](mailto:bartplanning@cityofberkeley.info) with "Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project EIR" as the subject.

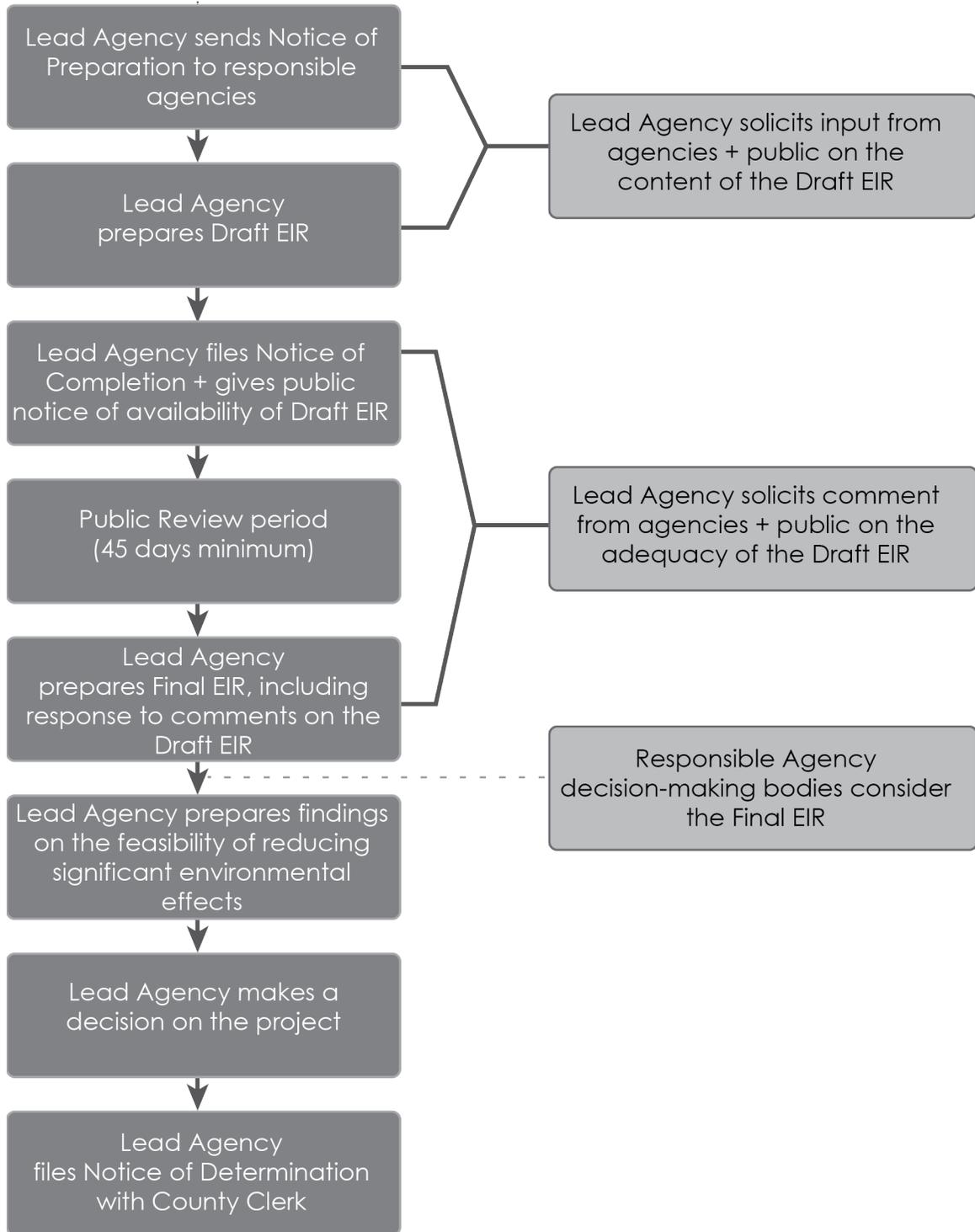
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study.** After deciding that an EIR is required, the lead agency (City of Berkeley) must send a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* §15082; Public Resources Code Section 21092.2). The NOP must be filed with the County Clerk and posted in the County Clerk's office for 30 days.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC) and Notice of Availability (NOA).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* §15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off

the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091).

4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* §15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* §15042 and §15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* §15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

**Figure 1-1 Environmental Review Process**



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## 2 Project Description

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The Ashby and North Berkeley BART Stations Transit-Oriented Development (TOD) Zoning Project (“proposed project”) involves the adoption of a new zoning district establishing transit-oriented zoning, and associated amendments to the Berkeley General Plan, at two Bay Area Rapid Transit (BART) station sites in the City of Berkeley. This section describes the project background, the proposed project, characteristics of the project sites, the key components of the zoning development standards, potential buildout of the station sites, and the approvals needed to adopt the proposed project. Future development under the proposed zoning project would require subsequent approvals and permits including consideration of whether the environmental impacts of the project are addressed in this EIR or whether further environmental review is required.

### 2.1 Lead Agency/Project Proponent

City of Berkeley  
1947 Center Street, 2nd Floor  
Berkeley, California 94704  
(510) 981-7400

Contact: Alisa Shen, Principal Planner, bartplanning@cityofberkeley.info

### 2.2 Project Location and Setting

#### **Regional Setting**

The project location consists of several properties, associated with two regional transit facility station sites in the City of Berkeley, the Ashby BART station and the North Berkeley BART station. Figure 2-1 shows the regional location of both sites. Figure 2-2 shows the Ashby BART station site location and Figure 2-3 shows the North Berkeley BART station site location.

#### **Ashby BART Station Site and Setting**

The Ashby BART station site consists of two parcels: 1) a 4.4-acre parcel that makes up the block surrounded by Adeline Street, Ashby Avenue and Martin Luther King Jr. Way, which includes the BART station building and surface parking lot (Assessor Parcel Number (APN) 053-1597-039-04), and 2) a 1.9-acre surface parking lot located on the east side of Adeline Street on the block surrounded by Woolsey Street, Tremont Street, Adeline Street and Essex Street (APN 053-1703-009-00). Adeline Street and the Ed Roberts Campus are located between the two parcels and the northern portion of the 4.4-acre parcel is used by the Berkeley Flea Market on weekends. The two parcels are owned by BART, but the City retains an option to the “air rights” over the 4.4-acre parcel.<sup>1</sup>

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<sup>1</sup> “Air rights” are generally defined as the property interest at and above the earth’s surface as well as supporting infrastructure (such as column supports) essential to contain the structural supports of the air rights improvement.



Figure 2-2 Ashby BART Station Site



Figure 2-3 North Berkeley BART Station Site

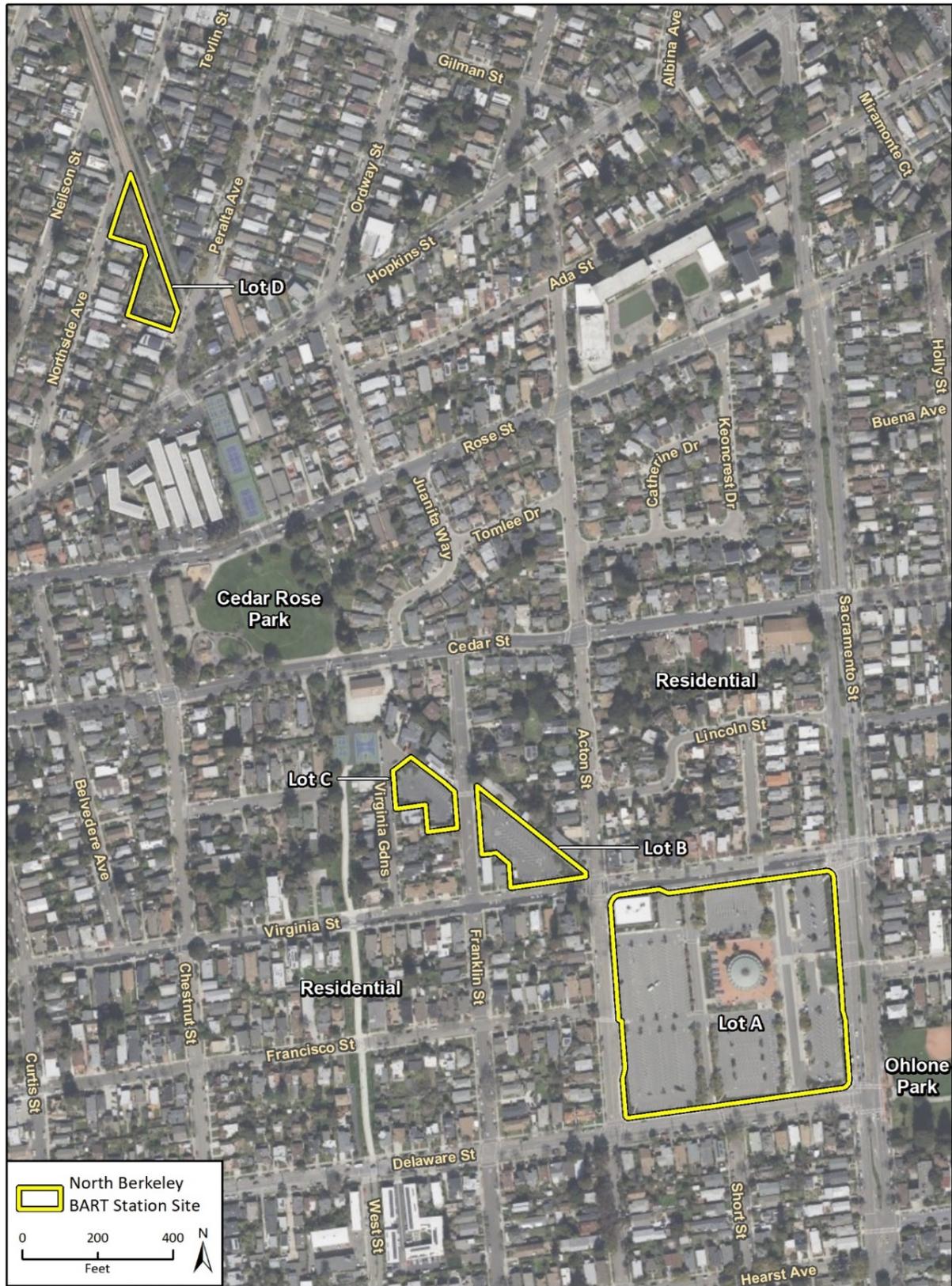


Fig 2-3 Project Location, N Berkeley

The Ashby BART station site is located along the Adeline Street corridor, which is a commercial/ mixed-use corridor that runs through south Berkeley. The site is surrounded by a mix of uses, including residential, commercial, educational, and institutional uses. The 4.4-acre parcel west of Adeline Street contains a BART station entrance and surface parking totaling 348 spaces and the 1.9-acre parcel east of Adeline Street contains a parking lot with 187 parking spaces, 3 of which are reserved for users of the Ed Roberts Center. The project site is in the Ashby BART subarea of the recently-adopted Adeline Corridor Specific Plan (ACSP) area (City of Berkeley 2020). The area generally has a high volume of station-bound pedestrian, bicycle, and bus traffic.

### **North Berkeley BART Station Site and Setting**

The North Berkeley BART station site (Figure 2-3) encompasses 8.1 acres consisting of four parcels (APNs 058-2146-016-05, 058-2149-019-04, 058-2148-017-04, and 058-2147-018-05) that make up the block surrounded by Sacramento Street, Delaware Street, Acton Street and Virginia Street in north Berkeley. The station (Lot A on Figure 2-3) is currently occupied by the station entrance building, surface parking (646 total parking spaces), and a BART operations building.

The North Berkeley BART station site also includes three auxiliary lots located northwest of the station. These include:

- APN 058-2144-024-01: a 0.75-acre triangular-shaped parcel northeast of the corner of Virginia Street and Franklin Street (Lot B on Figure 2-3) that is currently developed with a surface parking lot (71 parking spaces) and is bounded by the residential development the northeast, Virginia Street to the south, Franklin Street to the west, and two, two-story residences to the southwest. The Ohlone Greenway runs along and within the parcel's northeastern boundary.
- APN 058-2139-018-03: a 0.44-acre irregular-shaped parcel west of Franklin Street (Lot C on Figure 2-3) also developed with a surface parking lot (39 parking spaces) bounded by residential development to the northeast, residences to the south, and Virginia Gardens to the west. The Ohlone Greenway runs along and within the parcel's northeastern boundary.
- APN 060-2417-067-04: a 0.64-acre irregular-shaped parcel approximately 0.35 miles northwest of the main station site (Lot D on Figure 2-3) that is used as a community garden and is bounded by surface BART tracks and the Ohlone Greenway to the northeast, Peralta Avenue to the east, Northside Avenue to the west, and residences to the south.

The North Berkeley BART station site and auxiliary lots are located in the northwest area of the City, in a predominantly residential area. The sites are each relatively flat and the main station site and auxiliary parking lots contain landscaping vegetation and mature trees. Residential uses surround the North Berkeley BART Station site and auxiliary parking lots.

## **2.3 Regulatory Setting**

### **California Assembly Bill 2923**

AB 2923, enacted in 2018, requires the adoption of transit-oriented development zoning standards establishing specific local zoning requirements for height, density, parking, and floor area ratio for BART-owned properties within ½-mile of station entrances in Alameda,

Contra Costa and San Francisco counties. If local standards are not adopted State/BART standards will apply.

Pursuant to AB 2923, zoning standards for the Ashby and North Berkeley BART stations must allow the following development intensity:

- Density of 75 units per acre (or higher)
- Height of 7 stories (or higher)
- Floor Area Ratio (FAR) of 4.2 (or higher)

In addition, the following parking standards apply:

- No minimum vehicle parking space requirement
- A maximum of 0.5 vehicle parking spaces per residential unit and 1.6 vehicle parking spaces per 1,000 square feet of office space;
- A minimum of one bicycle parking space per unit; and
- Shared or unbundled vehicle parking must be permitted.

### **Adeline Corridor Specific Plan**

The Adeline Corridor Specific Plan (ACSP), adopted in December 2020 (City of Berkeley 2020), sets forth a long-range plan for the Adeline Corridor, a neighborhood in South Berkeley that includes the Ashby BART station. The ACSP recognizes that the Ashby BART station has the potential to become a complete neighborhood center with high-density, transit-oriented housing at a range of affordability levels, with space for community-serving retail, office, and attractive public space for commerce, such as the Berkeley Flea Market and the South Berkeley Farmers Market.<sup>2</sup> The ACSP also envisions improvements to bicycle and pedestrian access, transit connections, and shared mobility technologies that make it easier to access the station without driving. The ACSP includes language consistent with BART's TOD and Access policies to "strive to have little to no BART parking replacement."

The ACSP envisions further collaboration and planning between the City, BART, the Berkeley Flea Market, the Ecology Center Farmers Market, and the community to further explore possibilities for the Ashby BART station area, including the adjacent public right-of-way. The ACSP does not include specific development standards for the Ashby BART station but defers to zoning studies of the proposed project, consistent with specific development and design objectives established for the Ashby BART subarea in the ACSP. The EIR for the Adeline Corridor Specific Plan assumed 850 dwelling units and 50,000 square feet of commercial space on the Ashby BART station site (City of Berkeley 2020).

### **City of Berkeley General Plan**

Berkeley's General Plan, adopted in 2001, is a comprehensive, and long-range statement of community priorities and values developed to guide public decision-making in future years. The Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of the nine Elements: Land Use, Transportation, Housing, Disaster Preparedness & Safety, Open Space & Recreation, Environmental Management, Economic Development and Employment, Urban Design & Preservation and

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<sup>2</sup> The Adopted Adeline Corridor Specific Plan can be found at:  
[https://www.cityofberkeley.info/uploadedFiles/Planning\\_and\\_Development/Level\\_3\\_-\\_Land\\_Use\\_Division/2020\\_12\\_08\\_ADOPTED\\_ACSP\\_2.pdf](https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Land_Use_Division/2020_12_08_ADOPTED_ACSP_2.pdf)

Citizen Participation. These elements contain goals, policies, and actions that apply to all land within City limits.

The Land Use Element categorizes areas in Berkeley into different land use classifications and includes a Land Use Diagram that maps these classifications. As noted specifically in the Land Use Element, the Diagram “depicts the general distribution, location, and density of land uses in Berkeley based upon the policies of the General Plan and existing land uses” but is not intended to portray the specific use or other development regulations of each parcel of land, which is determined by the City’s Zoning Ordinance.

The 4.4-acre Ashby BART station west parking lot and the 1.9-acre parcel east of Adeline Street have a General Plan Land Use designation of Adeline Corridor Mixed Use. The General Plan land use designations for the North Berkeley BART main station site and the auxiliary lot 0.35 miles to the northwest is Institutional. The land use designation for the other two auxiliary lots just northwest of the main station site is Low Density Residential. Additional information is provided in Section 4.7, *Land Use and Planning*, of this EIR.

### **City of Berkeley Zoning Ordinance**

The City’s Zoning Ordinance and associated zoning map identifies specific zoning districts in Berkeley and development standards that apply to each district. The 4.4-acre Ashby BART station west parking lot and the 1.9-acre parcel located east of Adeline Street are currently zoned Commercial – Adeline Corridor (C-AC). The North Berkeley BART main station site is current zoned Unclassified (U)) and the three auxiliary parking lots are zoned Single Family Residential (R-1) for the two lots closest to the main station site and Restricted Two-family Residential (R-2A) at the third auxiliary lot northwest of the main station site. Additional information is provided in Section 4.7, *Land Use and Planning*, of this EIR.

## **2.4 Project Background**

As discussed above, AB 2923 affects zoning requirements on existing BART-owned property within 0.5-mile of stations, including those in the City of Berkeley. The City has until July 1, 2022 to rezone BART’s property to conform with the standards established in AB 2923. The current zoning at the North Berkeley and Ashby BART station sites does not comply with AB 2923.

The City and BART have entered into a Memorandum of Understanding (MOU) (City of Berkeley 2019) that establishes a framework for development of the Ashby and North Berkeley BART stations, including a City Council appointed Community Advisory Group (CAG) process and other community engagement; milestones and a timeline to adopt zoning that complies with AB 2923; solicitation of developer(s); and further studies/planning for the two station areas.

As stated in the MOU, the planning effort is based on community engagement efforts that have been underway for several years relating to the Ashby and North Berkeley BART stations and other adopted plans and policies of the City and of BART, some of which are described below. The first phase of planning for the Ashby and North Berkeley station areas will result in new zoning language added to the Berkeley Municipal Code and associated amendments to the Berkeley General Plan.

## 2.5 Project Description

The proposed project involves General Plan amendments and the adoption of new AB 2923-compliant transit-oriented zoning for the BART station sites (including the auxiliary parking lots) illustrated in Figures 2-2 and 2-3. The proposed project does not identify or define specific development projects, but rather consists of land use and policy changes that would guide future development at the sites. Applications for individual projects allowed under the standards would be submitted to the City (as lead agency) by individual applicants, including the owner of the project sites, BART.

The proposed project would create a new zoning district, the Residential BART Mixed-Use District (R-BMU) and apply the zoning district to the project sites. The purpose of the R-BMU district is “to address City of Berkeley priorities such as affordable housing, civic and public space, multi-modal transportation and site access, high-quality building design and architecture, and a mix of land uses that contribute positively to the community, and to establish zoning standards in compliance with AB 2923.” Table 2-1 summarizes the proposed development standards for the R-BMU district. The R-BMU standards and proposed General Plan amendments are included in Appendix B.<sup>3</sup>

**Table 2-1 R-BMU Development Standards**

| Category                                  | Development Standards  |
|---|--|
| Lot Area, Minimum                         | No minimum   |
| Floor Area Ratio (FAR), Maximum           | 4.2  |
| Main Building Height, Maximum             | 80 feet and 7 stories  |
| Residential Density, Minimum              | 75 dwelling units per acre   |
| <b>Parking</b>                            |  |
| Residential Parking                       | None required<br>Maximum of 0.5 spaces per dwelling unit   |
| Non-residential Parking                   | None required<br>Maximum of 1.5 spaces per 1,000 square feet maximum   |
| Bicycle Parking                           | Minimum of 1 space per residential unit, all of which shall be covered and secure and 1 space per 1000 sf of commercial use. |
| <b>Private Usable Open Space, Minimum</b> |  |
| Per Dwelling Unit                         | 40 square feet per dwelling unit   |
| Per Group Living Accommodation Resident   | 15 square feet per resident  |
| <b>Public Space, Minimum</b>              |  |
| Per Dwelling Unit                         | 35 square feet per dwelling unit   |
| Per Group Living Accommodation Resident   | 18 square feet per resident  |
| Source: See Appendix B                    |  |

<sup>3</sup> The drafts included in Appendix B were the drafts presented as Attachments 1 and 2 of the staff report for the Planning Commission meeting on September 1, 2021.

The zoning standards shown in Table 2-1, combined with city policies related to contextualization and design, as well as requirements such as design review, could ultimately result in structures with varying heights but with a maximum height of 80 feet and 7 stories.

The zoning at the Ashby and North Berkeley BART stations would primarily facilitate the development of housing but would also permit other non-residential uses such as retail, community-serving uses, and civic spaces. Table 2-2 shows the proposed permitted street-facing ground floor uses.

**Table 2-2 R-BMU Permitted Street-Facing Ground Floor Uses**

| Frontage Locations   | Permitted Street-Facing Ground Floor Uses  |
|--|--|
| Along Ashby Avenue and along Martin Luther King Jr. Way                                    | Non-Residential Uses or non-residential accessory spaces to residential buildings, such as community rooms. At least 50% of the combined frontage of Martin Luther King Jr. Way and Ashby must include active ground floor uses. Active uses at corner locations are encouraged. |
| Along Adeline Street   | Non-Residential Uses or non-residential accessory spaces to residential buildings, such as community rooms   |
| Along Woolsey Street, Tremont Street <sup>1</sup> , or fronting interior public spaces     | Residential or Non-Residential Uses  |
| Along Sacramento Street, along the Ohlone Greenway, or within 50 feet of any street corner | Residential or Non-Residential Uses  |
| Along Delaware Street, Acton Street, or Virginia Street                                    | Residential Uses   |

<sup>1</sup>Public entrances for non-residential uses fronting Tremont Street must be located on Woolsey Street

The proposed zoning standards also outline development standards related to open space, setbacks, step-backs, ground-floor residential and non-residential frontage, on-site pedestrian access, massing, building entrances, and parking design and access.

General Plan amendments are needed to ensure consistency between the Zoning Ordinance and the General Plan. The General Plan changes will add a new land use classification (the Ashby/North Berkeley BART Transit Oriented Development) and the General Plan map will be updated to apply a new land use classification to the Ashby and North Berkeley BART sites.

### Joint Vision and Priorities Document

The MOU between BART and the City of Berkeley calls for the City and BART, with input from the CAG, to establish a “joint vision and priorities” document. The goal of this document is to provide concise, high-level expectations (such as goals and minimum thresholds) for future developers on key topics. The Joint Vision and Priorities document would be incorporated into future Request(s) for Qualifications for development of both station sites. The document builds on the framework provided by the City and BART’s adopted plans, policies and regulations, and the additional land use, site planning and financial feasibility studies undertaken as part of the planning process. The Joint Vision and Priorities document is organized around five key topics: Affordable Housing, Public and Civic Space, Land Use, Building Form, and Station Access. Each topic includes an overall vision statement, followed by “shared priorities” for both station areas, and additional priorities specific to one station, if applicable. The August 2021 Draft Joint Vision and Priorities document is included in Appendix B.

## **BART Rider Replacement Parking**

For the purposes of CEQA, this analysis assumes no BART rider replacement parking spaces on either BART station site; however, it is assumed that 79 spaces in the auxiliary parking lots at the North Berkeley BART station site would remain. The ultimate decision on BART rider replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART's ongoing access plan efforts.<sup>4</sup>

## **Transportation Demand Management**

Consistent with requirements contained in the City's Residential Parking and Transportation Demand Management program and BART's Transit-Oriented Development Transportation Demand Management Program, future development under the proposed project would be required to include a Transportation Demand Management (TDM) plan. BART's TDM program includes a goal to reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions by residents, visitors, and employees by 20 percent. TDM programs include policies and programs that encourage more efficient use of transportation resources by replacing some vehicle trips, especially drive-alone trips, with walking, bicycling, transit, carpooling/vanpooling, or telecommuting.

TDM measures that future developments would be required to implement to reduce vehicle trips and VMT and encourage sustainable modes of transportation may include, but would not be limited to:

- Unbundled parking
- Free or subsidized Clipper Card value
- On-site bicycle parking
- Bicycle repair station and maintenance services
- Bike valet
- Showers and changing facilities
- On-site daycare
- Car share and bike share memberships
- Parking management strategies, including parking pricing
- Real-time transportation information displays

## **2.6 Buildout Projection**

The buildout projection for the Ashby and North Berkeley station areas, shown in Table 2-3 below represents from a reasonable maximum development based on the proposed zoning standards shown in Table 2-1. For purposes of analysis, buildout is assumed to occur by the year 2030. To ensure a conservative approach in analyzing environmental effects under CEQA, EIRs typically analyze what could be considered a maximum reasonable impact scenario in order to capture as many significant environmental impacts as could be reasonably expected as a result of the project.

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<sup>4</sup> BART is currently conducting the Berkeley-El Cerrito Corridor Access Plan that will determine a BART rider replacement parking range. The future Developers will fund a station-specific access plan that will determine parking replacement numbers. More information about the corridor planning efforts can be found here: [www.bart.gov/beccap](http://www.bart.gov/beccap).

**Table 2-3 Buildout Projection<sup>1</sup>**

|  | Ashby  | North Berkeley (Main Site) |
|--|--|----------------------------|
| Lot Area                                       | 4.4 acres (west lot)<br>1.9 acres (east lot) | 8.1 acres                  |
| Project Area <sup>2</sup>                      | 6.1 acres                                    | 6.4 acres                  |
| Building Gross Square Footage (sf)             | 1,000,000                                    | 950,000                    |
| Residential Units                              | 1,200  | 1,200                      |
| Non-Residential (sf)                           | 100,000                                      | 25,000                     |
| Height   | 7 stories                                    | 7 stories                  |
| FAR  | 3.8  | 3.4                        |
| Density (du/acre)                              | 200  | 188                        |
| Parking for Development (# Spaces)             | 350  | 375                        |
| Parking for Development (Ratio of spaces/unit) | 0.3  | 0.3                        |
| BART Rider Parking <sup>3</sup>                | 0 spaces                                     | 0 spaces (on-site)         |

<sup>1</sup> All numbers have been rounded for ease of comparison. Due to rounding, some of the totals in the table above may not correspond exactly to each other when divided.

<sup>2</sup> Project Area does not include area used for BART facilities/infrastructure. For the purposes of the EIR, the reasonable maximum development projection includes the Zone of Influence at North Berkeley as buildable area (which is approximately one acre) and does not include the auxiliary parking lots.

<sup>3</sup> The proposed project assumes no replacement of the existing BART rider surface parking spaces eliminated as a result of new development on the main station area sites. However, it is assumed that 79 parking spaces in the auxiliary parking lots at the North Berkeley BART station site would remain.

Abbreviations: sf = square feet, du = dwelling units

At the Ashby BART station site, the buildout assumptions include development of up to 1,200 dwelling units and 100,000 square feet of non-residential space distributed between the 4.4-acre station site and the 1.9-acre surface parking lot east of the Ed Roberts campus. At the North Berkeley BART station site, the buildout assumptions include development of up to 1,200 dwelling units and 25,000 square feet of non-residential space located on the main 8.1-acre station site, including the area considered BART's "Zone of Influence."<sup>5</sup> The three auxiliary lots located northwest of the station along the Ohlone Greenway are not anticipated to include new residential or non-residential development but may be used for transportation infrastructure improvements. The buildout projections for both station sites are based on the following assumptions: buildings with a maximum height of seven stories and an average unit size of 700 square feet and exclusion of non-buildable areas for circulation and BART station infrastructure.

## 2.7 Project Objectives

The objectives of the proposed project are as follows:

- Comply with AB 2923
- Promote healthy, fossil-fuel free, energy- and water-efficient transit-oriented development that includes location efficiency and sustainable low carbon transportation modes

<sup>5</sup> The Zone of Influence varies by station, but is generally defined as a minimum of 30 feet around above-ground trackway.

## 2.8 Required Approvals

The project would require adoption by the City Council of the City of Berkeley of an ordinance and a resolution. Prior to review by the City Council, the Planning Commission would review and forward its recommendations to the City Council. This EIR is intended to provide the information and environmental analysis necessary for the City to consider the potential physical impacts, feasible mitigation measures and alternatives, cumulative and irreversible impacts of the project.:

- **Certification of the EIR.** Certify the EIR and make environmental findings pursuant to CEQA.
- **Amendments to General Plan.** Amend General Plan text and maps to redesignate the North Berkeley and Ashby BART station sites to “Ashby and North Berkeley BART Transit-Oriented Development.”
- **Amendments to the City of Berkeley Municipal Code.** Amend Municipal Code text and map to add R-BMU zoning chapter.

The City intends to use the streamlining/tiering provisions of CEQA to the maximum extent feasible, so that future environmental review of projects at the sites is expeditiously undertaken without the need for repetition and redundancy, as provided in CEQA Guidelines Section 15152 and elsewhere.

This EIR may also be used by State, regional and/or local government agencies for permits that may be required for development. State and regional agencies that may have jurisdiction over some aspects include (but are not limited to):

- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Bay Area Air Quality Management District (BAAQMD)
- East Bay Municipal Utility District (EBMUD)
- California Department of Transportation (Caltrans)
- Bay Area Rapid Transit (BART)
- AC Transit

## 2.9 Consultation with California Native American Tribes Traditionally and Culturally Affiliated with the Project Area (Public Resources Code Section 21080.3.1)

No California Native American Tribes have requested consultation pursuant to Public Resources Code Section 21080.3.1. Please also see Section 4.2, *Cultural Resources*.

## 3 Environmental Setting

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This section provides a general overview of the environmental setting for the proposed project. A more detailed description of the project sites can be found in Section 2, *Project Description*, and more detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

### 3.1 Regional and Local Setting

The project sites are located in the City of Berkeley, in the East Bay region of the San Francisco Bay Area. Figure 2-1 in Section 2, *Project Description*, shows the location of the project sites in relationship to Berkeley and nearby East Bay cities. The East Bay region generally includes cities along the eastern shores of the San Francisco Bay and San Pablo Bay and inland communities in Alameda and Contra Costa counties. Approximately one-third of the Bay Area's population resides in the East Bay. Berkeley is the fourth largest city in Alameda County in terms of population following Oakland, Fremont, and Hayward (California Department of Finance [DOF] 2020). It borders the cities of Oakland and Emeryville to the south and the city of Albany and the unincorporated community of Kensington to the north. To the east lies Contra Costa County and the ridge of the Berkeley Hills, while the western edge is defined by the San Francisco Bay.

Berkeley is located in the San Francisco Bay Hydrologic Region. Drainage is generally to the west towards the San Francisco Bay. Berkeley is in a seismically active region in the vicinity of the San Andreas and Hayward faults. The Hayward Fault passes through the eastern area of Berkeley.

Berkeley enjoys a mild climate characterized by cool winters and moderate summers. According to the Western Regional Climate Center, average temperatures range from about 70 degrees F in summer to 50 degrees F in winter. Annual rainfall averages about 23 inches per year, with most rainfall occurring between October and April (Western Regional Climate Center 2016).

### 3.2 Project Site Setting

#### **Ashby BART Station Site Setting**

The Ashby BART station site consists of two parcels: 1) a 4.4-acre parcel that makes up the block surrounded by Adeline Street, Ashby Avenue and Martin Luther King Jr Way, which includes the station building and surface parking lot, and 2) a 1.9-acre surface parking lot located on the east side of Adeline Street on the block surrounded by Woolsey Street, Tremont Street, Adeline Street and Essex Street. Adeline Street and the Ed Roberts Campus are located between the two parcels. The northern portion of the 4.4-acre parcel is used by the Berkeley Flea Market on weekends. The two parcels are owned by BART, but the City retains an option to the "air rights"<sup>1</sup> over the 4.4-acre parcel. Both parcels are generally flat, although they are at different elevations on either side of Adeline street, and include mature landscaping trees around parking perimeters.

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<sup>1</sup> "Air rights" are generally defined as the property interest at and above the earth's surface as well as caisson and column lots essential to contain the structural supports of the air rights improvement.

The site is located along the Adeline Street corridor, which is a commercial/mixed-use corridor that runs through the south Berkeley area. The site is surrounded by a mix of uses, including residential, commercial, educational, and institutional uses. The 4.4-acre parcel west of Adeline Street contains a BART station entrance and surface parking totaling 348 spaces and the 1.9-acre parcel east of Adeline Street contains a parking lot with 187 parking spaces. The project site is in the Ashby BART subarea of the recently adopted Adeline Corridor Specific Plan (ACSP) area. The area generally has a high-volume of station-bound pedestrian, bicycle, and bus traffic.

### **North Berkeley BART Station Site and Setting**

The main North Berkeley BART station site is 8.1 acres and consists of four parcels that make up the block surrounded by Sacramento Street, Delaware Street, Acton Street and Virginia Street in north Berkeley. The station is currently occupied by the station entrance building, surface parking (646 total parking spaces), and a BART operations building.

The North Berkeley BART station site also includes three auxiliary lots located northwest of the station. These include:

- A 0.75-acre triangular-shaped parcel northeast of the corner of Virginia Street and Franklin Street that is currently developed with a surface parking lot (71 parking spaces) and is bounded by the Ohlone Greenway to the northeast, Virginia Street to the south, Franklin Street to the west, and two, two-story residences to the southwest.
- A 0.44-acre irregular-shaped parcel west of Franklin Street also developed by a surface parking lot (39 parking spaces) bounded by the Ohlone Greenway to the northeast, residences to the south, and Virginia Gardens to the west.
- A 0.64-acre irregular-shaped parcel approximately 0.35 miles northwest of the main station site that is used as a community garden and is bounded by surface BART tracks to the northeast, Peralta Avenue to the east, Northside Avenue to the west, and residences to the south.

The North Berkeley BART station site and ancillary lots are located in the northwest area of the City, in a predominantly residential area. The sites are each relatively flat and the main station site and auxiliary parking lots contain landscaping vegetation and mature trees. Residential uses surround the North Berkeley BART station site and ancillary parking lots, with the exception of the Ohlone Park Baseball Field, located southeast of the North Berkeley BART station site.

In addition to BART, there is also frequent AC Transit bus service serving both the Ashby and North Berkeley project sites via multiple routes. As discussed in Section 4.6, *Hydrology and Water Quality*, there are no open creeks or surface water bodies in or near the project sites.

The Ashby BART station site overlies the Potter Watershed, and the North Berkeley BART station site overlies the Schoolhouse Watershed. There is one hazardous waste site shown on the lists compiled pursuant to Section 65962.5 of the Government Code, meaning hazardous substances are known to have been released on the listed properties at some point in the past, which is located on the North Berkeley BART station site. The Ashby BART station site is located within the City's Environmental Management Area, which refers to areas known or suspected to have groundwater contamination.

### 3.3 Cumulative Development

As defined in *CEQA Guidelines* §15355, “cumulative impacts” refers to two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other closely related projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately but could have a significant impact when analyzed together. Cumulative impacts analysis provides a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects. According to *CEQA Guidelines* §15130(b), a discussion of significant cumulative impacts shall include a list of past, present, and probable future projects producing related or cumulative impacts; or, a summary of projections contained in an adopted local, regional, or statewide plan that describes or evaluates conditions contributing to the cumulative effect.

The cumulative setting for each environmental issue area is described in Section 4, *Environmental Impact Analysis*. Cumulative impacts as analyzed in this EIR may occur throughout Berkeley or the region. Some cumulative impacts are not necessarily significant in relation to development that occurs further from the project sites. For example, noise impacts associated with the proposed project would be greater closer to the project sites and would reduce in proportion to distance from the sites. For the cumulative impact discussions that rely on a smaller geographic area, including cultural resources, hazards and hazardous materials, hydrology and water quality, noise, land use, public services, recreation, and utilities and service systems, the cumulative impact analysis is based on the cumulative projects list provided in Table 3-1. These include projects over four units in size within 0.5-miles of either BART station sites.

**Table 3-1 Cumulative Projects List**

| Address                                 | Project Information   | Status                           |
|---|---|----------------------------------|
| <b>North Berkeley BART Station Site</b> |   |                                  |
| 1740 San Pablo Avenue                   | 6-story, 54 residential units (100% affordable)                                       | Pre-application under review     |
| 1820 San Pablo Avenue                   | 5-story, 44 residential units   | Pre-application under review     |
| 1367 University Avenue                  | 4-story, 40 residential units   | Use Permit approved July 2021    |
| <b>Ashby BART Station Site</b>          |   |                                  |
| 1650 Alcatraz Avenue                    | 4-story mixed-use building with 27 residential units and commercial space             | Pre-application under review     |
| 2801 Adeline Street                     | Two buildings with a total of 222 room hotel, 174 residential units, and retail space | Pre-application under review     |
| 2628 Shattuck Avenue                    | 6-story mixed-use building with 78 residential units and office space                 | Use Permit approved January 2019 |

Note: This cumulative projects list applies to the cumulative impact discussions for cultural resources, hazards and hazardous materials, hydrology and water quality, noise, land use, public services, recreation, and utilities and service systems.

The rest of the cumulative impact discussions: air quality, energy, greenhouse gas emissions, transportation, and population and housing, rely on much larger geographic areas such as the Bay Area region. For issues that may have regional cumulative implications, the cumulative impact analysis for this EIR is based on Plan Bay Area 2040, the Bay Area’s most recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Based on the forecasts in Plan Bay Area 2040, in 2040 Berkeley is estimated to have a population of 140,900, 55,400 housing units, and 121,700 jobs.

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

Currently, Berkeley has an estimated population of 122,580, 47,718 housing units, and 116,435 jobs (see Tables 4.9-1 and 4.9-2 in Section 4.10, *Population and Housing*). Development under the proposed rezoning in conjunction with development forecasted in Plan Bay Area 2040 is accounted for in the cumulative impacts analysis.

## 4 Environmental Impact Analysis

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This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. “Significant effect” is defined by the *CEQA Guidelines* §15382 as:

“...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per *CEQA Guidelines* §15093.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under *CEQA Guidelines* §15091.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). These are also summarized in the Executive Summary of this EIR. In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*.

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## 4.1 Air Quality

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This section discusses the potential impacts to regional and local air quality resulting from the proposed project. The trip generation rates used to estimate vehicle emissions are based on the information included in Section 4.9, *Transportation*, of this EIR, and the vehicle miles traveled (VMT) information used was provided by Kittelson & Associates, Inc. and based on the Alameda Countywide Travel Demand Model.

### 4.1.1 Setting

#### a. Climate and Topography

Both project sites are located in the “Northern Alameda and Western Contra Costa Counties” climatological subregion of the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This subregion is bordered on the east by the Oakland-Berkeley Hills and on the west by the San Francisco Bay (Bay). Marine air traveling through the Golden Gate is a dominant weather factor, and the Oakland-Berkeley Hills cause the westerly flow of air to split off the north and south of Oakland, which causes diminishing wind speeds. Air temperatures are moderated by the subregion's proximity to marine air. During the summer months, average maximum temperatures are in the mid-70 degrees Fahrenheit (°F), and during the winter months, average maximum temperatures are in the mid- to high 50°F (BAAQMD 2017a).

Air quality in the SFBAAB is affected by the emission sources located in the region and by natural factors. Air pollutant emissions in the SFBAAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are distributed widely and include those such as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be operated legally on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles.

Atmospheric conditions such as wind speed and direction, air temperature gradients, and local and regional topography influence air quality. Complex topographical features, the location of the Pacific high-pressure system, and varying circulation patterns associated with temperature gradients affect the speed and direction of local winds, which play a major role in the dispersion of pollutants. Strong winds can carry pollutants far from their source, but a lack of wind will allow pollutants to concentrate in an area. Air dispersion also affects pollutant concentrations. As altitude increases, air temperature normally decreases. However, inversions can occur when colder air becomes trapped below warmer air, restricting the air masses' ability to mix. Pollutants also become trapped, which promotes the production of secondary pollutants. Subsidence inversions, which can occur during the summer in the SFBAAB, result from high-pressure cells that cause the local air mass to sink, compress, and become warmer than the air closer to the earth. Pollutants accumulate as this stagnating air mass remains in place for one or more days (BAAQMD 2017a).

The air pollution potential in Northern Alameda and Western Contra Costa Counties climatological subregion is lowest in areas closest to the Bay due to good ventilation and lower influxes of pollutants from upwind sources. Air pollution potential in Berkeley is marginally higher than that of communities directly east of the Golden Gate because of the lower frequency of strong winds. This subregion contains a variety of industrial air pollution sources, some of which are close to residential areas, as well as congested major freeways, which are a major source of motor vehicle emissions (BAAQMD 2017a).

## **b. Air Pollutants of Primary Concern**

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards (AAQS) for “criteria pollutants” and other air pollutants. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere and include carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),<sup>1</sup> nitrogen oxides (NO<sub>x</sub>), fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide, and lead. Secondary criteria pollutants are created by atmospheric chemical and photochemical reactions primarily between ROG and NO<sub>x</sub>. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections.

### **Ozone**

Ozone is produced by a photochemical reaction (triggered by sunlight) between NO<sub>x</sub> and ROG. ROG are composed of non-methane hydrocarbons (with some specific exclusions), and NO<sub>x</sub> is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and nitrogen dioxide. NO<sub>x</sub> are formed during the combustion of fuels, while ROG are formed during combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO<sub>x</sub> levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including respiratory and eye irritation, aggravation of respiratory diseases such as asthma and bronchitis, possible changes in lung functions, and permanent damage to lung tissue (BAAQMD 2017a). Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

### **Carbon Monoxide**

Carbon monoxide is a localized pollutant that is found in high concentrations only near its source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is the incomplete combustion of petroleum fuels by automobile traffic. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of carbon monoxide include the incomplete combustion of petroleum fuels at power plants and

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<sup>1</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this EIR.

fuel combustion from wood stoves and fireplaces during the winter. The health effects of carbon monoxide are related to its affinity for hemoglobin in the blood. Carbon monoxide causes a number of health problems including fatigue, headache, confusion, and dizziness. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities (BAAQMD 2017a). Carbon monoxide tends to dissipate rapidly into the atmosphere; consequently, violations of AAQS for carbon monoxide are generally associated with localized carbon monoxide “hotspots” that can occur at major roadway intersections during heavy peak-hour traffic conditions.

## **Nitrogen Dioxide**

Nitrogen dioxide is a by-product of fuel combustion; the primary sources are motor vehicles and industrial boilers and furnaces. The principal form of  $\text{NO}_x$  produced by combustion is nitric oxide, but nitric oxide reacts rapidly to form nitrogen dioxide, creating the mixture of nitric oxide and nitrogen dioxide commonly called  $\text{NO}_x$ . Nitrogen dioxide is an acute irritant that can aggravate respiratory illnesses and increase the risk of acute and chronic respiratory diseases (BAAQMD 2017a). A relationship between nitrogen dioxide and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility (BAAQMD 2017a). It can also contribute to the formation of  $\text{PM}_{10}$  and acid rain.

## **Particulate Matter**

Small particulate matter measuring no more than 10 microns in diameter is  $\text{PM}_{10}$ , while fine particulate matter measuring no more than 2.5 microns in diameter is  $\text{PM}_{2.5}$ . Both  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  are directly emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. Particulate matter is also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  can be very different.  $\text{PM}_{10}$  is generally associated with dust mobilized by wind and vehicles while  $\text{PM}_{2.5}$  is generally associated with combustion processes as well as formation in the atmosphere as a secondary pollutant through chemical reactions.  $\text{PM}_{2.5}$  is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems (CARB 2021a). More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body’s mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance (South Coast Air Quality Management District 2005). Suspended particulates can also reduce lung function, aggravate respiratory and cardiovascular diseases, increase mortality rates, and reduce lung function growth in children (BAAQMD 2017a).

## **Sulfur Dioxide**

Sulfur dioxide is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of sulfur dioxide emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of sulfur dioxide emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Sulfur dioxide is linked with a number of adverse effects on the respiratory

system, including irritation of lung tissue, aggravation of respiratory diseases, increased risk of acute and chronic respiratory diseases, and reduced lung function (BAAQMD 2017a).

## **Lead**

Lead is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. However, as a result of the U.S. EPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least in part as a result of national emissions standards for hazardous air pollutants (U.S. EPA 2013). As a result of phasing out leaded gasoline, metal processing currently is the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. The health impacts of lead include behavioral and hearing disabilities in children and nervous system impairment (BAAQMD 2017a).

## **Toxic Air Contaminants**

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70<sup>th</sup> the diameter of a human hair) and thus is a subset of PM<sub>2.5</sub>. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2021b). Particulate matter emitted from diesel engines contributes more than 85 percent of the cancer risk within the SFBAAB, and cancer risk from TACs is highest near major diesel PM sources (BAAQMD 2014).

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

### **c. Regulatory Setting**

#### **Federal and California Clean Air Acts**

The federal CAA governs air quality in the United States and is administered by the U.S. EPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the state level. At the regional and local levels, local air districts such as the BAAQMD typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Table 4.1-1 summarizes the California Ambient Air Quality Standards

(CAAQS) and the National Ambient Air Quality Standards (NAAQS). The CAAQS are more restrictive than the NAAQS for several pollutants, including the one-hour standard for carbon monoxide, the 24-hour standard for sulfur dioxide, and the 24-hour standard for PM<sub>10</sub>.

**Table 4.1-1 Ambient Air Quality Standards & Basin Attainment Status**

| Pollutant                                      | Averaging Time              | California Ambient Air Quality Standards |                          | National Ambient Air Quality Standards |                   |
|--|-----------------------------|--|--------------------------|--|-------------------|
|  |                             | Concentration                            | Attainment Status        | Concentration                          | Attainment Status |
| Ozone  | 8-Hour                      | 0.070 ppm                                | N                        | 0.070 ppm                              | N                 |
|  | 1-Hour                      | 0.09 ppm                                 | N                        | --                                     | --                |
| Carbon Monoxide                                | 8-Hour                      | 9.0 ppm                                  | A                        | 9 ppm                                  | A                 |
|  | 1-Hour                      | 20 ppm                                   | A                        | 35 ppm                                 | A                 |
| Nitrogen Dioxide                               | 1-Hour                      | 0.18 ppm                                 | A                        | 0.100 ppm                              | U                 |
|  | Annual Arithmetic Mean      | 0.030 ppm                                |                          | 0.053 ppm                              | A                 |
| Sulfur Dioxide                                 | 24-Hour                     | 0.04 ppm                                 | A                        | 0.14 ppm                               | U                 |
|  | 1-Hour                      | 0.25 ppm                                 | A                        | 0.075 ppm                              | U                 |
|  | Annual Arithmetic Mean      | –  | –                        | 0.030 ppm                              | U                 |
| Particulate Matter – Small (PM <sub>10</sub> ) | Annual Arithmetic Mean      | 20 µg/m <sup>3</sup>                     | N                        | –                                      | –                 |
|  | 24-Hour                     | 50 µg/m <sup>3</sup>                     | N                        | 150 µg/m <sup>3</sup>                  | U                 |
| Particulate Matter - Fine (PM <sub>2.5</sub> ) | Annual Arithmetic Mean      | 12 µg/m <sup>3</sup>                     | N                        | 12 µg/m <sup>3</sup>                   | U/A               |
|  | 24-Hour                     | –  | –                        | 35 µg/m <sup>3</sup>                   | N                 |
| Sulfates                                       | 24-Hour                     | 25 µg/m <sup>3</sup>                     | A                        | –                                      | –                 |
| Lead   | Calendar Quarter            | –  |                          | 1.5 µg/m <sup>3</sup>                  | A                 |
|  | Rolling 3-Month Average     | –  |                          | 0.15 µg/m <sup>3</sup>                 | U                 |
|  | 30-Day Average              | 1.5 µg/m <sup>3</sup>                    | A                        | –                                      | –                 |
| Hydrogen Sulfide                               | 1-Hour                      | 0.03 ppm<br>(42 µg/m <sup>3</sup> )      | U                        | –                                      | –                 |
| Vinyl Chloride (Chloroethene)                  | 24-Hour                     | 0.010 ppm<br>(26 µg/m <sup>3</sup> )     | No information available | –                                      | –                 |
| Visibility Reducing Particles                  | 8-Hour (10:00 to 18:00 PST) | –  | U                        | –                                      | –                 |

A = attainment; N = nonattainment; U = unclassified; ppm=parts per million; µg/m<sup>3</sup>=micrograms per cubic meter; PST = Pacific Standard Time

Source: BAAQMD 2017b and U.S. EPA 2021a

Depending on whether the standards are met or exceeded, the local air basin is classified as in “attainment” or “non-attainment.” Some areas are unclassified, which means insufficient monitoring data are available; unclassified areas are considered to be in attainment. Table 4.1-1 presents the attainment status of the SFBAAB for each of the CAAQS and NAAQS. As shown therein, the SFBAAB is designated nonattainment for the NAAQS for ozone and PM<sub>2.5</sub> and the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

### **Safer Affordable Fuel-Efficient Vehicles Rule**

On September 27, 2019, the U.S. EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The Part One Rule revokes California’s authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. On April 30, 2020, the U.S. EPA and the National Highway Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and carbon dioxide emissions standards for passenger cars and trucks of model years 2021-2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (National Highway Traffic Safety Administration 2021).

### **Bay Area Air Quality Management District 2017 Clean Air Plan**

The BAAQMD adopted the 2017 Clean Air Plan (2017 Plan) on April 19, 2017 as an update to the 2010 Clean Air Plan. The 2017 Plan, which focuses on protecting public health and the climate, defines an integrated, multi-pollutant control strategy that includes all feasible measures to reduce emissions of ozone precursors (including transport of ozone and its precursors to neighboring air basins), PM, and TACs. To protect public health, the control strategy will decrease population exposure to PM and TACs in communities that are most impacted by air pollution with the goal of eliminating disparities in exposure to air pollution between communities. The control strategy will also protect the climate by reducing greenhouse gas (GHG) emissions and developing a long-range vision of how the Bay Area could look and function in a post-carbon economy in 2050 (BAAQMD 2017c).

### **City of Berkeley General Plan**

The City of Berkeley General Plan Environmental Management and Transportation elements contain the following policies specific to air quality (City of Berkeley 2003):

**Policy EM-18 Regional Air Quality Action.** Continue working with the BAAQMD and other regional agencies to:

1. Improve air quality through pollution prevention methods.
2. Ensure enforcement of air emission standards.
3. Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit.
4. Promote regional pollution prevention plans for business and industry.
5. Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
6. Locate parking appropriately and provide signage to reduce unnecessary “circling” and searching for parking.

**Policy T-19 Air Quality Impacts.** Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.

**Policy T-29 Infrastructure Improvements.** Facilitate mobility and the flow of traffic on major and collector streets, reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.

### **Berkeley Municipal Code**

In 2019, the Berkeley City Council added Chapter 12.80 to the Berkeley Municipal Code (BMC) via Ordinance No. 7,672-N.S., which prohibits the installation of natural gas infrastructure in newly constructed buildings unless the applicant can establish that it is not physically feasible to construct the building without natural gas infrastructure or if its use serves the public interest.

Berkeley has adopted the California Energy Code in BMC Chapter 19.36. In addition, BMC Section 19.36.040, includes a “reach code” that exceeds the energy efficiency standards of the California Energy Code.

#### **d. Current Air Quality**

Table 4.1-2 summarizes the representative annual air quality data for all criteria pollutants for the local airshed from the nearest monitoring stations with available data for 2017 through 2019. The nearest monitoring stations with available data are the Berkeley-Aquatic Park monitoring station (approximately 1.6 mile northwest of the Ashby BART station site and 1.2 mile southwest of the North Berkeley BART station site), the Oakland-West monitoring station (approximately three miles south of the Ashby BART station site and four miles south of the North Berkeley BART station site), the San Pablo-Rumrill Blvd monitoring station (approximately nine miles northwest of the Ashby BART station site and seven miles northwest of the North Berkeley BART station site), and the San Francisco-Arkansas Street monitoring station (approximately nine miles southwest of the Ashby BART station site and ten miles southwest of the North Berkeley BART station site). As shown in Table 4.1-2, the NAAQS for nitrogen dioxide was exceeded in 2017; the CAAQS for PM<sub>10</sub> was exceeded in 2017 and 2018; the NAAQS for PM<sub>10</sub> was exceeded in 2018; and the NAAQS for PM<sub>2.5</sub> was exceeded in 2017 and 2018. Many of the exceedances of the PM<sub>10</sub> and PM<sub>2.5</sub> standards in 2017 and 2018 were likely caused by high particulate matter concentrations from wildfire smoke associated with the Tubbs, Nuns, Atlas, and Camp Fires in Napa, Sonoma, Solano, and Butte Counties, which overlapped with the days of the exceedances (California Department of Forestry and Fire Protection 2018).

**Table 4.1-2 Annual Ambient Air Quality Data**

| Pollutant   | 2017           | 2018            | 2019   |
|---|----------------|-----------------|--------|
| Ozone (ppm), Worst 1-Hour <sup>1</sup>  | 0.058          | 0.059           | 0.50   |
| Number of days above CAAQS (>0.09 ppm)  | 0              | 0               | 0      |
| Number of days above NAAQS (>0.12 ppm)  | 0              | 0               | 0      |
| Ozone (ppm), Worst 8-Hour Average <sup>1</sup>  | 0.049          | 0.049           | 0.042  |
| Number of days above CAAQS (>0.070 ppm)   | 0              | 0               | 0      |
| Number of days above NAAQS (>0.070 ppm)   | 0              | 0               | 0      |
| Carbon Monoxide (ppm), Highest 8-Hour Average <sup>1</sup>                                | 1.7            | 2.2             | 1.3    |
| Number of days above CAAQS or NAAQS (>9.0 ppm)  | 0              | 0               | 0      |
| Nitrogen Dioxide (ppm), Worst 1-Hour <sup>1</sup>   | 0.123          | 0.073           | 0.050  |
| Number of days above CAAQS (>0.180 ppm)   | 0              | 0               | 0      |
| Number of days above NAAQS (>0.100 ppm)   | 1              | 0               | 0      |
| Sulfur Dioxide (ppm), Worst Hour <sup>2</sup>   | 0.0169         | 0.0119          | 0.0192 |
| Number of days above CAAQS (>0.25 ppm)  | 0              | 0               | 0      |
| Number of days above NAAQS (>0.075 ppm)   | 0              | 0               | 0      |
| Particulate Matter <10 microns ( $\mu\text{g}/\text{m}^3$ ), Worst 24 Hours <sup>3</sup>  | 98             | 201             | 36     |
| Number of days above CAAQS (>50 $\mu\text{g}/\text{m}^3$ )                                | 4 <sup>4</sup> | 2 <sup>5</sup>  | 0      |
| Number of days above NAAQS (>150 $\mu\text{g}/\text{m}^3$ )                               | 0              | 1               | 0      |
| Particulate Matter <2.5 microns ( $\mu\text{g}/\text{m}^3$ ), Worst 24 Hours <sup>1</sup> | 52             | 166             | 29     |
| Number of days above NAAQS (>35 $\mu\text{g}/\text{m}^3$ )                                | 7 <sup>4</sup> | 13 <sup>5</sup> | 0      |
| Lead ( $\mu\text{g}/\text{m}^3$ ), 3-Month Average <sup>6</sup>                           | 0.070          | 0.077           | 0.009  |
| Number of days above NAAQS (>0.15 $\mu\text{g}/\text{m}^3$ )                              | 0              | 0               | 0      |

ppm = parts per million;  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard

<sup>1</sup> Data sourced from CARB and the U.S. EPA at the nearest monitoring station with available data at the Aquatic Park in Berkeley.

<sup>2</sup> Data sourced from the U.S. EPA at the nearest monitoring station with available data at 1100 21<sup>st</sup> Street in Oakland.

<sup>3</sup> Data sourced from CARB at the nearest monitoring station with available data at 1865D Rumrill Boulevard in San Pablo.

<sup>4</sup> Some of the exceedances of the PM<sub>10</sub> and PM<sub>2.5</sub> standards for 2017 were likely a result of wildfire smoke from the Nuns, Tubbs, and Atlas Fires, which burned a total of approximately 145,000 acres between October 8 and October 31, 2017 in Sonoma, Solano, and Napa Counties and overlapped with many of the days of exceedances (California Department of Forestry and Fire Protection 2018).

<sup>5</sup> Many of the exceedances of the PM<sub>10</sub> and PM<sub>2.5</sub> standards for 2018 were likely a result of wildfire smoke from the Camp Fire, which burned approximately 1.9 million acres between November 8 and November 25, 2018 in Butte County and overlapped with many of the days of exceedances (California Department of Forestry and Fire Protection 2018).

<sup>6</sup> Data sourced from the U.S. EPA at the nearest monitoring station with available data at 10 Arkansas Street in San Francisco.

Source: CARB 2021c and U.S. EPA 2021b

### e. Sensitive Receptors

The NAAQS and CAAQS were established to protect public health and welfare with an adequate margin of safety. They are designed to protect that segment of the public most susceptible to respiratory distress as a result of poor air quality, such as children under 14, persons over 65, persons engaged in strenuous work or exercise, and people with pre-existing cardiovascular and chronic respiratory diseases. According to BAAQMD, sensitive

receptors include residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities (BAAQMD 2017a).

Sensitive receptors closest to the Ashby BART station site are residences that abut the 1.9-acre parcel east of Adeline Street to the north, east, and south, and residences that abut the 4.4-acre parcel west of Adeline Street to the north, west, and south. Other sensitive receptors within 0.25 mile of the Ashby BART station site include residences, several schools (including Malcolm X Elementary School, Via Nova Children's School, the Ed Roberts Campus, and Alliance Francaise de Berkeley), and several nursing homes (including Angeleon Care Center).

Sensitive receptors closest to the North Berkeley BART station site are residences that abut the parcels in all directions. Other sensitive receptors within 0.25 mile of the North Berkeley BART station site include residences, including senior housing facilities; schools, including Jefferson Elementary School, the Crowden Music Center, and Cedar Creek Montessori School; and parks, including Ohlone Park and Greenway, Totland, and Cedar Rose Park. In addition, the proposed project is intended to increase housing capacity and production, which would add sensitive receptors (future residents) to the project sites.

## 4.1.2 Impact Analysis

### a. Methodology and Significance Thresholds

This analysis uses BAAQMD's May 2017 *CEQA Air Quality Guidelines* to evaluate potential air quality impacts associated with implementation of the proposed project. Because the proposed project consists of adoption of zoning standards rather than a specific individual development project, the plan-level thresholds were used for this analysis to determine whether the impacts of the proposed project exceed the thresholds identified in Appendix G of the *CEQA Guidelines*.

#### Significance Thresholds

Air quality impacts would be significant if they would exceed the following thresholds of significance, which are based on Appendix G of the *CEQA Guidelines* and the May 2017 BAAQMD *CEQA Air Quality Guidelines*:

1. Conflict with or obstruct implementation of the applicable air quality plan
2. 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
3. Expose sensitive receptors to substantial pollutant concentrations
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

#### *Criteria Air Pollutants*

The BAAQMD's 2017 *CEQA Air Quality Guidelines* have no plan-level significance thresholds for construction-related air pollutant emissions. However, they do include individual project-level thresholds for temporary construction-related and long-term operational air pollutant emissions. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors may result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions (BAAQMD 2017a).

According to the BAAQMD's 2017 *CEQA Air Quality Guidelines*, if a plan meets the following criteria, operational emissions of criteria air pollutants would be less than significant (BAAQMD 2017a):

- Consistency with current air quality plan control measures
- Projected VMT or vehicle trips increase is less than or equal to the plan's projected population increase

#### *Carbon Monoxide Hotspots*

The BAAQMD provides a preliminary screening methodology to conservatively determine whether a proposed project would potentially result in a significant impact related to localized CO concentrations. If the following criteria are met, a project would result in a less-than-significant impact (BAAQMD 2017a):

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

#### *Toxic Air Contaminants*

BAAQMD recommends that general plans include buffer zones to separate sensitive receptors from sources of TACs and odors. In April 2005, CARB released the final version of the *Air Quality and Land Use Handbook*, which is intended to encourage local land use agencies to consider the risks from air pollution prior to making decisions that approve the siting of new sensitive receptors (e.g., homes or daycare centers) near sources of air pollution. Unlike industrial or stationary sources of air pollution, the siting of new sensitive receptors does not require air quality permits but could create air quality problems. The primary purpose of CARB's handbook is to highlight the potential health impacts associated with proximity to common TAC emission sources, so that those issues are considered in the planning process. CARB makes recommendations regarding the siting of new sensitive land uses near freeways, truck distribution centers, dry cleaners, gasoline dispensing stations, and other TAC emission sources. These recommendations are based primarily on modeling information and may not be entirely reflective of conditions in the neighborhoods surrounding the project sites. As a result, the *Air Quality and Land Use Handbook* (2005) notes that siting of new sensitive land uses within these distances may be possible but recommends that site-specific studies be conducted to identify actual health risks. CARB acknowledges that land use agencies have to balance other siting considerations such as housing and transportation needs, economic development priorities and other quality of life issues. CARB recommends siting new sensitive land uses more than 1,000 feet from rail yards. Rail yards are defined as rail facilities usually located near inter-modal facilities, which attract heavy truck traffic, such as the Union Pacific Railroad Desert Yard in Oakland (CARB 2005). This guidance does not identify individual rail stations and rail lines, such as the BART tracks and the Ashby and North Berkeley BART stations, as sources of concern. In addition, BART trains are electric and tracks at the project sites are underground. Therefore, this analysis does not include emissions from rail operations on the BART tracks

or at the project sites. CARB also recommends avoiding siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day (CARB 2005). Since publication of the Air Quality and Land Use Handbook (2005), CARB has developed a Technical Advisory (2017) that acknowledges that there is a possibility that near-roadway pollution exposure was previously underestimated and that people living as much as 1,000 feet from a freeway are adversely impacted by poor air quality. The Technical Advisory also recognizes the environmental and public health benefits of infill development, which often results in more people living near high-volume roadways and highlights several strategies to reduce the resultant air pollution exposure from mobile sources (CARB 2017).

For plans to have a less-than-significant impact related to TAC emissions, special overlay zones need to be established around existing and proposed sources of TAC emissions and over a minimum 500-foot buffer on each side of all freeways and high-volume roadways. In addition, the plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones for sources of TACs and receptors (BAAQMD 2017a).

For health risks associated with TAC and PM<sub>2.5</sub> emissions from future development projects within the project sites, the BAAQMD 2017 *CEQA Air Quality Guidelines* state a project would result in a significant impact if the any of the following thresholds are exceeded (BAAQMD 2017a):

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of >10.0 in a million;
- Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute); or
- Ambient PM<sub>2.5</sub> increase: > 0.3 micrograms per cubic meter annual average

In addition, a project would have a cumulatively considerable impact associated with TAC and PM<sub>2.5</sub> emissions if the aggregate total emissions of all past, present, and foreseeable future sources within a 1,000 foot radius of the fenceline of the source plus the project's contribution exceed any of the following thresholds (BAAQMD 2017a):

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of >100.0 in a million;
- Increased non-cancer risk of > 10.0 Hazard Index (Chronic or Acute); or
- Ambient PM<sub>2.5</sub> increase: > 0.8 micrograms per cubic meter annual average

## b. Project Impacts and Mitigation Measures

|  |
|--|
| <b>Threshold 1:</b> Would the project conflict with or obstruct implementation of the applicable air quality plan? |
|--|

**Impact AQ-1** THE PROPOSED PROJECT WOULD BE CONSISTENT WITH BAAQMD'S 2017 CLEAN AIR PLAN BECAUSE IT WOULD NOT RESULT IN SIGNIFICANT AND UNAVOIDABLE CRITERIA POLLUTANT EMISSIONS, WOULD SUPPORT THE PRIMARY GOALS OF THE 2017 PLAN, AND WOULD INCLUDE APPLICABLE 2017 PLAN CONTROL STRATEGIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The California CAA requires air districts to create a Clean Air Plan that describes how the jurisdiction will meet AAQS, and these plans must be updated every three years. The most recently adopted air quality plan for the SFBAAB is the 2017 Plan. The control strategy in the 2017 Plan includes measures related to stationary sources, transportation, energy,

buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants (BAAQMD 2017c).

The 2017 Plan focuses on two paramount goals (BAAQMD 2017c):

- 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 TACs; 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 the BAAQMD's methodology, a plan-level determination of consistency with the 2017 Plan should demonstrate that the proposed project:

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

The following subsections include a discussion of consistency with these three criteria.

### **Support for the Primary Goals of the Clean Air Plan**

The primary goals of the 2017 Plan are to protect air quality and health at the regional and local scale and protect the climate. Any project that would not support these 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 Plan goals. As discussed under Impacts AQ-2 and AQ-3, approval of the proposed zoning standards would not result in significant and unavoidable criteria pollutant emissions. In addition, the proposed project includes components that would reduce vehicle trips and emissions associated with future development on the project sites. For example, the proposed zoning standards would allow construction of new commercial and high-density residential development on parcels with existing BART stations. In addition, the project would eliminate minimum parking requirements within the project sites and institute a minimum requirement of one bicycle parking space per unit and maximum limits of 0.5 vehicle parking space per residential unit and 1.6 vehicle parking spaces per 1,000 square feet of office space. The proposed project would thus be designed to reduce vehicle trips by increasing density for development in proximity to existing transit and commercial/retail destinations and limiting total parking spaces. Therefore, the proposed project would support the primary goals of the 2017 Plan, which include emissions reductions through reductions of vehicle trips.

### **Inclusion of Applicable 2017 Plan Control Measures**

The 2017 Plan contains 85 control strategies aimed at reducing air pollution and protecting the climate in the Bay Area. For consistency with climate planning efforts at the state level, the control strategies in the 2017 Plan are based on the same economic sector framework used by CARB, which encompasses stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-greenhouse gas pollutants. Table 4.1-3 identifies applicable control measures from the 2017 Plan and correlates the measures to specific elements of the proposed project. As shown therein, the proposed project would include applicable 2017 Plan control strategies.

**Table 4.1-3 Project Consistency with Applicable 2017 Plan Control Measures**

| Control Measures  | Consistency  |
|---|--|
| <b>Transportation</b>   |  |
| <p><b>TR9: Bicycle and Pedestrian Access and Facilities.</b> Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.</p>  | <p><b>Consistent:</b> The proposed project would include requirements for installation of a minimum of one bicycle parking space per new residential unit within the project sites. Both sites are connected to existing pedestrian infrastructure, including sidewalks and crosswalks.</p>  |
| <p><b>TR13: Parking Policies.</b> Encourage parking policies and programs in local plans, e.g., reduce minimum parking requirements; limit the supply of off-street parking in transit-oriented areas; unbundle the price of parking spaces; support implementation of demand-based pricing (such as “SF Park”) in high-traffic areas.</p>  | <p><b>Consistent:</b> The proposed project would not include minimum parking requirements and would institute maximum limits for vehicle parking spaces. In addition, the project would permit shared or unbundled vehicle parking for new developments within the project sites.</p>  |
| <b>Energy</b>   |  |
| <p><b>EN2: Decrease Electricity Demand.</b> Work with local governments to adopt additional energy-efficiency policies and programs. Support local government energy efficiency program via best practices, model ordinances, and technical support. Work with partners to develop messaging to decrease electricity demand during peak times.</p>  | <p><b>Consistent:</b> Future development under the proposed zoning project would be required to comply with BMC Section 19.36.040, which is a “reach code” that exceeds the energy efficiency standards of the California Energy Code.</p>   |
| <b>Buildings</b>  |  |
| <p><b>BL1: Green Buildings.</b> Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for on-site renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG’s BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.</p> | <p><b>Consistent:</b> Future development under the proposed zoning project would be required to comply with the energy and sustainability standards of Title 24 (including the California Energy Code and CALGreen) and the City’s associated amendments that are in effect at that time. For example, the current 2019 CALGreen standards and the City’s associated amendments in BMC Chapter 19.37 require a minimum 65 percent diversion of construction/demolition waste, use of low-pollutant emitting exterior and interior finish materials, and dedicated circuitry for electric vehicle charging stations. The Title 24 standards are updated every three years and become increasingly more stringent over time.</p> |
| <b>Water</b>  |  |
| <p><b>WR2: Support Water Conservation.</b> Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.</p>   | <p><b>Consistent:</b> Applicants for new or expanded water service would be required to comply with East Bay Municipal Utility District’s Section 31 water efficiency regulations, which include best practice requirements that are more stringent than CALGreen and the state’s Model Water Efficiency Landscape Ordinance to reduce indoor and outdoor water use.</p>   |
| <p>Source: BAAQMD 2017c</p>   |  |

## Implementation of 2017 Plan Control Measures

Future development facilitated by the proposed project would be required to be consistent with BAAQMD rules and regulations, including dust and DPM reduction measures, and would not otherwise cause a disruption, delay, or other hinderance of the implementation of a control measure of the 2017 Plan. Buildout under the proposed project would not preclude planned transit or bike pathways and would not otherwise disrupt regional planning efforts to reduce VMT and meet the NAAQS and CAAQS.

## Summary

As discussed in the preceding subsections, the proposed project would support the primary goals of the 2017 Plan, include applicable control measures from the 2017 Plan, and would not disrupt or hinder implementation of control measures in the 2017 Plan. Therefore, the project would be consistent with the 2017 Plan, and this impact would be less than significant.

## Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 2:** Would the proposed 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?

**Impact AQ-2 FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD RESULT IN THE TEMPORARY GENERATION OF AIR POLLUTANTS DURING CONSTRUCTION, WHICH WOULD AFFECT LOCAL AIR QUALITY. COMPLIANCE WITH THE BAAQMD BASIC CONSTRUCTION MITIGATION MEASURES WOULD BE REQUIRED FOR FUTURE DEVELOPMENT WITHIN THE PROJECT SITES TO IMPLEMENT MEASURES TO REDUCE CONSTRUCTION EMISSIONS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

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Construction of future development facilitated by the proposed project would involve activities that generate criteria air pollutant and fugitive dust emissions. Construction activities such as demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from project sites, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. The extent of daily emissions (particularly ROG and NO<sub>x</sub> emissions) generated by construction equipment would depend on the quantity and type of equipment used and the hours of construction for each project. The extent of PM<sub>2.5</sub> and PM<sub>10</sub> emissions would primarily depend on the following factors: 1) the amount of disturbed soils; 2) the length of disturbance time; 3) whether existing structures are demolished; 4) whether excavation is involved; and 5) whether off-site transport of excavated materials is necessary.

As discussed in Section 4.1.1(c), *Regulatory Setting*, the SFBAAB is designated nonattainment for the NAAQS for ozone and PM<sub>2.5</sub> and the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. According to the 2017 BAAQMD *CEQA Air Quality Guidelines*, PM<sub>10</sub> is the greatest pollutant of concern during construction (BAAQMD 2017a). Construction-related criteria air pollutant and fugitive dust emissions are discussed in the following subsections.

## Criteria Air Pollutant Emissions

As discussed above, BAAQMD's 2017 *CEQA Air Quality Guidelines* have no plan-level significance thresholds for construction air pollutant emissions. However, the guidelines include project-level thresholds for construction emissions. If a project's construction emissions fall below the project-level thresholds, the project's impacts to regional air quality are considered individually and cumulatively less than significant. The BAAQMD has also identified feasible fugitive dust control measures for construction activities. These Basic Construction Mitigation measures are recommended for all projects (BAAQMD 2017a). In addition, the BAAQMD and CARB have regulations that address the handling of hazardous air pollutants such as lead and asbestos. Lead and asbestos emissions could occur from demolition activities and asbestos emissions; however, BAAQMD rules and regulations address both the handling and transport of these contaminants. Nevertheless, construction associated with development of projects under the proposed project would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances such as dust or odors. Therefore, construction air quality impacts would be potentially significant. However, all development projects in Berkeley are required to comply with standard conditions of approval for use permits under the Zoning Ordinance. This includes the following:

**Air Quality – Diesel Particulate Matter Controls During Construction.** All off-road 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's on-site 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 OEHHA. The health risk assessment shall be submitted to the Public Works Department for review and approval prior to the issuance of building permits.
- 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

Overall, with required compliance with City of Berkeley standard conditions of approval, air quality impacts related to criteria pollutants would be less than significant.

## Fugitive Dust Emissions

Site preparation and grading during construction activities facilitated by the proposed project may cause wind-blown dust that could contribute particulate matter into the local atmosphere. The BAAQMD has not established a quantitative threshold for fugitive dust emissions but rather states that projects that incorporate best management practices (BMPs) for fugitive dust control during construction would have a less-than-significant impact related to fugitive dust emissions. As described above, future development facilitated by the project would be required to implement the City's standard condition of approval to reduce construction emissions. However, these projects would not specifically be required to comply with BAAQMD's BMPs. Therefore, impacts related to fugitive dust emissions would be potentially significant.

## Mitigation Measures

Temporary construction impacts associated with development projected under the proposed project would be reduced through implementation of Mitigation Measures AQ-1.

### *AQ-1 Construction Emissions Measures*

As part of the City's development approval process, the City shall require applicants for future development projects within the project sites to comply with the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM<sub>10</sub> (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the May 2017 BAAQMD CEQA Guidelines).

## Significance After Mitigation

Impacts would be less than significant with implementation of Mitigation Measure AQ-1 to require the BAAQMD Basic Construction Measures and required application of the City's air quality standard condition of approval.

**Impact AQ-3 DEVELOPMENT UNDER THE PROPOSED ZONING PROJECT WOULD RESULT IN LONG-TERM OPERATIONAL CRITERIA AIR POLLUTANT EMISSIONS, PRIMARILY FROM VEHICLE EMISSIONS, WHICH WOULD AFFECT REGIONAL AIR QUALITY. HOWEVER, DEVELOPMENT WOULD BE CONSISTENT WITH THE APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN AND WOULD NOT RESULT IN A VMT INCREASE THAT WOULD BE PROPORTIONALLY GREATER THAN ITS ANTICIPATED POPULATION INCREASE. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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As discussed in Section 4.1.1(c), *Regulatory Setting*, the SFBAAB is designated nonattainment for the NAAQS for ozone and PM<sub>2.5</sub> and the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. Operation of future development projects facilitated by the proposed project would emit air pollutants from mobile sources (i.e., vehicles), energy usage, and area sources. Mobile source emissions consist of emissions generated by vehicle trips to, from, and within the project sites. As described in Section 4.11, *Transportation*, the project would result in the loss of on-site parking for BART patrons, which could result in changes to mobile source emissions compared to existing conditions. However, the project would result in a reduction of the number and/or percentage of patrons accessing the BART station by single-occupancy vehicle, which would overall result in a reduction of mobile source emissions. The calculations of mobile emissions associated with the project do not include this reduction; therefore, this analysis is conservative. Further, impacts associated with the loss of BART patron parking with respect to transportation were found to be less than significant.

Emissions attributed to energy use include emissions from natural gas consumption for space and water heating and cooking. Area source emissions consist of emissions generated by landscape maintenance equipment, consumer products, and architectural coatings.

As discussed in Section 4.1.2(a), *Methodology and Significance Thresholds*, the BAAQMD's plan-level thresholds for operational emissions are:

- Consistency with the 2017 Plan control measures
- Projected VMT or vehicle trip generation increase less than or equal to the projected population increase

As discussed in Table 4.1-3 under Impact AQ-1, the proposed project would be consistent with the applicable control measures of the 2017 Plan. Therefore, this discussion focuses on the potential for the projected VMT increase associated with the proposed project to proportionally exceed its projected population increase.

As shown in Table 4.1-4, under existing conditions (2020), the total annual VMT of the Transportation Analysis Zones (TAZ) where the project sites are located is estimated to be 42,863,052 with a service population of 9,008 persons (residents + employees). In 2030 (when full buildout under the project is expected), annual VMT is estimated to be 59,670,782 with a service population of 14,897 persons, including buildout under the proposed project. Therefore, the rate of increase of VMT associated with buildout under the proposed project (39 percent) would not exceed the rate of increase from the proposed population (approximately 65 percent) associated with buildout under the project. This is primarily because the project would increase density in proximity to existing transit, extensive pedestrian and bicycle infrastructure, and commercial/retail destinations, and would eliminate minimum parking requirements, thereby resulting in low per-capita VMT.

**Table 4.1-4 Increase in Population Compared to VMT under Project**

| Existing Conditions                               | Project                 | Existing Conditions + Project | Percent Change |
|---|-------------------------|-------------------------------|----------------|
| <b>Service Population (residents + employees)</b> |                         |                               |                |
| 9,008 <sup>1</sup>                                | 5,889 <sup>2</sup>      | 14,897 <sup>3</sup>           | +65%           |
| <b>Annual Vehicle Miles Traveled</b>              |                         |                               |                |
| 42,863,052 <sup>4</sup>                           | 16,807,730 <sup>5</sup> | 59,670,782                    | +39%           |

<sup>1</sup> 7,896 residents + 1,112 employees. Data sourced from MTC's Plan Bay Area 2040 Forecasts for Transportation Analysis Zone (TAZ) 1418 (where the Ashby BART station site is located) and TAZ 39 (where the North Berkeley BART station site is located) for year 2020.

<sup>2</sup> 5,424 residents + 465 employees. See Section 4.9, *Population and Housing* for calculations.

<sup>3</sup> Existing service population + project service population. (This number does not include projected growth that is not associated with the proposed project.)

<sup>4</sup> Data provided by Kittleson & Associates.

<sup>5</sup> See Appendix E for project VMT calculations.

Source: Metropolitan Transportation Commission (MTC) 2021

Therefore, project operation would not 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. Impacts would be less than significant.

## Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 3:** Would the project expose sensitive receptors to substantial pollutant concentrations?

**Impact AQ-4** THE PROPOSED PROJECT WOULD ADD A RELATIVELY LOW LEVEL OF TRAFFIC TO NEARBY CONGESTION MANAGEMENT PLAN (CMP) ROADWAYS AND WOULD BE CONSISTENT WITH THE COUNTY CMP. THEREFORE, IT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF CARBON MONOXIDE (CO). IN ADDITION, CONSTRUCTION ACTIVITIES ALLOWED UNDER THE PROJECT WOULD OCCUR OVER A LIMITED PERIOD, AND NEW RESIDENTIAL UNITS WOULD BE REQUIRED TO INCLUDE FILTERS THAT WOULD MINIMIZE POTENTIAL EXPOSURE TO SUBSTANTIAL TOXIC AIR CONTAMINANT (TAC) EMISSIONS. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

## Carbon Monoxide Hotspots

As stated in the BAAQMD 2017 *CEQA Air Quality Guidelines*, a proposed project would result in a less than significant impact related to local CO concentrations if the project is consistent with an applicable CMP; would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The western parcel of Ashby BART station site is adjacent to one CMP network route (Martin Luther King Jr. Way). In addition, the eastern parcel of the site is approximately 550 feet west of Shattuck Avenue, which is also a CMP network route. The closest CMP network route to the North Berkeley BART station site is Gilman Street, approximately 2,000 feet northwest of the northern parcel of the site. These CMP network routes currently operate at the following LOS (Alameda County Transportation Commission 2018):

- Martin Luther King Jr. Way Northbound between Marin Avenue and Adeline Street– LOS C/D in the AM and PM peak periods
- Martin Luther King Jr. Way Southbound Marin Avenue and Adeline Street – LOS C/D in the AM and PM peak periods
- Shattuck Avenue Northbound between Adeline Street and Dwight Way – LOS D in the AM peak period and LOS E in the PM peak period
- Shattuck Avenue Southbound between Dwight Way and University Avenue – LOS C in the AM peak period and LOS D in the PM peak period
- Gilman Street Eastbound between I-80 and San Pablo Avenue – LOS C in the AM peak period and LOS C in the PM peak period
- Gilman Street Westbound between I-80 and San Pablo Avenue – LOS C in the AM peak period and LOS C in the PM peak period

The LOS standard for these roadways is LOS E (Alameda County Transportation Commission 2018). As shown in Appendix G, peak hour traffic volumes on the CMP roadway segments listed above are expected to range from 773 to 12,495 vehicles per day. Therefore, existing traffic does not exceed the 44,000 vehicle-per-hour threshold at nearby intersections. Moreover, buildout under the proposed project would result in approximately

817 peak hour external vehicle trips at the Ashby BART station site and approximately 463 peak hour external vehicle trips at the North Berkeley BART station site. Conservatively assuming that all peak hour trips from both sites travel along the roadway segment with the highest peak hour traffic volume (i.e., 12,495 vehicles per hour along I-80/I-580, south of University Avenue), the proposed project would increase peak hour traffic volumes to approximately 13,867 vehicles per hour. Therefore, the increase in project trip generation would not exceed the 44,000 vehicles per hour screening threshold listed above. Furthermore, as determined in the CMP analysis in Appendix G, development allowed under the proposed project would not cause a CMP intersection not degrade below existing LOS. Therefore, the project would be consistent with the applicable CMP and the impact of localized CO emissions would be less than significant.

## Toxic Air Contaminants

### *Construction*

Construction activities facilitated by the proposed project would result in temporary DPM exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM outweighs the potential non-cancer health impacts (CARB 2021b) and is therefore the focus of this analysis.

Future development projects within the project sites would be required to comply with the City's standard conditions of approval, including the *Air Quality – Diesel Particulate Matter Controls During Construction* condition of approval described under Impact AQ-3.

Development facilitated by the project would require a use permit and would therefore be required to comply with the standard condition of approval discussed above. In addition, construction of each future development project facilitated by the proposed project during the approximately 10-year anticipated buildout timeframe would typically occur for less than five years at a time. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of construction activities facilitated by the proposed project for any given development would be a fraction of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2017a). The maximum PM<sub>10</sub> and PM<sub>2.5</sub> emissions would occur during demolition, site preparation and grading activities for future development projects within the project sites, which would last for shorter periods of time than the overall construction timeframe. PM emissions would decrease for the remainder of the construction periods because construction activities such as building construction and architectural coating would require less intensive construction equipment. While the maximum DPM emissions associated with demolition, site preparation, and

grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent approximately an even smaller fraction of the total 30-year exposure period for health risk calculation. Given the aforementioned discussion, DPM generated by construction activities facilitated by the proposed project would not create conditions where the probability is greater than 10 in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

### *Operation*

The proposed project would not facilitate the construction of new stationary sources of TAC emissions. In addition, as described under *Carbon Monoxide Hotspots* Section above, development under the proposed project would not add a substantial amount of vehicle traffic to freeways or high volume roadways (i.e., roads with greater than 10,000 vehicles per day) such as Shattuck Avenue, Martin Luther King Jr. Way, Adeline Street, and Sacramento Street.) Therefore, the implementation of the proposed project would not expose sensitive receptors to substantial TAC emissions, and impacts would be less than significant.

Pursuant to the ruling in the *California Building Industry Association (CBIA) v. BAAQMD* (2015), impacts of the environment on the project is not an impact under CEQA. Nonetheless, the 2017 BAAQMD *CEQA Air Quality Guidelines* include methodology for jurisdictions to evaluate the potential impacts from placing sensitive receptors near major air pollutant sources. For assessing community risk and hazards for siting a new receptor, TAC emission sources within a 1,000-foot radius of a project site are typically considered. TAC emission sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day), railways, and permitted sources (BAAQMD 2017a).

While the project sites are adjacent to BART rail lines, all BART trains are electric and are therefore not be sources of TAC emissions, such as DPM. In addition, the BART stations and tracks within the project sites are below ground, and particulate matter generated by trains traveling through the sites (from brake dust, for example) would therefore not affect residents, commercial tenants, and visitors within the new developments at the project sites. Shattuck Avenue, Martin Luther King Jr. Way, Adeline Street, and Sacramento Street are high-volume roadways within 500 feet of the project sites. Therefore, the project may result in locating new sensitive receptors in proximity to high-volume roadways. However, in accordance with the requirements of the California Building Energy Efficiency Standards Sections 120.1 and 150.0, all new residential projects facilitated by the project would be required to install Minimum Efficiency Reporting Value (MERV) 13 filters. MERV 13 filters remove at least 90 percent of particles sized 3.0 and 10.0 microns, 85 percent of particles sized 1.0 to 3.0 microns, and 50 percent of particles sized 0.3 to 1.0 microns, which would minimize the potential for new residents to be exposed to substantial TAC emissions such as DPM. Therefore, development under the proposed project would not expose sensitive receptors to substantial TAC emissions, and impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 4:** Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

**Impact AQ-5** THE PROPOSED PROJECT WOULD NOT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE. NO IMPACT WOULD OCCUR.

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, compost facilities, refineries, landfills, dairies, and fiberglass molding. The proposed zoning standards would not allow for such uses and such uses would not be facilitated by the proposed project. Odor emissions from the proposed project would be limited to those associated with new residential and commercial uses such as vehicle and engine exhaust and idling. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would cease upon completion. The project also would not result in the generation of other emissions that could adversely affect air quality. Restaurant uses have the potential to generate odors in the form of smells associated with cooking and preparing food. However, restaurant uses are not considered substantial odor generators per the BAAQMD's CEQA Guidelines. Should restaurant odor complaints occur, the City's Environmental Health Department would be responsible for managing and remedying the complaint. Overall, the project would not result in significant impacts related to objectionable odors or other emissions during construction or operation, and this impact would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

The geographic scope for the cumulative air quality impact analysis is the SFBAAB. Because the SFBAAB is designated non-attainment for the state and federal ozone standards, the state and federal PM<sub>2.5</sub> standards, and the state PM<sub>10</sub> standard, there are existing significant cumulative air quality impacts related to these pollutants. As discussed in the BAAQMD 2017 *CEQA Air Quality Guidelines*, "by its very nature, air pollution is largely a cumulative impact...if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions." As discussed under impacts AQ-1 through AQ-5, air pollutant emissions generated under the proposed project would not exceed the BAAQMD's thresholds of significance. Therefore, the project's contribution to significant cumulative air quality impacts in the SFBAAB would not be cumulatively considerable.

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## 4.2 Cultural Resources

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This section assesses potential impacts to cultural resources, tribal cultural resources, and human remains from implementation of the adoption of the proposed project. This analysis is based on a Historical Resources Evaluation (HRE) of the Ashby and North Berkeley BART stations prepared by Rincon Consultants in August 2021 (Appendix C). This section also draws baseline resource information and land use history from the Adeline Corridor Specific Plan Cultural Resources Technical Report prepared by Archaeological/Historical Consultants and JRP Historical Consultants in December 2018. This report is included in Appendix D and includes source citations that are incorporated by reference here.

### 4.2.1 Setting

#### a. Regulatory Setting

This section includes a discussion of the applicable federal, state, and local laws, ordinances, regulations, and standards governing cultural resources, which must be adhered to during adoption of development standards.

##### *Federal National Register of Historic Places*

The National Register of Historic Places (NRHP) was established by the National Historic Preservation Act of 1966 as “an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations (CFR) 36, 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A:** It is associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B:** It is associated with the lives of persons who are significant in our past;
- Criterion C:** It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or
- Criterion D:** It has yielded, or may be likely to yield, information important in prehistory or history.

#### **State**

##### *California Environmental Quality Act*

The California Environmental Quality Act (CEQA) requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a “project that may cause a substantial adverse change in the

significance of a historic resource is a project that may have a significant effect on the environment” (California Public Resources Code (PRC) Section 21084.1). Answering this question is a two-part process: first, a determination must be made as to whether or not the proposed project involves historical or unique archaeological resources; second, if such resources are present, the proposed project must be analyzed for a potential “substantial adverse change in the significance” of the resource.

*California Public Resources Code*

Section 5097.5 of the PRC states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used here, “public lands” means lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with PRC Section 5097.5 for their activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

*California Register of Historical Resources*

CEQA requires a lead agency determine whether a project could have a significant effect on historical resources (PRC Section 21084.1) and tribal cultural resources (PRC Section 21074(a)(1)(A)-(B)). A historical resource is a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (PRC Section 21084.1), a resource included in a local register of historical resources or identified as significant in a qualifying historical resource survey (CEQA *Guidelines* Section 15064.5(a)(2)), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CEQA *Guidelines* Section 15064.5(a)(3)).

PRC Section 5024.1, Section 15064.5 of the *CEQA Guidelines*, and PRC Sections 21083.2 and 21084.1 were used as the framework for the cultural resources study. PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state’s historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly based on previously established criteria developed for listing in the NRHP, and include assessment of whether a resource:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- (2) Is associated with the lives of persons important in our past
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- (4) Has yielded, or may be likely to yield, information important in prehistory or history

(Pub. Res. Code, Section 5024.1, Title 14 CCR, Section 4852).

The CEQA *Guidelines* at Section 15064.5(a)(4) state:

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment (CEQA *Guidelines* Section 15064.5(b)). These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (CEQA *Guidelines*, Section 15064.5(b)(1)). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR (CEQA *Guidelines*, Section 15064.5(b)(2)(A)).

PRC Section 21083.2(g) defines a unique archaeological resource as an 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:

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

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts 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 Section 21083.2(a), (b), and (c)).

#### *Assembly Bill 52*

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” Assembly Bill 52 establishes that “[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21084.3(b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

PRC Section 21074(a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

- a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k)
- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent AB 52 to accomplish all of the following:

- (1) Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities
- (2) Establish a new category of resources in CEQA called “tribal cultural resources” that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation
- (3) Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible
- (4) Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources
- (5) In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision making body of the lead agency
- (6) Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA
- (7) Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process
- (8) Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources

- (9) Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment

AB 52 also establishes a formal consultation process for California Native American tribes regarding those resources. The formal consultation process must be completed before a CEQA document can be released if a California Native American tribe traditionally and culturally affiliated with the geographic area of the proposed project requests consultation from the lead agency (PRC Section 21080.3.1). California Native American tribes to be included in the process are those that have requested notice of any proposed projects within the jurisdiction of the lead agency.

*Senate Bill 18*

Enacted on March 1, 2005, Senate Bill 18 (SB18) (California Government Code Sections 65352.3 and 65352.4) requires cities and counties to notify and consult with California Native American tribal groups and individuals regarding proposed local land use planning decisions for the purpose of protecting traditional tribal cultural places (sacred sites), prior to adopting or amending a general plan or designating land as open space. Tribal groups or individuals have 90 days to request consultation following the initial contact.

**Local**

*City of Berkeley General Plan (2001)*

The City's General Plan, approved in 2001, contains the following goals and policies in the Urban Design and Preservation Element of the General Plan relevant to the current project:

**Policy UD-1 Techniques.** Use a wide variety of regulatory, incentive, and outreach techniques to suitably protect Berkeley's existing built environment and cultural heritage.

**Policy UD-2 Regulation of Significant Properties.** Increase the extent of regulatory protection that applies to structures, sites, and areas that are historically or culturally significant.

**Policy UD-3 Regulation of Neighborhood Character.** Use regulations to protect the character of neighborhoods and districts, and respect the particular conditions of each area.

**Policy UD-5 Architectural Features.** Encourage, and where appropriate require, retention of ornaments and other architecturally interesting features in the course of seismic retrofit and other rehabilitation work.

**Policy UD-6 Adaptive Reuse.** Encourage adaptive reuse of historically or architecturally interesting buildings in cases where the new use would be compatible with the structure itself and the surrounding area.

**Policy UD-8 Public Works Projects.** In public works projects, seek to preserve desirable historic elements such as ornamental sidewalk features, lampposts, and benches.

**Policy UD-12 Range of Incentives.** Seek to maintain and substantially expand the range and scale of incentives that the City and/or other entities make available in Berkeley for the preservation of historic and cultural resources.

**Policy UD-16 Context.** The design and scale of new or remodeled buildings should respect the built environment in the area, particularly where the character of the built

environment is largely defined by the aggregation of historically and architecturally significant buildings.

**Policy UD-17 Design Elements.** In relating a new design to the surrounding area, the factors to consider should include height, massing, materials, color, and detailing or ornament.

**Policy UD-20 Alterations.** Alterations to a worthwhile building should be compatible with the buildings original architectural character.

**Policy UD-21 Directing Development.** Use City incentives and zoning provisions to direct new development toward locations where significant historic structures or structures contributing to the character of an area will not need to be removed.

**Policy UD-24 Area Character.** Regulate new construction and alterations to ensure that they are truly compatible with and, where feasible, reinforce the desirable design characteristics of the particular area they are in.

**Policy UD-25 Facades and Exterior Features.** Buildings should have significant exterior features and facades that stimulate the eye and invite interested perusal.

**Policy UD-36 Information on Heritage.** Promote, and encourage others to promote, understanding of Berkeley's built and cultural heritage, the benefits of conserving it, and how to sensitively do that.

**Policy UD-38 Tourism.** As an economic development strategy, promote the city's cultural and architectural heritage.

#### *Adeline Corridor Specific Plan*

The Adeline Corridor Specific Plan, adopted in 2020, includes a goal to “actively preserve, adapt, and reuse historic structures and resources throughout the Adeline Area, particularly landmarked structures of merit and those within historic districts.” Strategies to support adaptive reuse include historic preservation zoning incentives and historic resources evaluations.

#### *City of Berkeley Municipal Code*

The City of Berkeley's Municipal Code (BMC) Chapter 3.24 *Landmarks Preservation Commission* provides for the identification, designation, and preservation of historic structures and structures with cultural value. The chapter provides requirements for criteria for historic resource designation and procedures for the treatment of historical resources. Article 110 of Chapter 3.24 *Landmarks, historic districts, and structures of merit—Designation—Criteria for consideration* (BMC 3.24.110) provides criteria when considering structures, sites, and areas for landmark or structure of merit designation. The criteria for designating a City landmark 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
  - c) Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric

- 2) Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City
- 3) Educational value: Structures worth preserving for their usefulness as an educational force
- 4) Historic value: Preservation and enhancement of structures, sites and areas that embody and express the history of Berkeley/Alameda County/California/United States
- 5) Historic property: Any property listed in the NRHP

The criteria for designating a structure of merit 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.
- 2) 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 buildings.
  - 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 Section 1 (part), 1985; Ord. 4694-NS Section 3.1, 1974)

## **b. Cultural Resources Setting**

### **Historical Background**

#### *Prehistory*

The following section is excerpted from the Adeline Corridor Specific Plan Cultural Resources Technical Report and provides historic context for the project area including both project sites (Archaeological/Historical Consultants and JRP 2018; Appendix D):

Some of the first significant regional archaeological work was conducted early in the 20<sup>th</sup> century when N.C. Nelson recorded and/or excavated over 400 bayside shellmounds. Data from these excavations and successive projects in the San Francisco Bay, delta, and inland sites illuminated regional archaeological sequences and allowed the development of the Central California Taxonomic System (CCTS). The CCTS outlines three main chronological periods (or 'horizons') for the Sacramento Delta and San Francisco Bay areas – Early, Middle, and Late, mostly based on evidence from mortuary practices and analysis of stylistic change in burial-associated artifacts. We summarize

the Early, Middle, and Late Periods, with the transitions between them, following Hylkema's and Milliken *et al.*'s approaches.

The Early-Middle-Late sequence focuses on the Late Holocene period (after 2000 BC), since little archaeological information from the Early Holocene is known from the San Francisco Bay Area. In other parts of California, the Early Holocene (8000-3500 BC) is characterized by mobile foragers using wide-stemmed and leaf-shaped projectile points and large milling slabs. Given the rise in sea levels in the Middle Holocene, the relatively recent formation of San Francisco Bay, and the presence of constant alluviation in low-lying parts of the Bay Area, most evidence of the earliest human habitation in the area is likely to be underwater or deeply buried. For the Early Holocene period, therefore, most evidence comes from inland sites: deposits dating from ca. 8000 BC and burials dating from 5500-5000 BC were discovered around Los Vaqueros Reservoir in eastern Contra Costa County (Meyer and Rosenthal 1997), and deep deposits from the Metcalf Creek site (CA-SCI-178) in Morgan Hill yielded radiocarbon dates of 8000-6500 years BC.

More evidence is available from the Early Period (4000-500 BC) in the San Francisco Bay Area, with the emergence of the "Windmill pattern" of large stemmed and concave-base obsidian projectile points, rectangular *Olivella* beads, charmstones, extended burials facing toward the west, and the replacement of milling slabs with mortars and pestles. Few high-density shell deposits are found compared to later periods, suggesting a preferential use of terrestrial rather than marine resources; however, semi-sedentary land use, shell mound development, and evidence of regional trade are typical in some areas of the Bay. This cultural pattern appears earlier in the San Joaquin and Sacramento valleys, suggesting an influx of traditions or people from those areas into the Bay Area at some point during the period. In the East Bay, mortars and pestles first appear after 4000 BC and are ubiquitous by 1500 BC.

The Lower Middle Period (or Berkeley Pattern, 500 BC to 430 AD) is marked by major cultural disruptions, such as the disappearance of the square *Olivella* bead tradition and the introduction of new bead types, much lower frequency of projectile points, introduction of flexed burials, and introduction of decorative objects that may represent religious or cosmological beliefs. The period also saw the increased use of marine resources throughout the Bay Area and the development of a network of large shellmounds.

In the Upper Middle Period (430-1050 AD), a major cultural shift occurred including the collapse of trade networks, site abandonment, and new bead forms and burial patterns. This tradition, known as the Meganos complex, was characterized by extended dorsal burials with elaborate grave goods.

The Late Period (1050-1550 AD) is characterized by significant social transformations, an increase in social complexity, increased sedentism, and the unification of ceremonial systems around the Bay Area. Changes in material culture include the introduction of the bow and arrow (with accompanying development of arrow-sized projectile points), harpoons, tubular tobacco pipes, clamshell disc beads, and new forms of ornamentation. Socially, increasing intensity of trade relations, increased sedentism, and cremation of high-status individuals appeared. The last two centuries before Spanish contact saw a series of changes in shell bead types, mortuary wealth distribution, and the introduction of new technology types, such as the hopper mortar, though some of these innovations were slow to arrive in the eastern and southern parts of the Bay Area.

The most significant prehistoric archaeological sites in the East Bay are the shellmounds around the Bay margins (Nelson 1909). Ten of these shellmounds were in Berkeley,

Emeryville, and Oakland (ALA-307-314, ALA-314a, and ALA-315), and three others were recorded in nearby Alameda (ALA-316-318). Another prehistoric site is known along Temescal Creek in North Oakland (P-01-010600), and at least seven other prehistoric sites are located west of downtown Oakland and along the Oakland Estuary. However, all these sites are one mile or more from the [Ashby BART Station project sites].

Several of the shellmounds in Berkeley and Emeryville were investigated early in the 20th century. West of the [North Berkeley and Ashby BART Station project sites], Max Uhle excavated at the Emeryville shellmound as early as 1902, discerning strata and diachronic change within what was one of the largest shellmounds in the Bay area. Schenck renewed excavations there in 1924 when the shellmound was levelled for industrial development. The Emeryville shellmound was believed largely destroyed until excavations required by extensive redevelopment in 1999 found 2.5 meters of subsurface midden, hundreds of human burials, artifacts, and radiocarbon dates extending to about 5000 B.C. at the bottom of the central mound. Another important site, Ala-307 in West Berkeley, was excavated in 1902 and in the mid-1950s before its destruction. The site provided an extensive faunal inventory and information on species change during the life of the site, as well as important temporal and comparative data that has helped construct a regional archaeological sequence.<sup>1</sup>

### *Ethnography and Ethnohistory*

The Adeline Corridor Specific Plan Cultural Resources Technical Report offers the following summary of the ethnographic and ethnohistorical settings project area (Archaeological/Historical Consultants and JRP 2018; Appendix D):

The Huchiun people lived near the [present location of the North Berkeley and Ashby BART Station project sites] when Spanish soldiers and missionaries arrived in the Bay Area. Huchiun territory extended “along the East Bay shore from Temescal Creek...north to the lower San Pablo and Wildcat Creek drainages in the present area of Richmond.” The names of two Huchiun villages – Genau and Junchaque – are known from Mission records, but their exact location is unknown. Huchiun presence near Temescal Creek is attested in its Mexican-era name, “Arroyo del Temescal o Los Juchiyunes.”

The Huchiun were one of the groups of the Ohlone people who lived along the east, west, and south shores of San Francisco Bay and in the Santa Cruz Mountains, Salinas Valley, and Monterey Bay area. The Ohlone were successful intensive food collectors and hunters who utilized a wide range of resources in a very favorable environment. Those populations living adjacent to the great bays of the region relied heavily on shellfish and aquatic animals for food. In the interior, plant foods in plentiful variety were gathered on a seasonal basis, with acorns the most important vegetal staple since they could be stored in great quantity. Large game like deer, elk, and antelope were hunted. Game birds, waterfowl, fish, and shellfish were other major food sources that thrived in the nearby sloughs and marshes of San Francisco Bay.

Ohlone society was organized in local tribes of 200-400 people living in semi-permanent villages, with tribelets controlling fixed territories averaging 10 to 12 miles in diameter. Shoup and Milliken note that local tribes “were clusters of unrelated family groups that formed cooperative communities for ceremonial festivals, for group harvesting efforts,

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<sup>1</sup> This and subsequent excerpts from the Adeline Corridor Specific Plan Cultural Resources Technical Report exclude in-text citations included in the original study report.

and – most importantly – for interfamily conflict resolution.” Hereditary village leaders, who could be male or female, played an important role in conflict resolution, receiving guests, directing ceremonies, organizing food-gathering expeditions, and leading war parties but did not otherwise exercise direct authority. Despite their autonomy, intermarriage between tribelets appears to have been frequent.

Ohlone residences were typically round, domed or conical thatch homes on a frame of poles or branches, with a hearth in the center of the floor and corresponding smoke hole in the roof. Sweathouses, dance enclosures, and assembly houses are also attested. Material culture included complex decorative and utilitarian basketry, shell ornaments, tule boats, feather nets, hair decorations and jackets, and a full suite of bone and stone tools. Tattooing of face, hands, and neck is attested in early ethnographic accounts. Ohlone peoples consumed a varied diet, with acorns from a range of oak species (Coast Live, black, tanbark) a staple food and buckeye, laurel, and hazelnuts playing a secondary role. Seeds including chia, pine nuts, and a range of grass seeds were harvested: soldiers on the 1776 Anza expedition were fed a kind of “tamale” made of seeds at several Ohlone villages. Berries such as blackberries, strawberries, madrone, grapes, and toyon were also eaten, as were a range of roots. For animal resources people looked both to the Bay for fish, shellfish, waterfowl, and sea mammals, and to the plains and foothills for larger animals such as deer and elk.

The Huchiun spoke the Chochenyo dialect of the Ohlone language, which was spoken along the eastern shore of San Francisco Bay prior to 1770. Ohlone dialects formed a continuum from Richmond south to Hollister, where nearby groups could easily understand each other’s speech; communities living near speakers of other language groups, such as Coast Miwok, Bay Miwok, or Yokuts were often bilingual and frequently intermarried. Ohlone/Costanoan, which is closely related to the Miwok languages, is a branch of the Yok-Utian subfamily of the Penutian languages, which are spoken along the Pacific Coast from Central California to southeast Alaska. Penutian speakers seem to have entered central California from the northern Great Basin around 4000-4500 years ago and arrived in the San Francisco Bay Area about 1500 years ago, displacing speakers of Hokan languages. This movement may be correlated with the spread of the Windmill pattern of material culture into the Coast Ranges and San Francisco Bay area.

### *History*

The following historical background section details the historical development of the Ashby and North Berkeley BART station sites and their surroundings. Except where otherwise noted, passages pertaining to the Ashby BART station site or the broader history of Berkeley are excerpted from the Adeline Corridor Specific Plan Cultural Resources Technical Report (Archaeological/ Historical Consultants and JRP Historical Consultants 2018). Portions pertaining to the North Berkeley BART station site were developed based on original research for this EIR. The following excerpt from the Adeline Corridor Specific Plan Cultural Resources Technical Report characterizes the history of the areas comprising the BART station sites through the period of early American settlement:

#### **EARLY HISTORY**

At the opening of the historic period, the [proposed project area] appears to have been sparsely inhabited, with the main Huchiun villages located near Richmond. Juan Crespí, passing through the coastal East Bay in late March of 1772, noted that “neither in this march nor in the preceding one have we seen a single heathen, and very few tracks of

them,” though they met with people in the Richmond area to the north. Likewise, Font mentions no villages along the East Bay shore in his 1776 diary of the Anza expedition. It is possible, of course, that they simply did not see the nearest villages, especially if they were located at the base of the hills. The Huchiun population in 1790 was likely around 400 people [...]

Mission San Francisco was founded in 1776, but only a few Huchiun people moved to the mission in the initial years. In fall 1794, however, the Huchiun migrated *en masse* to the mission, where 187 Huchiuns were baptized in just two weeks. [...] Missionization was a disaster for the native people of the region. Disease, dietary deficiency, declining birth rate, and military conflict resulted in an almost 80 percent population decline by 1832. This population loss, the mingling of ethnic groups at the missions, and the discouragement of traditional social practices resulted in the almost total disintegration of traditional lifeways. After secularization of the missions in the 1830s, some native people went to work on nearby ranchos, perhaps gravitating to homelands, but there is little information available about Indian life in this period.

### **RANCHO SAN ANTONIO**

In the late Spanish and Mexican periods, [the present site of the city of Berkeley] lay within Rancho San Antonio, which had been granted in 1820 to Luis Maria Peralta, who had come to California in 1776 with the Anza expedition. The rancho stretched over 43,000 acres, from Albany in the north to San Leandro Creek in the south. In 1842, Luis Peralta divided the ranch among his sons, with José Domingo receiving what is today Berkeley and Albany and José Vicente receiving what is now Emeryville, North and West Oakland, and Piedmont [...] In the wake of the California Gold Rush, the Peralta family was plagued by squatters who overran rancho land, sometimes violently. Domingo Peralta sought to have his property confirmed in United States courts, but internal family in-fighting and squatters kept the family in the courts for many years, which “helped to destroy the Peralta patrimony.”

### **EARLY AMERICAN SETTLEMENT**

The US acquired California from Mexico through the Treaty of Guadalupe Hidalgo in 1848. Weeks before the treaty was signed, gold was discovered along the American River, sparking the Gold Rush. Immigrants flooded into the territory and those arriving by sea traveled through the Bay Area and the Central Valley to gold fields in the Sierra Nevada. By the end of 1849, San Francisco’s population had grown from five or six hundred to 25,000. This massive influx of population helped push California into statehood in 1850 and had profound impacts upon the East Bay as new arrivals moved across the bay and established the beginnings of future cities like Berkeley.

Francis Kittredge Shattuck (who had failed to strike it rich in the gold fields) and his three business partners William Hillegass, George M. Blake, and James Leonard filed a pre-emptive claim on 640 acres of Peralta’s land in the early 1850s. Shortly thereafter, Domingo Peralta sold off most of his land to four San Franciscans (Hall McAllister, Richard P. Hammond, Lucien Hermann, and Joseph K. Irving) who eventually subdivided and sold the former rancho land. The land that Shattuck, Hillegass, Blake, and Leonard claimed, and eventually obtained legally, included the area along the Adeline Corridor north of Russell Avenue [...]

Other early landowners along the Adeline Corridor included farmer Mark Ashby, who owned much of the land fronting the east side of Adeline Street between Russell and

Woolsey by the early 1860s, and Edward Harmon, who purchased a 135-acre tract of farmland adjacent to the Ashby farm east of Adeline. Located outside the boundaries of the City of Berkeley at the time, much of the land [in the vicinity of the present Ashby BART station site] remained agricultural during the next thirty years.

### **DEVELOPMENT IN BERKELEY 1870s-1900**

Berkeley owed its early development as a growing city to the extension of transportation routes in the East Bay and the relocation of the University of California to the current Berkeley campus site in 1873. Major landowner Francis Kittredge Shattuck convinced the Central Pacific (later Southern Pacific) railroad to run a spur line from Oakland into what is now the center of Downtown Berkeley in 1876. Extending south to north through property owned by Shattuck, this had the effect of increasing the value of the adjacent property he owned, and also established land use patterns for what would become south/central Berkeley. The line ran along present-day Shattuck Avenue. The expanding transportation network brought growth as the community's commercial core developed around the railroad right of way. At the time of Berkeley's incorporation in 1878, Shattuck Avenue was already established as the town's principal commercial area.

As explained in the Adeline Corridor Specific Plan Cultural Resources Technical Report, development of railroads in the latter three decades of the nineteenth century helped stimulate residential development in the present South Berkeley area, where the Ashby Station project sites are located:

The construction of the Central Pacific Railroad (CPRR), the nation's first transcontinental railroad, in 1869 also impacted the growth of Berkeley. Shattuck persuaded CPRR to construct a spur line into Berkeley from the railroad's Oakland Terminal [...] Along Adeline, the [Berkeley Branch] had four stops: between present-day 62nd and 63rd streets, at Alcatraz Avenue (referred to as the Lorin station), between Russell Street and present-day Ashby Avenue (known as Newbury station), and at Dwight Way. The line eventually merged with the Southern Pacific Railroad (SPRR) system in 1898.

The construction of the railroad spurred residential development adjacent to and in the immediate vicinity of its alignment, some of which would become Adeline Street. Edward Harmon subdivided his last holdings in the area (approximately 70 acres) just after the railroad was completed and during the next fifteen years constructed more than 50 homes for prospective buyers. [...] Mark Ashby also subdivided his land, creating the Newbury Tract along the east side of Adeline in 1882, which he expanded southward a year later. His land fronting the west side of Adeline became the Central Park subdivision in 1887. Developed by J. B. Whitcomb, the subdivision was touted as the "suburb of San Francisco" with paved streets, shallow wells, and rich soil; however, few lots sold. Berkeley annexed the two communities between 1891 and 1892. Shortly after its annexation, the Newbury station was renamed Ashby station. Berkeley continued to expand in the latter years of the nineteenth century, encouraged in part by the addition of various infrastructure developments, including the arrival of electric rail transportation [...]

By the late 1870s, much of the North Berkeley area, in which the North Berkeley BART station site is located, had been subdivided for residential development. The areas comprising Lots A, B, and C of the North Berkeley BART station site were located in the Curtis Tract, a subdivision owned by Michael Curtis, an Irish immigrant who began farming in the area by 1852. Historical news items indicate the Curtis family began selling portions of

the Curtis Tract by the late 1870s. Historical property maps and United States Geological Survey topographical maps show that the existing street grid was planned and possibly developed by 1890 and some development, likely residential, took place by 1900 in the vicinity of all four lots comprising the North Berkeley BART station site (NETROnline 1900; Bailey 1890).

## STATION AREA DEVELOPMENT IN THE TWENTIETH CENTURY

### *South Berkeley*

Development in the South Berkeley region, in which the Ashby BART Station project sites are located, was highly influenced by the development of streetcar facilities in the area, as detailed in the Adeline Corridor Specific Plan Cultural Resources Technical Report:

The Key System of electric street cars, coupled with the 1906 earthquake and fire that devastated San Francisco, influenced Berkeley's development in the early twentieth century. As was the case in other East Bay communities, refugees from San Francisco and other areas that had sustained major damage inundated Berkeley. Many of these refugees became only temporary residents of the town, but the destruction of houses and businesses in San Francisco forced many of that city's displaced citizens to establish new lives and residences elsewhere in the Bay Area. Thousands of these people settled in Berkeley. This massive influx had an enormous impact upon the city and was marked by commercial and residential construction that transformed many of the remaining open areas in Berkeley into bustling neighborhoods and business districts [...]

Sanborn Fire Insurance maps [published in 1911] show the dramatic increase in buildings along the corridor within just a few years of the disaster. [...] Commercial buildings dominated the intersection of Ashby Avenue and Adeline and the blocks between Fairview and 63rd Streets. The land between Carleton and Russell Streets was still yet undeveloped with the exception of a SPRR freight depot and other railroad-related buildings (between Russell and Stuart Streets) and a handful of residences. Nearly one-third of the extant buildings within the [...] study area were constructed during this post-earthquake recovery period. The remaining vacant lots that faced along the corridor were infilled with commercial and residential buildings during the 1920s and 1930s. As in the earlier period, residences still were mostly wood-frame construction, but stucco siding was also used to clad these mostly one- and two-story buildings. During this period of growth in the 1920s and 1930s, the [South Berkeley neighborhood] became the City's most culturally diverse area as Japanese and African American households joined the community in greater numbers.

The local street rail system in Berkeley declined significantly during the Great Depression, a result of the weak economy, slower population growth, and the increased popularity of the automobile. The SPRR's electric passenger operations ceased in 1941, leaving the Key System as the only surviving electric interurban transit provider in Berkeley.

Around the Adeline Corridor, the influx of workers during World War II stimulated a new wave of residential construction and many houses within the adjacent subdivisions were replaced with modest homes. Building along the Adeline Corridor in this period reflected the influence of automobile culture. [...] Rationing of gasoline during World War II led to a brief revived interest in the Key System; however, after the war the patronage and profits plummeted. The system was eventually phased out in the 1950s and tracks

removed from the Adeline Corridor in favor of bus service. During and after World War II, many African Americans moved to South Berkeley, attracted by both the explosion in jobs relating to the war effort and the area's reputation as an established African American community. Concurrently, the area's Japanese and Japanese American population declined as they were forced to relocate to internment camps throughout the country. In 1980, the majority of South Berkeley residents (68 percent) were African American, though this population has declined steadily since the 1960s. From the 1950s through the 2010s, the section of the Adeline Corridor near the Ashby BART station was characterized by mixed commercial, retail, residential, and transportation uses.

### ***North Berkeley***

Sanborn maps dating from the first three decades of the twentieth century show that, in the first three decades of the twentieth century, development of the section of the North Berkeley region of Berkeley in which the North Berkeley Station is located occurred alongside the growth of the nearby West Berkeley industrial district. By 1911, the Santa Fe Railroad had been constructed on a north-south alignment through the neighborhood on West Street, but the area experienced only a fraction of the growth in the vicinity of the Ashby Station. Generally, the area was subdivided but only sparsely developed, mostly with scattered single-family residences. By 1929, the city's continued growth led to substantial residential development in the neighborhood. A sign of this growth, a right of way was reserved for the Key System's Westbrae streetcar shuttle, passing through the neighborhood on a northwest-southwest trajectory and meeting with the Santa Fe Railroad right of way near the intersection of West and Cedar streets.

In the decades following World War II, there were few notable changes to the built environment of the neighborhood surrounding the North Berkeley station sites. In 1948, the Key System ended local streetcar service, and the Westbrae Shuttle right-of-way was abandoned. Although some sections of the alignment were developed with residential uses, construction of the BART Richmond line through the neighborhood followed segments of the existing Key System and Santa Fe Railroad rights of way. The neighborhood retains the predominantly residential character it attained in the first three decades of the twentieth century.

## **DEVELOPMENTAL HISTORY OF THE ASHBY AND NORTH BERKELEY BART STATION Sites: LATE NINETEENTH CENTURY TO PRESENT**

### ***Ashby BART Station Site***

The area associated with the Ashby Station was under development by the late nineteenth century. A USGS map dating from 1895 shows that the street grid was developed and filled with scattered development in the triangular block that makes up the site. By 1911, Sanborn maps show that the station site was almost completely developed. While single-family residential uses predominated, there were scattered residential flats and a few undeveloped parcels at the southwest corner of Ashby Avenue and Adeline Street. The present site of the Ed Roberts Campus was similarly characterized mostly by residential development, but also featured a few commercial and industrial properties along and near Adeline Street. In 1950, the Ashby BART Station project sites remained largely residential in character, though commercial and auto services were operating at the north and south ends of the block. The Ed Roberts Campus site and its surroundings were by then fully developed with a mix of commercial, light industrial, institutional properties along Adeline and single-family houses on side streets.

Historical aerial photographs show that, in the late 1960s, the block on which the Ashby Station is located and the site that now hosts the Ed Roberts Campus were almost entirely cleared of buildings in anticipation of construction of the BART station and its associated parking lots. Construction of the station was completed by early 1973, and the station opened with the commencement of BART's Oakland-to-Richmond service on January 29 of that same year. By 1980, a parking lot was constructed at the at present location of the Ed Roberts Campus. The Ed Roberts Campus was subsequently developed by 2010; the site has not been notably altered since then.

#### ***North Berkeley BART Station Site***

The North Berkeley BART station site consists of four discontinuous areas. As shown in Figure 2-3 in Section 2, *Project Description*, the sites include the North Berkeley BART Station proper (Lot A), two auxiliary parking lots located nearby to the northwest (Lots B and C, respectively), and the Northside and Peralta community gardens (Lot D).

Historical Sanborn maps and USGS topographical maps show that development at the North Berkeley BART station site and surrounding area proceeded gradually and was characterized by almost exclusively residential construction until the BART station was completed. By the late nineteenth century, Berkeley's street grid had been extended to the vicinity of the North Berkeley project locations. As of 1911, scattered residential development had begun in this area, with a handful of single-family residences built in the area now comprising Lot A, and single-family property constructed at the present site of Lot D. By 1929, Parcel A was fully developed with residences and the Westbrae streetcar shuttle right of way passed through the present station site on a northwest-to-southeast path. Scattered houses were constructed along the segments of the streetcar line at the site of Parcels B and C, and south end of Parcel D was developed with an auto garage and an unidentified building. Sanborn maps and historical aerial photos depict continued development, primarily residential, throughout the area comprising the North Berkeley BART station site through 1950. By that time, the electric railway right-of-way was abandoned, and Parcel A was developed for residential uses. The south end of Parcel D contained a building labeled "Steam Baths".

Historic aerial photos show that, sometime between 1959 and 1968, the clearing of buildings on Parcel A had begun but was not complete. The BART station was opened in 1972, and the project site, including the station and ancillary buildings and immediately adjacent parking lots, soon took their current form (Anonymous n.d.; NETROnline 1980). By 1980, Parcel D was cleared of buildings, and at-grade BART tracks were constructed adjacent to the east. The parking lots on Parcels B and C were constructed between 1982 and 1988. It was likely during this period that the paved recreation path that passes through Lots B and C was constructed to augment the Ohlone Greenway, a regional trail and "linear park" system first developed alongside the BART right-of-way in Albany and El Cerrito in 1971 and continually expanded through the 1980s. The community gardens were laid out on Parcel D by 2002. The shed at the north end of the Parcel D was likely completed sometime after 1988. No changes of note have been made since the 2002 aerial photograph was taken.

## 4.2.2 Existing Conditions

### **a. Historical Resources**

To identify known historical resources in the vicinity of the North Berkeley BART Station and Ashby BART Station project sites, Rincon Consultants reviewed the results of a cultural

resources records search NWIC File No. 20-1044 of the California Historical Resource Information System at Northwest Information Center, in addition to reviewing the NRHP, CRHR, California State Office of Historic Preservation (OHP) Built Environment Resources Directory, City of Berkeley Landmark and Structure of Merit listings, and the Berkeley Architectural Heritage Association website. In addition, Rincon Consultants prepared a Historical Resources Evaluation (HRE) of the Ashby and North Berkeley BART stations in August 2021 (Appendix C). Methods for the HRE included background and archival research, a field survey, and evaluation to confirm the historical resources eligibility of both BART stations.

### ***Ashby BART Station Site***

The Ashby BART Station was completed in 1972; therefore, it was evaluated for historical resources eligibility as part of the HRE (Appendix C). Pursuant to 14 CCR 4852(d)(2), 50 years is the general threshold for evaluating a property for historical resources eligibility. However, the Office of Historic Preservation recommends a threshold of 45 years because there is often “a five-year lag between resource identification and the date that planning decisions are made.”<sup>2</sup> As determined in the HRE included in Appendix C, the Ashby BART Station is recommended eligible as a City of Berkeley Landmark under Criterion 2 in BMC 3.24.110, which allows for the designation of properties possessing cultural value. Specifically, this criterion makes eligible for Landmark designation structures, sites, and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the city. As such, the Ashby BART Station is a historical resource pursuant to Section 15064.5(a)(3) of the CEQA Guidelines.

The station, including the immediately adjacent surface parking lot to the west of the station, is associated with local civil rights activism related to the undergrounding of the BART tracks and station and the use of the station parking lot on weekends for the Berkeley Flea Market. In combination, these two events highlight the role of African-American South Berkeley residents and their allies in ensuring, firstly, that the BART station was designed in a manner consistent with the community’s wishes and, secondly, in that once developed, the facility would serve the community’s economic and social needs. Led by civil rights and labor activist Mable Howard and then Berkeley City Council member Ronald V. Dellums, among others, the 1967-1968 lawsuit to ensure that the entirety of the Ashby BART Station was designed as a subway station was the culmination of years of political efforts by Berkeleyans to ensure BART engineers designed the portion of the rail system within the city’s boundaries according to the preferences of the community. More specifically, the contest over the Ashby BART Station’s design highlighted the determination of African-American leaders to prevent the construction of a station whose design was widely perceived as racially discriminatory. The historical record does not suggest there is a direct relationship between, on the one hand, the legal challenge led by Howard, Dellums, and others, and on the other hand, the work of local activists and community members to establish and preserve the Berkeley Flea Market at the Ashby BART Station parking lot. However, the two events are linked thematically by the persistent efforts of activists and members of Berkeley’s African-American community to influence the design and use of a prominent public space in the historically African-American South Berkeley neighborhood.

The Berkeley Flea Market began as an economic institution that hosted a predominantly Black group of vendors and patrons. In 1981, the market’s vendors sued BART to continue their use of the station’s surface parking lot as the flea market site. The case was ultimately

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<sup>2</sup> State of California. Department of Parks and Recreation. Office of Historic Preservation. “Instructions for Recording Historical Resources,” March 1995. [https://scic.sdsu.edu/\\_resources/docs/manual95.pdf](https://scic.sdsu.edu/_resources/docs/manual95.pdf). Accessed September 8, 2021.

settled in 1983 with the jury finding BART had entered into a contract with the vendors which allowed them “indefinite renewals of the written concession permit until a) BART needed the Ashby parking lot for its own purposes or b) the flea market was not operated according to BART standards” (*San Francisco Bay Area Rapid Transit District v. Community Services United, et al. 1983*). As such, the station is notable for its association with the history of activism centered on the Ashby BART station. Since the lawsuit’s conclusion, the weekend event has maintained its role as a Black social and cultural institution for approximately four decades. The property may be regarded as important for its longstanding association with South Berkeley’s Black community and is therefore recommended eligible for designation as a City of Berkeley Landmark under Criterion 2.

The boundaries of the historical resource include the station footprint inclusive of the parking lot located immediately adjacent to the west of the station proper. The satellite parking lot located east the Ed Roberts Campus does not contribute to the property’s significance because it was neither the subject of the 1967-1968 lawsuit nor used as a site of the Berkeley Flea Market.

Within a one-block radius there are eight individual properties which qualify as historical resources pursuant to Section 15064.5(a) of the CEQA Guidelines (Figure 4.2-1). As listed in Table 4.2-1, these include properties which have been formally determined eligible for listing in the NRHP by consensus through the Section 106 process (and are listed in the CRHR), properties which are eligible for listing in the NRHP, and/or are individually designated as City of Berkeley Landmarks or Structures of Merit. As such these properties are historical resources as defined in CEQA. Generally, the known individual historical resources in the vicinity of the Ashby BART station site are commercial or mixed-use buildings constructed between the turn of the twentieth century and the early 1920s. They are concentrated near the intersection of Ashby Avenue and Adeline Street.

Known individual historical resources are listed in Table 4.2-1, and their locations are shown on Figure 4.2-1. Known historic districts located in the vicinity of the Ashby BART Station project sites are discussed below.

**Figure 4.2-1 Individual Known Historical Resources Near the Ashby Station Project Site**



**Table 4.2-1 Known Individual Historical Resources Near the Ashby Station Project Site**

| APN          | Address              | Year Built | Name/Description  | Status   |
|--------------|----------------------|------------|---|----------|
| 53-1598-18-1 | 2988-2990 Adeline St | 1905       | Hoffman Building  | 3D; BSOM |
| 53-1592-14   | 3027 Adeline St      | 1905       | William Clephane Corner Store                                       | 3D; BLM  |
| 53-1595-9-3  | 3031-3051 Adeline St | 1922       | Hull & Durgin Funeral Chapel/Marmot Motor Works/Hull Funeral Chapel | 3S; BLM  |
| 52-1551-8-1  | 3192 Adeline St      | 1909       | Berkeley Trading Post   | 2S2      |
| 53-1598-19   | 1985 Ashby Ave       | 1905       | Webb Block  | 3B; BLM  |
| 53-1593-18   | 2022 Emerson Street  | Unknown    | N/A   | 2S2      |
| 53-1598-22   | 2935 Otis Street     | Unknown    | Harry H. Webb House   | BSOM     |
| 53-1594-8    | 2015 Prince Street   | Unknown    | Residence   | 3S       |

**2S2:** Determined eligible for NRHP by a consensus through Section 106 process; listed in the CRHR

**3B:** Recommended eligible for listing in the NRHP or CRHR as an individual property and as a contributor to a historic district

**3D:** Recommended eligible for listing in the NRHP or CRHR as a contributor to a historic district

**3S:** Recommended eligible for listing in the NRHP or CRHR as an individual property

**BLM:** City of Berkeley Landmark

**BSOM:** City of Berkeley Structure of Merit

Sources: Northwest Information Center 2021; City of Berkeley 2015; BAHA 2021; California State Office of Historic Preservation Built Environment Directory

Note: Historic district contributors have been excluded from this table unless also individually eligible or listed.

There are also three historic districts in close proximity to the Ashby BART Station project site that have been determined eligible for inclusion in the NRHP and listed in the CRHR (Figure 4.2-2). The districts are addressed in this study as the Ashby and Adeline Commercial Historic District, the Ashby Station Residential and Commercial Historic District, and the Colonial Revival District. The determinations are documented in a letter from the State Historic Preservation Officer Milford Wayne Donaldson to City of Berkeley Director of Housing Stephen Barton, dated April 11, 2005. In the letter regarding the Ed Roberts Campus development project, Donaldson concurs with the City of Berkeley’s determination that the three districts were eligible for inclusion in the NRHP, along with contributing buildings that were also determined individually eligible for NRHP listing. A review of the State Built Environment Resources Directory confirms that district contributors were assigned an Office of Historic Preservation status code 2D2, indicating they were contributors to a district determined eligible for the NRHP by consensus through the Section 106 process and were listed in the CRHR. A discussion of the districts follows.

- 1) The Ashby and Adeline Commercial Historic District is a group of commercial buildings at the intersection of Ashby Avenue and Adeline Street, including 1979 Ashby Avenue, 1985 Ashby Avenue (the Webb Block), 2970 Adeline Street, 2982 Adeline Street, 2990 Adeline Street (the Hoffman Building), 3021 Adeline Street, 3025 Adeline Street, and 3027 Adeline Street (the William Clephane Corner Store). The district is located directly north across Ashby Avenue and directly east across Adeline Street from the Ashby BART Station project sites.

**Figure 4.2-2 Eligible Historic Districts in the Vicinity of the Ashby Station Project Site**



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City of Berkeley

- 2) The Ashby Station Residential and Commercial Historic District consists of residential and commercial buildings in a streetcar suburb bounded by the south side of Ashby Avenue, the west side of Shattuck Avenue, the north side of Woolsey Street and east side of Adeline Street (excluding the Ed Roberts campus site). The district is located directly east across Adeline Street from the Ashby BART station and adjacent to the north and across Tremont Street to the east of the Ed Roberts Campus portion of the Ashby BART Station project site.
- 3) The Colonial Revival District is a grouping of 16 Colonial Revival-style residences located from 3004 to 3106 Martin Luther King, Jr. Way (west side). The district is located across Martin Luther King, Jr. Way to the west of the Ashby BART station project site.

The City of Berkeley has not designated these areas as historic districts. However, because these districts have been determined eligible for the NRHP and are listed in the CRHR, they qualify as historical resources per the requirements of PRC Section 21084.1.

#### ***North Berkeley BART Station Site***

The North Berkeley BART Station was completed in 1973 and therefore was evaluated for historical resources eligibility as part of the HRE (Appendix C). As a result of that evaluation, the station was found ineligible for listing in the NRHP, CRHR, or as a City of Berkeley Landmark or Structure of Merit under any applicable criteria. As such it is not considered a historical resource pursuant to Section 15064.5 of the *CEQA Guidelines*. The California Historical Resources Information System (CHRIS) records search and other background failed to identify any other historical resources in the immediate surrounding vicinity of the project site. A segment of the Ohlone Greenway is also located within the North Berkeley BART station site. Although the Ohlone Greenway was initially developed in 1971, the portion adjacent to the project site was not completed until the 1980s and therefore does not meet the 45-year age threshold generally triggering the need for historical resources evaluation.

### **b. Archaeological Resources**

#### **Archaeological Sensitivity**

##### ***Ashby BART Station***

In August-September 2018 the Ashby BART station site was surveyed by an archaeologist meeting the Secretary of the Interior's professional qualification standards for archeology. All visible soil was inspected for indicators of archaeological deposits such as historic artifacts, prehistoric artifacts, shell, bone, and dark midden soil. No cultural resources were identified on the survey. The site is heavily urbanized and over 95 percent covered by impervious surfaces. Soil could only be inspected in planters, medians, landscaping, and around the roots of street trees. Where visible, soils in the area are clay silts, silty clays, and loams with varying proportions of silt and clay. Soils are dark greyish brown to dark yellowish brown in color (Munsell 10YR 4/2 to 4/4) in color and contain little rock.

Since most of the site is covered with impervious surfaces, it is hard to identify archaeological sites from surface survey. However, deeply buried prehistoric sites with no surface indicators are found throughout the Bay Area, ranging from 550 to over 8,000 years old. Such sites were often buried by alluviation that accompanied the rapid rise in sea level since the end of the last ice age, and by filling, erosion, and deposition processes in the historic period.

Background research of the Ashby BART station site included a review of the results from the previously discussed cultural resources record search at the Northwest Information Center, and a review of historic-period literature, maps, and aerial photography. The records search identified no archaeological cultural resources within the site.

To assess the archaeological sensitivity of the Ashby BART station site, the attractiveness of the area for prehistoric settlement, the nature of historic activities in the area, and the degree of previous soil disturbance were considered. Places that are relatively flat, have easy access to fresh water, and are covered with young Holocene-era soils are more likely to contain prehistoric archaeological deposits than steep slopes or areas far from water (Meyer and Kaijankonski 2017). The area is largely flat and covered in late Holocene alluvial soils, and Derby Creek once flowed west-southwest through the area at Derby Street (Helley and Graymer 1997; Oakland Museum 2000). However, Derby Creek appears to have been a seasonal drainage rather than a perennial watercourse, as it is not shown on early maps (Kellersberger 1853), while Temescal and Strawberry Creeks are clearly delineated. The lack of access to year-round water supplies in the site therefore gives the area low sensitivity for buried prehistoric archaeological sites.

Historic-period land use and development can also result in archaeological deposits. Before the advent of municipal trash collection after 1900, residents disposed of domestic trash in outdoor privies, backyard pits, or by burning. These activities often created deposits of historic artifacts. However, such deposits tended to be located behind residential or commercial buildings. The street layout of the project site was established in the 1870s and largely predates residential or commercial development in the area, making it unlikely that historic-period archaeological deposits or building foundations would be found within the public right-of-way (that is, streets or sidewalks). However, the long history of rail transportation and infrastructure along Sacramento Street makes it possible that buried elements related to these uses – such as rails, ties, track beds or signal apparatus – might be present underground. The lack of residential development in the project site due to the previous development of the roadways indicates a low sensitivity for buried historic-period deposits.

These sensitivity assessments are modulated by the fact that the area associated with both project sites were deeply excavated in 1967-1971 to construct the BART Richmond-Warm Springs and Richmond-Daly City lines, which run underground beneath Adeline Street, Shattuck Avenue, Hearst Avenue, and the Ohlone Greenway for the length of the project sites. The travel lanes within these areas, therefore, have a dramatically reduced sensitivity for archaeological deposits. Given this extensive disturbance, it is likely that few native soils remain under these main thoroughfares.

The general low sensitivity of the Ashby BART station site for buried prehistoric or historic-period archaeological deposits, combined with the extensive previous disturbance of the project site, give the proposed project a low likelihood to affect previously unknown archaeological cultural resources.

### ***North Berkeley BART Station***

Background research of the North Berkeley BART station site included a review of the results from the previously discussed cultural resources record search at the Northwest Information Center, and a review of historic-period literature, maps and aerial photography. The records search did not identify any archaeological cultural resources present in the North Berkeley BART Station project sites. The project site is heavily urbanized and over 95 percent covered by impervious surfaces such as asphalt parking lots and sidewalks. The

project sites have a long history of development dating to earlier than 1895 according to the historic-period San Francisco quadrangle map (USGS HTMC, 1895 ed.).

Deeply buried prehistoric sites with no surface indicators are found throughout the Bay Area, with the oldest dates being over 4,000 years old. Such sites were often buried by alluviation that accompanied the rapid rise in sea level since the end of the last ice age, and by filling, erosion, and deposition processes in the historic period. The project site is underlain by Holocene and Pleistocene age alluvial and pediment geologic units that are consistent with previously excavated units in the region that did yield archaeological cultural resources at depth.

This assessment of archaeological sensitivity of the project site was informed by the suitability of the area for prehistoric settlement, the nature of historic-period activities in the area, and the degree of previous soil disturbance. Places that are relatively flat, have easy access to fresh water, and are covered with young Holocene-era soils are more likely to contain prehistoric archaeological deposits than steep slopes or areas far from water (Meyer and Kaijankowski 2017). The project site (including the main station site and auxiliary lots) is largely flat and contain Holocene and Pleistocene alluvial soils, and the Schoolhouse and Lincoln creeks once flowed east-west in the vicinity of the project sites at the intersection of Cedar Street and Acton Street but have been channelized using a system of culverts (Helley and Graymer 1997; Oakland Museum 2000). However, these creeks appear to have been seasonal drainages rather than permanent perennial watercourses (Margolin 1978), while nearby Temescal and Strawberry creeks are clearly delineated and provide a more consistent water source. Although the area contains several of the factors that are cited as being determinative of archaeological sensitivity, the lack of access to year-round water supplies in the project sites indicate low sensitivity for buried prehistoric archaeological sites.

As with the Ashby BART station site, the street layout of the North Berkeley BART station site was established in the 1870s and largely predates residential or commercial development in the area, making it unlikely that historic-period archaeological deposits or building foundations would be found within the public right-of-way (that is, streets or sidewalks). The North Berkeley site was also subject to excavations associated with the construction of the BART Richmond-Warm Springs and Richmond-Daly City lines. Those excavations dramatically reduced sensitivity for archaeological deposits. The associated parking lots and auxiliary lots would have also experienced a degree of disturbance during construction and installation of utility lines that reduces cultural sensitivity. However, parking lot construction disturbance was not as extensive as deeper station-related excavations, which would have more greatly affected sensitivity. Given this extensive disturbance, it is likely that few native soils remain under the project sites.

The general low sensitivity of the North Berkeley BART station site for buried prehistoric or historic-period archaeological deposits, combined with the extensive previous disturbance of the project sites, give the proposed project a low likelihood to affect previously unknown archaeological cultural resources.

### **c. Tribal Cultural Resources**

On January 21, 2021, the California Native American Heritage Commission (NAHC) provided the City of Berkeley with the Sacred Lands File (SLF) record search and a consultation list of tribes in Alameda County, with recommendations for consultation. The results of the SLF were positive and indicated that Amah Mutsun Tribal Band of Mission San Juan Bautista and the North Valley Yokuts Tribe should be contacted for further information.

A subsequent email correspondence was received on January 22, 2021 from Amah Mutsun and stated that the tribe recommends cultural sensitivity training for all project personnel, California-trained archaeological monitoring, and qualified Native American monitoring. The City of Berkeley sent consultation letters on February 18, 2021 to the ten tribal organizations noted on the NAHC's contact list for Alameda County, inviting them to participate in the consultation process. The letters communicated the results of the record search and invited the recipients to communicate any information or concerns they might have regarding the project sites. No additional information was received and no consultation was requested.

### 4.2.3 Impact Analysis

#### **a. Methodology and Significance Thresholds**

The methodologies and significance thresholds employed for the cultural resources impact analyses are described below and in the *Regulatory Setting*, above.

In accordance with Appendix G of the *CEQA Guidelines*, a significant impact would occur if the proposed project would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5; or
3. Disturb any human remains, including those interred outside of dedicated cemeteries.

The significance of an archaeological deposit and subsequently the significance of any impact are determined by the criteria established in the *CEQA Guidelines*, as provided in the *Regulatory Setting*.

If an archaeological cultural resource does not meet either the historical resource or the more specific "unique archaeological resource" definition, impacts do not need to be mitigated [CEQA Guidelines Section 15064.5(c)].

Recent revisions to Appendix G of the *CEQA Guidelines* in accordance with AB 52 include thresholds for potential impacts to Tribal Cultural Resources. An impact to Tribal Cultural Resources from the proposed project would be significant if the project would:

4. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)
  - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## b. Project Impacts and Mitigation Measures

|  |
|--|
| <b>Threshold 1:</b> Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in <i>CEQA Guidelines</i> Section 15064.5? |
|--|

**IMPACT CR-1** THE PROPOSED PROJECT WOULD GUIDE DEVELOPMENT ON THE ASHBY BART STATION SITE, WHICH QUALIFIES AS A HISTORICAL RESOURCE PURSUANT TO CEQA. HOWEVER, WITH MITIGATION, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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As detailed in Section 4.2.2, there is one historical resource located within the Ashby BART station site, specifically, the Ashby BART Station, which is eligible for City of Berkeley Landmark designation under Criterion 2 of BMC 3.24.110 for its association with local civil rights activism related to the undergrounding of the BART tracks and station and securing of access to the station parking lot for community use. Based on Section 15064.5(b) of the *CEQA Guidelines*, a project that may cause a substantial adverse change in the significance of a historical resource is a project which may cause a significant effect on the environment. Substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Material impairment is defined as demolition or material alteration in an adverse manner of those characteristics of a historical resource that convey its historical significance and justify its eligibility for inclusion as a historical resource in the CRHR or account for its inclusion in a local historical register or survey. (*CEQA Guidelines*, Section 15064.5(b)(2)).

The first step in assessing impacts to a historical resource is therefore defining the physical characteristics which convey the resource's significance and justify eligibility. The process for identifying those important physical features, or character-defining features, is based on the property's significance. Such character-defining features will vary greatly depending on the resource type and its significant associations. For properties which are architecturally significant, the process for identifying the character-defining features is generally straightforward and involves defining those physical features that embody its given architectural style. However, for properties which are eligible for their cultural or historical significance, such as the Ashby BART Station, the process for identifying character-defining features requires an understanding of the significant events or persons the property is associated with, and how those associations are conveyed through the physical features of the property.

In the case of the Ashby BART Station, the property is significant as it highlights the role of African-American South Berkeley residents and their allies in ensuring, firstly, that the BART station was constructed underground consistent with the community's wishes and, secondly, that once developed, the facility would continue to serve the community's economic and social needs. More specifically, the contest over the Ashby BART Station's design highlighted the determination of African-American leaders to prevent the construction of a station whose design was widely perceived as racially discriminatory that would have served as a physical barrier separating Black neighborhoods west of the station from white neighborhoods east of the station. Through a series of ongoing efforts, the City's political leaders and residents were successful in ensuring the BART station and tracks would be built underground, thereby avoiding the physical segregation along racial lines of the area surrounding the station. Also, significant and stemming from these community led efforts is the activism which led to the use of the westerly adjacent parking lot for the Berkeley Flea Market. Historical and contemporary newspaper articles and commentary suggests that the

Berkeley Flea Market is a site of longstanding importance to members of Berkeley's Black community, due to its economic and cultural functions. To these ends, the Berkeley Flea Market provided a venue for vendors to earn income, sometimes their sole source of remuneration, and for community members to socialize and enjoy such cultural amenities as a long-running drum circle.

Because of these significant associations, the Ashby BART station and its character-defining features can be considered unique from other historical resources because there are no physical features which work to convey the significance of the site. The property is significant for the community efforts to underground the station and for the community's efforts to claim a portion of the space for their own economic and cultural use, as manifested in the Berkeley Flea Market. As such, the physical features which represent a tangible link to Berkeley's community-led civil rights activism to underground the station and use the space for public gathering are reflected through the following features:

- The underground station itself
- The lack of above-ground components that would be associated with an above-ground station such as a projecting concourse station entry or street-level concourse
- The relationship between the station site and the surrounding neighborhood
- The use of the parking lot immediately adjacent to the station site for public assembly

The threshold for determining if the project would result in a significant impact to the Ashby BART Station as a historical resource pursuant to Section 15064.5 of the *CEQA Guidelines* is assessing if the proposed project would materially impair the resource. That is, determining if the project would demolish or adversely impact the physical features defined above such that the Ashby BART Station would no longer be able to convey its significance and would no longer remain eligible as a City of Berkeley Landmark. (Section 15064.5(b)(3) of the *CEQA Guidelines* also states impacts to a historical resource are generally considered mitigated below a level of significance when the project conforms to the Secretary of the Interior's Standards for the Treatment of Historic Properties [the Standards]. However, because the proposed project involves zoning for the site and does not involve a specific development project, a Standards analysis is not feasible and was not completed as part of this impacts assessment.)

The proposed project involves the adoption of a new zoning district establishing transit-oriented zoning and development standards. The buildout assumptions include development of up to 1,200 dwelling units and 100,000 square feet of non-residential space distributed between the 4.4-acre station site that includes the BART station building and adjacent surface parking lot, and the 1.9-acre surface parking lot east of the Ed Roberts campus. Other objectives of the overall project include the maximization of affordable housing and the creation of vibrant and public and civic open spaces.

The primary and most important physical, or character-defining, features of the Ashby BART Station relate to its underground massing. This was the direct result of the community-led civil rights activism that sought to stop the Ashby BART Station and the associated tracks being above ground and physically dividing the separating neighborhood along racial lines. The proposed project would not involve demolition or alteration of the BART station structure or its associated underground features. The station and tracks would remain underground and would not be expanded or modified such that they would physically separate the neighborhood. As such, one of the primary physical features which conveys the significance of the site and justifies its eligibility, would remain intact.

The relationship of the physical scale of the Ashby BART station site and its limited above-ground infrastructure to the surrounding neighborhood is another physical feature of the site which helps to convey its historical and cultural significance. A mobilizing factor behind the community led activism was the desire to ensure the neighborhood was not physically separated by an above-ground station and tracks. Development on the site under the proposed project would change the setting of the site and surrounding neighborhood by introducing larger buildings than currently present. The rezoning of the site would provide for buildings up to seven stories while buildings in the surrounding area are generally no taller than three.

However, unlike the above-ground transportation-related structures initially proposed in the late 1960s, which would have created a physical barrier, future development on the site under the project would be a continuation of the surrounding residential and civic uses and that have defined the site and its surroundings since the community's successful advocacy efforts in the 1970s and early 1980s. The development of taller buildings would not physically divide the neighborhood. The proposed R-BMU development standards include public open space and site circulation and access requirements that would ensure site access is maintained (see also Impact PH-1 in Section 4.9, *Population and Housing*). Further, the adopted goals and policies of both the Adeline Corridor Specific Plan and the City's General Plan, as well as requirements relating to design review, would allow for community input on the design of future buildings on the site and work to ensure these buildings are integrated with the surrounding neighborhood. Therefore, the relationship between the station site and the surrounding neighborhood would remain intact, if altered.

Future development under the proposed rezoning could change the amount of useable space for community purposes, such as the Berkeley Flea Market, which currently utilizes the westernly adjacent parking lot. However, the proposed project would be designed to be consistent with the goals of the Adeline Corridor Specific Plan, which was adopted in December 2020. Three Chapters of the Specific Plan – 3.8, 5.4, and 7.3 - contain goals that include the future redevelopment of the Ashby BART west parking lot to incorporate a publicly accessible plaza that could potentially accommodate the Flea Market as well as support other community events. The City's goal to continue to provide public assembly space on and near of the Ashby BART Station as outlined in Chapters 3.8, 5.4 and 7.3 of the Specific Plan would ensure the property retains the associative characteristics of the station and provide that its cultural value related to its community use would be maintained. The provision for a publicly accessible open space would retain a tangible link between Berkeley's historic community-led activism for the undergrounding of the Ashby BART Station and the site's resulting use for gathering space.

Further, potential impacts occurring from the change in setting would be minimized through implementation of required mitigation. Mitigation Measure CR-1 requires installation of an interpretive program, which would further convey the significance of the site in a manner which is not clearly evident at present. By actively communicating the significance of the Ashby BART Station through an on-site display, Mitigation Measure CR-1 would ensure the potential impacts resulting from a change in setting would remain less than significant.

### **Mitigation Measures**

The following mitigation measures are required.

*CR-1 Ashby BART Station Interpretive Display*

The proposed project shall be designed to include a permanent, high-quality on-site interpretive display in a future publicly-accessible location, preferably near or within the publicly accessible civic plaza at the Ashby BART Station. The display shall focus on the station's history, particularly the community-led effort for the station to be underground and the subsequent use of the western surface parking lot by the community. The interpretive display will be prepared by a professional exhibit designer and historian meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61). The goal of the interpretive display is to educate the public about the property's historic significance and associations within broader cultural contexts. Plans for the display shall be subject to review and approval by the City's Land Use Planning Division prior to installation.

**Significance After Mitigation**

Implementation of Mitigation Measure CR-1 would reduce potential impacts because it would communicate the history of the site. This would mitigate the project's potential impact to the Ashby BART Station's ability to convey its historical and cultural significance, which would result from a change in setting. With mitigation, impacts would be less than significant.

**IMPACT CR-2        KNOWN INDIVIDUAL HISTORICAL RESOURCES, INCLUDING THREE HISTORIC DISTRICTS ELIGIBLE FOR INCLUSION IN THE NRHP, HAVE BEEN IDENTIFIED ADJACENT TO OR IN PROXIMITY TO THE ASHBY BART STATION SITE. DEVELOPMENT IN THE PROJECT SITE WOULD INTRODUCE NEW VISUAL ELEMENTS THAT WOULD ALTER THE SETTINGS OF THESE KNOWN HISTORICAL RESOURCES. HOWEVER, IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

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Based on *CEQA Guidelines* §15064.5(b), future development carried out as a result of the proposed project would have a significant impact on historical resources if it would cause a substantial adverse change in the significance of a historical resource. Historical resources include properties eligible for listing on the NRHP, the CRHR, or a local register or survey of historical resources. In addition, as explained in Section 15064.5, "[s]ubstantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

As described above in Section 4.2.2, review of the NRHP, CRHR, the California State Office of Historic Preservation's Built Environment Resource Directory, and City of Berkeley Landmark and Structure of Merit listings shows there are eight known individual historical resources and three historic districts listed in or eligible for the NRHP and CRHR and the City of Berkeley's local register located adjacent to or within one block of the Ashby Station project site. Among these historical resources are three historic districts determined eligible for inclusion in the NRHP: the Ashby Station Residential and Commercial Historic District, the Adeline and Ashby Commercial Historic District, and the Colonial Revival District. Generally, the districts consist of residential buildings of up to two stories in height and commercial and mixed-use buildings of one to three stories. They are significant for their associations with the early development of the neighborhood in the late nineteenth and early twentieth centuries and/or their architectural merit as groupings of buildings representing a variety of architectural styles including the Queen Anne, Colonial Revival, Storybook, Craftsman, and Mediterranean Revival. With the exception of the residence at 2935 Otis Street, all of the individually eligible historical resources located within one block of Ashby station site are also contributing resources located within the Ashby Station Residential and Commercial Historic District or Adeline and Ashby Commercial Historic District.

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The following analysis emphasizes impacts to the historic districts because indirect impacts, as discussed below, are most likely to affect a resource's setting, and setting is oftentimes an important aspect of integrity of a district more than of an individual property. Development facilitated by the proposed project would not result in the demolition or alteration of any of the historic districts located in proximity to the Ashby station site. However, anticipated development would consist of new construction of up to eight stories in height. Such development would occur in proximity to historic districts in which building heights are at maximum three stories. Anticipated development may be substantially taller than the existing building envelope that generally characterizes the area and would introduce a new visual element to the historic districts' respective settings. However, the basis for the districts' significance is rooted in the buildings themselves and the character-defining features of their historic fabric. Integrity of setting for the districts is related to their presence within the broader context of an urbanized commercial corridor in which building mass, height, and volume vary. Further, since the mid-twentieth century, the surrounding area has undergone continual change in a manner expected to occur within urban environments, including the development of the Ashby BART Station and the Ed Roberts campus. Therefore, while development under the project would introduce a new and taller visual features to the neighborhood, it would be consistent with the ongoing change which has characterized the area since its early development. The districts, following project implementation, would still be perceived as a significant concentrations of built-environment resources that possess, and are able to convey, the character-defining architectural features that justify their eligibility for local listing. Based on the threshold for impacts to historical resources contained in *CEQA Guidelines* §15064.5(b), the significance of the districts would not be materially impaired; therefore, visual impacts neighboring historic districts would be less than significant.

### Mitigation Measures

Impacts would be less than significant without mitigation, mitigation measures are not required.

|   |
|---|
| <b>Threshold 2:</b> Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to <i>CEQA Guidelines</i> Section 15064.5? |
|---|

**IMPACT CR-3 THE NORTH BERKELEY AND ASHBY BART STATION SITES DO NOT CONTAIN KNOWN ARCHAEOLOGICAL RESOURCES. NONETHELESS, DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT HAS THE POTENTIAL TO IMPACT UNRECORDED ARCHAEOLOGICAL RESOURCES. HOWEVER, WITH COMPLIANCE WITH CITY OF BERKELEY STANDARD CONDITIONS OF APPROVAL, IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

As discussed under Section 4.2.2, Existing Conditions, the North Berkeley and Ashby Station project sites have been identified as having low sensitivity for buried prehistoric or historic-period archaeological cultural resources due to the past disturbance. Therefore, development associated with project implementation has a low likelihood to affect previously unrecorded archaeological resources.

Ground-disturbing activities associated with development facilitated by the proposed project, particularly in areas that have not been studied through a cultural resources investigation or when excavation depths exceed those previously attained, do have the potential to damage or destroy previously unrecorded historic-period or prehistoric archaeological resources that may be present on or below the ground surface. Although the potential is low due to the sites' locations and high level of previous disturbance, damage to or destruction of

previously unrecorded sub-surface cultural resources could occur as a result of development under the proposed project. This is a potentially significant impact. However, the City of Berkeley implements the following standard condition of approval for all projects in Berkeley:

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 of Berkeley. 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.

Adherence to this standard condition of approval would ensure that development carried out under the proposed project would have a less than significant impact from potential adverse changes in the significance of archeological resources.

### **Mitigation Measures**

No mitigation is required beyond compliance with City of Berkeley standard conditions of approval for all projects.

**Threshold 3:** Would the proposed project disturb any human remains, including those interred outside of dedicated cemeteries?

**Impact CR-4** GROUND-DISTURBING ACTIVITIES ASSOCIATED WITH DEVELOPMENT UNDER THE PROPOSED PROJECT COULD RESULT IN DAMAGE TO OR DESTRUCTION OF HUMAN BURIALS. HOWEVER, ADHERENCE TO EXISTING REGULATIONS REGARDING THE DISCOVERY OF HUMAN REMAINS AND TO CITY OF BERKELEY STANDARD CONDITIONS OF APPROVAL WOULD REDUCE POTENTIAL IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

Human burials outside of formal cemeteries, includes those of Native Americans, often occurred in prehistoric archeological contexts. The North Berkeley and Ashby BART Station project sites are built out and have experienced a high level of previous disturbance, and, therefore, the existence of human burials is possible but low. Excavation during construction activities in the project sites could disturb these resources.

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California PRC. The California Health and Safety Code (Section 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protect them from disturbance, vandalism, or destruction. They also include established procedures to be implemented if Native American skeletal remains are discovered. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes. In addition, the City requires the following standard condition of approval for all projects in Berkeley:

Human Remains (Ongoing throughout demolition, grading, and/or construction). In the event that human skeletal remains are uncovered at the project sites during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. 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 Section 7050.5 of the Health and Safety Code, and all excavation and project 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.

Adherence to this standard condition of approval and implementation of these regulations would ensure that development carried out under the proposed project would have a less than significant impact from potential disturbance of human remains, including those interred outside of formal cemeteries.

### **Mitigation Measures**

No mitigation measures are required with required adherence to existing regulation and City of Berkeley standard conditions of approval.

**Threshold 4:** Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

**Impact CR-5 PROJECT SITE PREPARATION AND CONSTRUCTION ASSOCIATED WITH DEVELOPMENT AND RIGHT-OF-WAY IMPROVEMENTS UNDER THE PROPOSED PROJECT COULD ADVERSELY IMPACT TRIBAL CULTURAL RESOURCES (TCR). HOWEVER, WITH COMPLIANCE WITH CITY OF BERKELEY STANDARD CONDITIONS OF APPROVAL, IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

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Effects on TCRs are only known once a specific project has been proposed because the effects depend highly on both the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Future projects completed under the proposed project, as projects subject to CEQA, must comply with the requirements of AB 52, including consultation with California Native American tribes when each project is proposed, where it may result in the identification of TCRs. As described in the project setting, the Bay Area has a long history of Native American occupation, and development activities associated with the implementation of the proposed project have the potential to significantly impact TCRs. Impacts are considered potentially significant. However, the City of Berkeley implements the following standard condition of approval for all projects in Berkeley:

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 again contact any tribes who have requested consultation under 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 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.

Adherence to this standard condition of approval would ensure that development carried out under the proposed project would have a less than significant impact to tribal cultural resources.

## Mitigation Measures

No mitigation is required beyond compliance with City of Berkeley standard conditions of approval for all projects.

### c. Cumulative Impacts

Cumulative development as described in Table 3-1 in Section 3, *Environmental Setting*, in the project area could disturb areas that may contain cultural or tribal cultural resources. While there is the potential for significant cumulative impacts to cultural or tribal cultural resources in the City, it is anticipated that potential impacts associated with individual development projects would be addressed on a case-by-case basis and would be subject to City policies and local and state regulations regarding the protection of such resources. However, future development could occur within or in close proximity to any of the three known historic districts adjacent to the Ashby BART Station. The Adeline Corridor Specific Plan includes a framework for additional residential and commercial development in the corridor near the Ashby BART station. Policies and regulations would not in all cases preclude impacts to built environment historical resources, such as changes to the setting of known historic districts. It would be speculative to predict the specific level of cumulative impact of future development. Nevertheless, it is conservatively projected that development could result in the alteration or loss of some historical built environment resources, with potentially significant cumulative impacts.

Cumulative impacts to archaeological resources would be less likely to occur as a result of future development. With compliance with existing policies and regulations, future development in the City and region would be required to avoid or mitigate the loss of archaeological resources. The proposed project's impacts can be reduced to below a level of significance with the standard conditions of approval described above. Therefore, significant cumulative impacts to archaeological resources would not occur.

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## 4.3 Energy

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This section discusses potential energy impacts related to the proposed project. This analysis follows the guidance for evaluation of energy impacts contained in Appendix F and Appendix G of the *CEQA Guidelines*. The physical environmental impacts associated with the generation of electricity and burning of fuels have been accounted for in Section 4.1, *Air Quality*, and Section 4.4, *Greenhouse Gas Emissions*.

### 4.3.1 Setting

Projects may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy or the wasteful use of energy resources (*CEQA Guidelines* §15126.2[b]). As stated in Appendix F of the *CEQA Guidelines*, “the goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include (1) decreasing overall per capita energy consumption, (2) decreasing reliance on fossil fuels such as coal, natural gas and oil, and (3) increasing reliance on renewable energy sources.” Energy use relates directly to environmental quality because energy use can generate air pollutant emissions that adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are commonly burned to power residences and businesses, heat and cool buildings, and power vehicles. Transportation energy use is dependent on the fuel efficiency of cars, trucks, and public transportation; the different travel modes such as auto, carpool, public transit, and biking/walking; and the miles traveled using these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

#### a. Energy Supply

##### Petroleum

California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the state but concentrated primarily in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the San Francisco Bay area (California Energy Commission [CEC] 2021a). According to the United States Energy Information Administration, California’s field production of crude oil totaled 161.5 million barrels in 2019 (United States Energy Information Administration 2021a).

There are no gasoline stations or petroleum refineries within or directly adjacent to the project site. The nearest gasoline station to the Ashby BART station site is approximately 0.2 mile northeast, and the nearest gasoline station to the North Berkeley BART station is approximately 0.2 mile south (United States Energy Information Administration 2021b; GasBuddy 2020). According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, there is no oil or gas extraction infrastructure, either operational or formerly operational, within or adjacent to the project sites (California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2021).

A variety of alternative fuels are used to reduce petroleum-based fuel demand. Their use is encouraged through various statewide and local regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Alternative vehicle fuels include hydrogen, biodiesel, and electricity. Currently, 42 hydrogen and 10 biodiesel refueling stations are

located in California, but none are located within or adjacent to the project sites. One hydrogen charging station is located at 1250 University Avenue, approximately 0.4 mile southwest of the North Berkeley BART station site. One biodiesel station is located approximately 0.5 mile west of the Ashby BART station site. Several publicly available electric vehicle charging stations are near the Ashby BART station site, including six stations approximately 0.5 miles north of the site and eight stations approximately 0.5 miles east of the site. In addition, one publicly available electric vehicle charging station is located approximately 0.5 mile southwest of the North Berkeley BART station site (United States Department of Energy 2021; Recargo, Inc 2021).

## **Electricity**

In 2019, California's in-state electricity generation totaled 200,475 megawatts (CEC 2021b). Primary fuel sources for the state's electricity generation in 2019 included natural gas, hydroelectric, solar photovoltaic, wind, nuclear, geothermal, biomass, and solar thermal. According to the 2019 Integrated Energy Policy Report, California's electric grid relies increasingly on clean sources of energy such as solar, wind, geothermal, hydroelectricity, and biomass. In addition, by 2025 the use of electricity sourced from out-of-state coal generation will be eliminated. As this transition advances, the grid is also expanding to serve additional loads produced by building and vehicle electrification among other factors. California produces more renewable energy than any other state in the United States with 23,313 megawatts of installed renewable capacity (CEC 2021c; U.S. EIA 2020).

East Bay Community Energy (EBCE) supplies electricity to Berkeley, including the project sites, using transmission infrastructure operated and maintained by Pacific Gas and Electric (PG&E). EBCE is a community-governed, local power supplier that provides cleaner electricity to Alameda County residents and businesses. As of 2021, EBCE's base plan (Bright Choice) consisted of 60 percent eligible renewable energy resources (EBCE 2021). 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 (PG&E 2021a). 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 (PG&E 2018).

There are no electric power plants within or adjacent to the project sites (United States Energy Information Administration 2021b).

## **Natural Gas**

California's net natural gas production for 2018 was 180.6 billion cubic feet, or approximately 187,282 billion British thermal units (Btu; California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2019). The state relies on out-of-state natural gas imports for nearly 90 percent of its supply (CEC 2021d). The CEC estimates that approximately 45 percent of the natural gas burned across the state is used for electricity generation, and the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Building and appliance energy efficiency standards account for up to 39 percent in natural gas demand savings between 1975 and 2010 (CEC 2021d).

There is no natural gas extraction infrastructure within or adjacent to the project sites (California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2021). No natural gas processing plants are located in the area (United States Energy Information Administration 2021b). Moreover, there are no natural gas transmission lines

adjacent to or within the project sites, but there are distribution lines to supply natural gas to existing development adjacent to the project sites (PG&E 2021b).

**b. Energy Demand**

The smallest scale at which recent communitywide energy consumption information for existing development is readily available is the city level for electricity and natural gas consumption and the county level for transportation fuel consumption. Therefore, existing electricity and natural gas consumption in Berkeley is used herein to characterize the existing consumption of electricity and natural gas in the areas surrounding the project sites, and existing petroleum fuel consumption in Alameda County is used herein to characterize the existing consumption of petroleum fuels in the vicinity of the project sites as detailed in the following subsections.

**Petroleum**

As shown in Table 4.3-1, Alameda County consumed an estimated 591 million gallons of gasoline and 55 million gallons of diesel fuel in 2019, which was approximately four percent of statewide gasoline consumption and approximately three percent of statewide diesel fuel consumption (CEC 2020a).

**Table 4.3-1 2019 Annual Gasoline and Diesel Consumption**

| Fuel Type | Alameda County (gallons) | California (gallons) | Alameda County's Proportion of Statewide Consumption <sup>1</sup> |
|-----------|--------------------------|----------------------|---|
| Gasoline  | 591,000,000              | 15,365,000,000       | 3.8%  |
| Diesel    | 55,000,000               | 1,756,000,000        | 3.1%  |

<sup>1</sup> For reference, the population of Alameda County (1,670,834 persons) is approximately 4.2 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: CEC 2020a

**Electricity**

As shown in Table 4.3-2, communitywide development in Berkeley consumed approximately 440 gigawatt-hours of electricity in 2018, which was approximately four percent of electricity consumption in Alameda County and approximately 0.2 percent of statewide electricity consumption (CEC 2019b). In comparison, the population of Berkeley is approximately 7.3 percent of Alameda County and approximately 0.3 percent of California (California Department of Finance 2020). Therefore, per capita electricity consumption in Berkeley is lower than the countywide and statewide averages.

**Table 4.3-2 2018 Electricity Consumption**

| Energy Type | Berkeley (GWh) | Alameda County (GWh) | California (GWh) | Proportion of Alameda County Consumption <sup>1</sup> | Proportion of Statewide Consumption <sup>1</sup> |
|-------------|----------------|----------------------|------------------|---|--|
| Electricity | 440            | 10,417               | 284,436          | 4.2%  | 0.2%   |

GWH = gigawatt-hours

<sup>1</sup> For reference, the population of Berkeley (122,580 persons) is approximately 7.3 percent of the population of Alameda County (1,670,834 persons) and approximately 0.3 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: CEC 2019b; City of Berkeley 2018

## Natural Gas

As shown in Table 4.3-3, communitywide development in Berkeley consumed approximately 32 million US therms in 2018, which was approximately nine percent of natural gas consumption in Alameda County and approximately 0.3 percent of statewide natural gas consumption (CEC 2019b). In comparison, the population of Berkeley is approximately 7.3 percent of Alameda County and approximately 0.3 percent of California (California Department of Finance 2020). Therefore, per capita natural gas consumption in Berkeley is higher than the countywide average but approximately equal to the statewide average.

**Table 4.3-3 2018 Natural Gas Consumption**

| Energy Type | Berkeley<br>(millions of US<br>therms) | Alameda County<br>(millions of US<br>therms) | California<br>(millions of US<br>therms) | Proportion of<br>Alameda County<br>Consumption <sup>1</sup> | Proportion of<br>Statewide<br>Consumption <sup>1</sup> |
|-------------|--|--|--|---|--|
| Natural Gas | 32                                     | 377  | 12,666                                   | 8.5%  | 0.3%   |

<sup>1</sup> For reference, the population of Berkeley (122,580 persons) is approximately 7.3 percent of the population of Alameda County (1,670,834 persons) and approximately 0.3 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: CEC 2019b; City of Berkeley 2018

### 4.3.2 Regulatory Setting

#### Federal

##### *Energy Independence and Security Act of 2007*

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce the United States' dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil and confronting climate change. Specifically, it does the following:

1. Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022
2. Reduces the U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020, an increase in fuel economy standards of 40 percent as compared to 2007 levels

The Energy Independence and Security Act of 2007 also set energy efficiency standards for lighting (specifically light bulbs) and appliances and requires installation of photosensors and energy-efficient lighting fixtures consistent with the requirements of 42 United States Code Section 17001 et seq.

##### *Energy Policy and Conservation Act*

Enacted in 1975, the Energy Policy and Conservation Act established fuel economy standards for new light-duty vehicles sold in the United States. The law placed responsibility on the National Highway Traffic and Safety Administration for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (U.S. EPA) is responsible for administering the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. In 2012, the U.S. EPA and National Highway Traffic and Safety Administration established

final passenger car and light-duty truck Corporate Average Fuel Economy standards for model years 2017 to 2021, which require a combined average fleet-wide fuel economy of 40.3 to 41.0 miles per gallon in model year 2021 (United States Department of Transportation 2014).

#### *Safer Affordable Fuel-Efficient Vehicles Rule*

On September 27, 2019, the U.S. EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program, revoking California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. On June 29, 2020, Part Two of the SAFE Vehicles Rule became effective, revising Corporate Average Fuel Economy and CO<sub>2</sub> emissions standards for model years 2021-2026 passenger cars and trucks such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase (National Highway Traffic Safety Administration 2021).

#### *Energy Star Program*

Energy Star is a voluntary labeling program introduced by U.S. EPA to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the U.S. EPA joined with the Energy Department to expand the program, which now also includes certifying commercial and industrial buildings as well as homes (U.S. EPA 2021).

#### *Construction Equipment Fuel Efficiency Standard*

The U.S. EPA sets emission standards for construction equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

## **State**

#### *Assembly Bill 1493: Reduction of Greenhouse Gas Emissions*

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires the California Air Resources Board (CARB) to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the U.S. EPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the U.S. EPA. Pavley I regulated model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emission Vehicle, Zero Emissions Vehicles, and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions (CARB 2011). On September 19, 2019, the U.S. EPA withdrew California's Clean Air Act preemption waiver and issued the One National Program Rule, which prohibits states from establishing their own separate fuel economy standards or passing laws that substantially

affect fuel economy standards. As a result, California may no longer promulgate and enforce its tailpipe GHG emission standard and zero emission vehicle mandate (U.S. EPA 2019). However, on April 26, 2021, in response to President Biden’s Executive Order 13990 on “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,” the U.S. EPA announced that it would seek input on its consideration of rescinding the action taken by the prior administration.

*Assembly Bill 2076: Reducing Dependence on Petroleum*

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB prepared and adopted a joint-agency report, *Reducing California’s Petroleum Dependence*, in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand (CEC 2003).

*Energy Action Plan*

In 2003, the CEC and California Public Utilities Commission set forth their energy policy vision in the Energy Action Plan. The CEC adopted an update to the Energy Action Plan in February 2008 (EAP II) that supplements the earlier Energy Action Plan and examines the state’s ongoing actions in the context of global climate change. The nine major action areas in the Energy Action Plan include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/ infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure, research/development/demonstration, and climate change (California Public Utilities Commission 2008).

*Bioenergy Action Plan (Executive Order S-06-06)*

Executive Order (EO) S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following in-state production targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources:

1. Produce 20 percent of biofuels used in California by 2010,
2. Produce 40 percent of biofuels used in California by 2020, and
3. Produce 75 percent of biofuels used in California by 2050.

EO S-06-06 also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies potential barriers and recommends actions to address them so the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

1. Increase environmentally and economically sustainable energy production from organic waste
2. Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications

3. Create jobs and stimulate economic development, especially in rural regions of the state
4. Reduce fire danger, improve air and water quality, and reduce waste

*Assembly Bill 1007: State Alternative Fuels Plan*

In response to AB 1007, the CEC prepared the State Alternative Fuels Plan in partnership with the CARB and in consultation with other federal, state, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality (CEC 2007).

*Senate Bill 350*

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires a doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

*2017 Climate Change Scoping Plan*

On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the State's 2030 GHG emissions reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation. The 2017 Scoping Plan includes a wide variety of goals related to energy efficiency and renewable energy that are intended to help meet the State's 2030 target (CARB 2017).

*California Renewable Portfolio Standard and Senate Bill 100*

Approved by former Governor Brown on September 10, 2018, SB 100 accelerates the state's Renewable Portfolio Standard program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

*California Energy Efficiency Action Plan*

The CEC is responsible for preparing the California Energy Efficiency Action Plan, which covers issues, opportunities, and savings estimates related to energy efficiency in California's building, industrial, and agricultural sectors. The 2019 California Energy Efficiency Action Plan focuses on three goals:

1. Doubling energy efficiency savings by 2030 (SB 350)
2. Removing and reducing barriers to energy efficiency in low-income and disadvantaged communities
3. Reducing GHG emissions from the building sector

The plan offers several recommendations to advance these goals, including expanding funding sources for energy efficiency programs beyond ratepayer portfolios, improving

energy efficiency data, integrating energy efficiency into long-term utility planning, enhancing the energy efficiency workforce, improving demand flexibility, and expanding building decarbonization (CEC 2019c).

*California Building Energy Efficiency Standards – California Code of Regulations, Title 24, Part 6*

California Code of Regulations, Title 24, Part 6, is California’s Energy Efficiency Standards for Residential and Non-residential Buildings. The 2019 Building Energy Efficiency Standards (California Energy Code), adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting nonrenewable energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018).

The City of Berkeley has adopted amendments to the 2019 California Energy Code in BMC Chapter 19.36, which require more stringent energy measures including:

- Extending the solar PV requirement to nonresidential buildings
- Increasing EV charging readiness and installation in new buildings
- Providing two pathways to demonstrate compliance with the 2019 California Energy Code. New all-electric buildings must simply demonstrate compliance with the California Energy Code. However, new mixed-fuel buildings (i.e., electricity and natural gas used within the building) must exceed the energy efficiency requirements of the California Energy Code by 10 percent for non-residential buildings, high-rise residential buildings, and hotels/motels or by 10 Total Energy Design Rating points for single-family or low-rise residential buildings, or meet a set of prescriptive requirements with equivalent efficiency savings.
- Requiring electric-ready infrastructure for any natural gas appliance in new mixed-fuel buildings to support future electrification

*California Green Building Standards Code – California Code of Regulations Title 24, Part 11*

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The 2019 mandatory standards require:

- Inspections of energy systems to ensure optimal working efficiency;
- Dedicated circuitry to facilitate installation of electric vehicle charging stations in newly constructed attached garages for single-family, duplex dwellings, and nonresidential developments; and

- Designation of at least ten percent of parking spaces for multi-family residential developments and six percent for nonresidential developments as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment

The Tier I and Tier II voluntary standards require stricter energy efficiency requirements and cool/solar reflective roofs.

The City of Berkeley has adopted amendments to 2019 CALGreen in BMC Chapter 19.37, which require more stringent sustainability features. Among other changes, these amendments include requiring use of low-carbon concrete and 100 percent of asphalt, concrete, and land-clearing debris and 65 percent of other construction and demolition debris to be diverted from landfills. These amendments also require that at least 20 percent of parking spaces at new multi-family residential developments be capable of supporting electric vehicle chargers and that raceways be installed at the remaining 80 percent of parking spaces to facilitate future electric vehicle supply equipment. For new nonresidential developments where at least 10 new parking spaces are included, at least 10 percent of the parking spaces are required to have charging stations installed and at least 40 percent are required to be equipped with connecting raceways.

#### *Advanced Clean Trucks Regulation*

On June 25, 2020, CARB approved the Advanced Clean Trucks Regulation, which requires truck manufacturers (any manufacturer that certifies vehicles over 8,500 pounds gross vehicle weight rating) with sales in California to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, all new trucks sold in California must be zero-emission.

## **Local**

#### *City of Berkeley General Plan*

The City's General Plan Transportation, Environmental Management, Housing, and Urban Design Elements contain the following policies related to energy efficiency and renewable energy (City of Berkeley 2003):

**Policy T-19 Air Quality Impacts.** Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.

**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.

**Policy EM-35 Energy Efficient Design.** Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

**Policy EM-41 Fossil Fuel.** Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.

**Policy 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 GHG emissions.

**Policy UD-33 Sustainable Design.** Promote environmentally sensitive and sustainable design in new buildings.

*City of Berkeley Climate Action Plan*

The City of Berkeley adopted a Climate Action Plan (CAP) in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP center around the following topics (City of Berkeley 2009):

1. Sustainable Transportation and Land Use
2. Building Energy Use
3. Waste Reduction and Recycling
4. Community Outreach and Empowerment
5. Preparing for Climate Change Impacts

The CAP contains several recommended goals specifically related to energy efficiency and renewable energy, such as encouraging the use of low-carbon vehicles and fuels, promoting green building, reducing the costs of energy upgrades for existing residential properties, and increasing residential and commercial renewable energy use (City of Berkeley 2009).

Since publication of the CAP, the City has adopted several climate commitments in addition to those contained in the CAP:

- 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

*Berkeley Resilience Strategy*

In 2016, the City released its Resilience Strategy to advance the City’s resilience, or the ability of the individuals, institutions, businesses, and systems within the community to survive, adapt, and grow no matter what chronic stress or acute shock it experiences. Berkeley’s interconnected resilience challenges include earthquakes, wildfires, climate change impacts such as drought and flooding, and racial inequity. The City’s Resilience Strategy emphasizes building community resilience by facilitation stronger connections between neighbors; between public, private, nonprofit, and academic institutions; between departments within the City government; and between Bay Area local and regional governments. The six goals of the Resilience Strategy are (City of Berkeley 2016):

1. Build a Connected and Prepared Community
2. Accelerate Access to Reliable and Clean Energy
3. Adapt to the Changing Climate
4. Advance Racial Equity
5. Excel at Working Together within City Government to Better Serve the Community
6. Build Regional Resilience

### *Adeline Corridor Specific Plan*

The Adeline Corridor Specific Plan (ACSP), adopted in December 2020, is a long-range plan for the Adeline Corridor, a neighborhood in South Berkeley that includes the Ashby BART station. The ACSP recognizes that the Ashby BART station has the potential to become a complete neighborhood center with high-density, transit-oriented housing at a range of affordability levels, with space for community-serving retail, office, and attractive public space for commerce, such as the Berkeley Flea Market and the South Berkeley Farmers Market. The ACSP also envisions improvements to bicycle and pedestrian access, transit connections, and shared mobility technologies that make it easier to access the station without driving.

### *Berkeley Municipal Code*

In 2019, the Berkeley City Council adopted Ordinance No. 7,672-N.S., which added Chapter 12.80 to the BMC prohibiting the installation of natural gas infrastructure in newly constructed buildings unless the City approves an applicant's documentation that it is not physically feasible to construct the building without natural gas infrastructure or that its use serves the public interest.

### *Electric Mobility Roadmap*

In July 2020, the City adopted its first Electric Mobility Roadmap, which outlines the City's plan to implement its vision of a fossil fuel-free transportation system that integrates with and supports the City's ongoing efforts to increase walking, biking, and public transportation use in Berkeley and ensures equitable and affordable access to the benefits of clean transportation. The Electric Mobility Roadmap includes strategies to increase electric vehicle charging stations in new and existing development, provide public electric vehicle charging on City properties, advance electric bus rapid transit routes, electrify shared transportation fleets and private fleets, and increase the share of electric vehicle charging powered by 100 percent renewable energy (City of Berkeley 2020).

## 4.3.3 Impact Analysis

### **a. Methodology and Significance Thresholds**

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on energy resources if it would:

1. Result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Public Resources Code §21100(b)(3) states that an EIR shall include "mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." The physical environmental impacts associated with the use of energy, including the generation of electricity and burning of fuels, have been accounted for in Section 4.1, *Air Quality*, and Section 4.4, *Greenhouse Gas Emissions*.

Energy consumption is analyzed herein in terms of construction and operational energy use. Construction energy demand accounts for anticipated energy consumption during construction of the proposed project, such as fuel consumed by construction equipment and

construction workers' vehicles traveling to and from the project sites. Project construction activities would also use building materials that would require energy use during the manufacturing and/or procurement of that material. *CEQA Guidelines* §15126.2(b) of the states, "This [energy] analysis is subject to the rule of reason and shall focus on energy use that is caused by the project." This analysis reasonably assumes that manufacturers of building materials such as concrete, steel, lumber, or other building materials would employ energy conservation practices in the interest of minimizing the cost of doing business. Therefore, the consumption of energy required for the manufacturing and/or procurement of building and construction material is not within the scope of this analysis.

Operational energy demand accounts for the anticipated energy consumption during project operation, including but not limited to, electricity for lighting, space and water heating, and appliances and vehicle fuel consumption by future residents and employees.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used in part to estimate energy consumption from construction and operation of development under the proposed project. Modeling was completed as part of the greenhouse gas analysis for Section 4.4, *Greenhouse Gas Emissions*. The CalEEMod results provide the average travel distance, vehicle trip numbers, and vehicle fleet mix during construction and operation of development under the proposed project. The CalEEMod results also provide the estimated gross electricity consumption during project operation. The values contained in the CalEEMod results are used in this analysis to determine the anticipated energy consumption during construction and operation of the project. This analysis takes into consideration the equipment and processes employed during project construction and operation to qualitatively determine whether energy consumed during construction and operation would be wasteful, inefficient, or unnecessary.

## **b. Project Impacts and Mitigation Measures**

|   |
|---|
| <p><b>Threshold 1:</b> 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?</p> |
|---|

**Impact E-1 PROJECT CONSTRUCTION AND OPERATION WOULD REQUIRE TEMPORARY AND LONG-TERM CONSUMPTION OF ENERGY RESOURCES. HOWEVER, THE PROJECT WOULD NOT RESULT IN THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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### **Construction**

As described in Section 2, *Project Description*, the project would involve construction of up to 1,200 dwelling units and 100,000 square feet of non-residential space at the Ashby BART Station site and up to 1,200 dwelling units and 25,000 square feet of non-residential space at the North Berkeley BART Station site. Project construction would consume energy resources primarily in the form of fuel to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary power may also be provided for construction trailers and electric construction equipment. Table 4.3-4 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site. As shown therein, project construction would require approximately 250,755 gallons of gasoline and approximately 144,359 gallons of diesel fuel.

**Table 4.3-4 Proposed Project Construction Energy Usage**

| Source                                 | Fuel Consumption (gallons) |         |
|--|----------------------------|---------|
|  | Gasoline                   | Diesel  |
| Construction Equipment & Hauling Trips | –                          | 144,359 |
| Construction Worker Vehicle Trips      | 250,755                    | –       |

See Appendix E for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit off-road diesel vehicles and diesel-fueled commercial motor vehicles, respectively, from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, and vendor and haul trucks would be subject to the CARB Advanced Clean Trucks regulation, both of which would also minimize inefficient, wasteful, or unnecessary fuel consumption.

Electrical power would be consumed to construct the project, and the demand, to the extent required, would be supplied from existing electrical infrastructure in the area. However, per applicable regulatory requirements such as 2019 CALGreen and 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 to recycle and salvage 100 percent of excavated soil and land-clearing debris, concrete, and of asphalt during construction and demolition activities. 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 be expected to 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.

## Operation

Energy consumption during project operation would consist of transportation fuels for vehicle trips by future residents, employees, and visitors and electricity and natural gas usage for exterior and interior lighting, appliances, and space and water heating. Minimal natural gas would be consumed under the proposed amendments because BMC Chapter 12.80 prohibits the use of natural gas infrastructure in all new construction with limited exemptions and exceptions. To provide a conservative estimate of project impacts, it was assumed that 10 percent of new development would include natural gas connections/appliances. To account for the increased electricity usage that would occur in all-electric units, it was assumed that 90 percent of the natural gas demand estimated for the project in the air quality and greenhouse gas emissions modeling would instead be supplied by electricity.

Table 4.3-5 summarizes estimated operational energy consumption for development within the project sites. As shown therein, project operation would require approximately 721,683 gallons of gasoline and 161,417 gallons of diesel fuel for transportation fuels and 18,917 MWh of electricity and 29,934 therms of natural gas per year.

**Table 4.3-5 Operational Energy Usage**

| Source               | Annual Energy Consumption |              |
|----------------------|---------------------------|--------------|
| Transportation Fuels |                           |              |
| Gasoline             | 812,580 gallons           | 89,210 MMBtu |
| Diesel               | 181,747 gallons           | 23,165 MMBtu |
| Natural Gas          | 29,934 therms             | 2,783 MMBtu  |
| Electricity          | 18,917 MWh                | 64,546 MMBtu |

MWh = megawatt-hours; MMBtu = million British thermal units  
 See Appendix E for transportation energy calculation sheets and Appendix F for CalEEMod results.

Projects allowed under the proposed project would be required to comply with all standards set in the latest iteration of the California Building Standards Code (California Code of Regulations, Title 24) and any locally adopted amendments, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. As described in Section 4.3.2, *Regulatory Setting*, above, California’s CALGreen standards (California Code of Regulations, Title 24, Part 11) and BMC Chapters 12.80 19.36, and 19.36 require implementation of energy-efficient light fixtures and building materials into the design of new construction projects, limit the use of natural gas infrastructure in new development, and provide for electric-ready infrastructure for natural gas appliances in new buildings. Furthermore, the 2019 Building Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the CEC, and BMC Chapter 19.36 requires that new buildings exceed CEC energy standards. These standards for new buildings are designed for energy efficient performance, using clean electricity, so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. In addition, per CALGreen, all plumbing fixtures used in the proposed buildings would be high-efficiency fixtures, which would minimize the potential the inefficient or wasteful consumption of energy related to water and wastewater.

Furthermore, the proposed project would allow increased housing and commercial density in close proximity to existing residential and commercial uses and public transit. The project sites are located on parcels with existing BART stations and are within 0.5 mile of several bus stops for AC Transit, including stops for routes 12, 18, 52, 88, 604, 688, 800, and F. Given the sites’ proximity to transit and existing residences and commercial stores and services, the project’s future residents, visitors, and employees could travel to and from the project sites easily via modes other than vehicles, including walking, biking, and transit. As a result, as discussed in Section 4.11, *Transportation*, the developments facilitated by the project would meet the Transit Priority Area VMT screening criteria established by the City of Berkeley and would not be expected to result in a significant increase in VMT in the area. Moreover, BMC Chapter 19.37 would require at least 20 percent of parking spaces at new multi-family residential developments to be capable of supporting electric vehicle chargers and raceway at the remaining 80 percent of parking spaces to facilitate future electric vehicle supply equipment, which would support the use of electric vehicles by future residents. For nonresidential developments with at least 10 parking spaces, BMC Chapter 19.37 also requires that at least 10 percent of the parking spaces are required to have charging stations installed and at least 40 percent are required to be equipped with connecting raceways. These factors would minimize the potential of the project to result in the wasteful, inefficient, or unnecessary consumption of vehicle fuels. Therefore, project

operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. This impact would be less than significant.

**Mitigation Measure**

Impacts would be less than significant without mitigation; no mitigation is required.

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

**Impact E-2 THE PROJECT WOULD BE CONSISTENT WITH THE ENERGY EFFICIENCY AND RENEWABLE ENERGY POLICIES OF THE CITY’S CLIMATE ACTION PLAN (CAP) AND GENERAL PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Plans for renewable energy and energy efficiency applicable to the proposed project include the City of Berkeley CAP and General Plan. The City’s CAP contains recommended goals intended to increase energy efficiency and expand the use of renewable energy. As discussed under Impact GHG-2 in Section 4.4, *Greenhouse Gas Emissions*, the proposed zoning standards 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 4.3-6 summarizes the project’s consistency with the applicable policies of the City’s General Plan related to energy efficiency and renewable energy. As shown therein, the proposed project would be consistent with applicable General Plan policies. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and this impact would be less than significant.

**Table 4.3-6 Project Consistency with Applicable General Plan Measures**

| Policies   | Project Consistency  |
|--|--|
| <b>Transportation Element</b>  |  |
| <p><b>Policy T-19 Air Quality Impacts.</b> Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.</p> | <p><b>Consistent:</b> All housing units and non-residential space constructed under the proposed project would be subject to the requirements of the most recent iteration of CALGreen and locally adopted amendments, which include provisions for electric vehicle charging infrastructure. For example, BMC Section 19.37.040 requires 20 percent of parking spaces to be electric vehicle charging spaces capable of supporting future electric vehicle chargers and 80 percent of parking spaces to include raceways to facilitate future electric vehicle supply equipment at all new multi-family developments.</p> |
| <b>Environmental Management Element</b>  |  |
| <p><b>Policy EM-5 “Green” Buildings.</b> Promote and encourage compliance with “green” building standards.</p>   | <p><b>Consistent:</b> Future development facilitated by the proposed zoning project would be required to be constructed in accordance with the latest iteration of CALGreen, the California Energy Code, and any locally adopted amendments, which include green building practices. In addition, new construction would be required to be all electric per the requirements of BMC Section 12.80 (with limited exemptions and exceptions), which would reduce consumption of nonrenewable energy resources.</p>   |

| Policies   | Project Consistency  |
|--|--|
| <p><b>Policy EM-35 Energy Efficient Design.</b> Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.</p>   | <p><b>Consistent:</b> Future development facilitated by the proposed zoning project would be required to be constructed in accordance with the latest iteration of CALGreen, the California Energy Code, and any locally adopted amendments, which include requirements for the use of energy-efficient design and technologies as well as provisions for incorporating renewable energy resources into building design.</p>   |
| <p><b>Policy EM-41 Fossil Fuel.</b> Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.</p>   | <p><b>Consistent:</b> The project would facilitate increased housing density within the project sites, which currently includes surface parking lots and BART station buildings. The project sites contain BART stations and are within 0.5 mile of several bus stops for AC Transit, including stops for routes 12, 18, 52, 88, 604, 688, 800, and F. 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, implementation of the City’s Electric Mobility Roadmap (2020) and the electric vehicle charging infrastructure requirements of BMC Chapters 19.36 and 19.37 would facilitate future residents’ use of electric vehicles powered by renewable energy resources, which would further reduce consumption of fossil fuels. Furthermore, new construction would be required to be all electric per the requirements of BMC Section 12.80 (with limited exemptions and exceptions), which may also reduce consumption of nonrenewable energy resources.</p> |
| <p><b>Housing Element</b></p>  |  |
| <p><b>Policy H-30 Energy Efficiency and Waste Reduction.</b> 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.</p> | <p><b>Consistent:</b> As discussed under Impact GHG-2 in Section 4.4, <i>Greenhouse Gas Emissions</i>, the proposed project would be consistent with the recommended goals of the City’s CAP.</p>  |
| <p><b>Urban Design Element</b></p>   |  |
| <p><b>Policy UD-33 Sustainable Design.</b> Promote environmentally sensitive and sustainable design in new buildings.</p>  | <p><b>Consistent:</b> Future development projects facilitated by the proposed zoning project would be required to be constructed in accordance with the latest iteration of CALGreen and the California Energy Code, which include environmentally sensitive and sustainable design practices. In addition, new construction would be required to be all electric per the requirements of BMC Section 12.80 (with limited exemptions and exceptions), which would reduce consumption of nonrenewable energy resources.</p>   |

Source: City of Berkeley 2003

### Mitigation Measure

Impacts would be less than significant without mitigation; no mitigation is required.

### c. Cumulative Impacts

A project’s environmental impacts are “cumulatively considerable” if the “incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (*CEQA Guidelines* §15065[a][3]). The geographic scopes for the analysis of cumulative impacts to energy consumption is the city of Berkeley for electricity and natural gas consumption and Alameda County for transportation fuel consumption. This geographic

scope is appropriate because these are the smallest scales at which energy consumption information is readily available.

Cumulative development in Berkeley and Alameda County would increase demand for energy resources. However, new iterations of the California Energy Code and CALGreen (and associated local amendments) would require increasingly more efficient appliances and building materials that reduce energy consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the Corporate Average Fuel Economy Standards, and implementation of the Association of Bay Area Governments' and Metropolitan Transportation Commission's Plan Bay Area 2040 would reduce per capita VMT in Alameda County. Cumulative development in Berkeley would also be required to be consistent with applicable provisions of local plans and policies related to energy efficiency and renewable energy, such as the City's CAP, General Plan, and other plans. For example, implementation of the City's Electric Mobility Roadmap (2020) and the electric vehicle charging infrastructure requirements of BMC Chapter 19.37 would reduce cumulative communitywide consumption of fossil fuels. Furthermore, as discussed in Section 4.3.1(b), Energy Demand, per capita electricity consumption in Berkeley is lower than the countywide and statewide averages, and per capita gasoline fuel consumption in Alameda County is lower than the statewide average.<sup>1</sup> Per capita natural gas consumption in Berkeley is higher than the countywide average but approximately equal to the statewide average; however, the natural gas limitations for new development codified in BMC Chapter 12.80 would serve to minimize new natural gas consumption associated with cumulative communitywide development. Therefore, a significant cumulative impact related to the wasteful, inefficient, and unnecessary consumption of energy would not occur.

As discussed under Impact E-2, the project would be consistent with the City's CAP and General Plan, which were adopted to reduce the cumulative impact of energy consumption in Berkeley. Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to the plans adopted for renewable energy and energy efficiency.

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<sup>1</sup> Consumption of diesel fuels is not used as a metric in the cumulative energy impact analysis because it is not possible to disaggregate the percentage of diesel fuels consumed by the goods movement industry, which is not necessarily tied to local land use development.

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## 4.4 Greenhouse Gas Emissions

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This section discusses the potential impacts related to greenhouse gases (GHG) emissions and climate change related to the proposed project.

### 4.4.1 Setting

#### a. Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) has expressed a high degree of confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014a).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. GHGs widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, fluorinated gases such as hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO<sub>2</sub> and methane are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub> are usually by-products of fossil fuel combustion, and methane typically results from off-gassing associated with agricultural practices and landfills as well as leakages in the extraction and distribution of natural gas (natural gas is approximately 90% methane). Human-made GHGs, many of which have greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases and sulfur hexafluoride (United States Environmental Protection Agency [U.S. EPA] 2020). Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO<sub>2</sub>) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO<sub>2</sub>e), and is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of 251. By

contrast, methane has a 100-year GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2014b).<sup>1</sup>

The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Without the natural heat-trapping effect of GHGs, the Earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2020). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

## **b. Greenhouse Gas Emissions Inventory**

Worldwide anthropogenic emissions (i.e., emissions resulting from human activity) of GHGs were approximately 46,000 million metric tons (MMT or gigatonne) of CO<sub>2</sub>e in 2010 (IPCC 2014a). Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant, accounting for 76 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases accounted for 6 percent and 2 percent respectively (IPCC 2014a).

### **Federal Emissions Inventory**

Total United States (U.S.) GHG emissions were 6,676.6 MMT of CO<sub>2</sub>e in 2018. Since 1990, total U.S. emissions have increased by an average annual rate of 0.13 percent for a total increase of 3.7 percent since 1990. Emissions increased by 2.9 percent from 2017 to 2018. The increase from 2017 to 2018 was primarily driven by increased fossil fuel combustion as a result of multiple factors, including increased energy usage from greater heating and cooling needs due to a colder winter and hotter summer in 2018 as compared to 2017. In 2018, the transportation and industrial end-use sectors accounted for 36 percent and 26 percent, respectively, of GHG emissions while the residential and commercial end-use sectors accounted for 20 percent and 17 percent of GHG emissions, respectively, with electricity emissions distributed among the various sectors (U.S. EPA 2020).

### **California Emissions Inventory**

Based on the California Air Resource Board's (CARB) California Greenhouse Gas Inventory for 2000-2018, California produced 425.3 MMT of CO<sub>2</sub>e in 2018. The major source of GHG emissions in California is transportation, contributing 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 21 percent of the state's GHG emissions while electric power accounts for approximately 15 percent (CARB 2020a). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In 2016, the State of California achieved its 2020 GHG emission reduction targets as emissions fell below 431 MMT of CO<sub>2</sub>e (CARB 2020a). The annual 2030 statewide target emissions level is 260 MMT of CO<sub>2</sub>e (CARB 2017).

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<sup>1</sup> The IPCC's (2014b) *Fifth Assessment Report* determined that methane has a GWP of 28-34. However, modeling of GHG emissions was completed using the California Emissions Estimator Model version 2016.3.2, which uses a GWP of 25 for methane, consistent with the IPCC's (2007) *Fourth Assessment Report*.

## Local Emissions Inventory

The City of Berkeley completed a baseline 2005 GHG emissions inventory that estimated communitywide emissions of 575,889 MT of CO<sub>2</sub>e per year. The primary emissions sources were transportation (approximately 47 percent), commercial uses (approximately 27 percent), and residential uses (approximately 26 percent) (City of Berkeley 2009). Based on the most recent 2018 inventory, communitywide GHG emissions have decreased by approximately 26 percent since 2000 even though Berkeley's population has increased by approximately 18 percent over the same time period (City of Berkeley 2020a). In the 2018 inventory, transportation accounted for 59 percent of GHG emissions, commercial uses accounted for 18 percent, and residential uses accounted for 20 percent.

### c. Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2015 to 2017 was approximately 1.0°C higher than the average GMST over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2021). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014a and 2018).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018). While there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

### Air Quality

From 1950 to 2005, average annual maximum temperature in the Bay Area increased by approximately 0.95°C, consistent with the global mean temperature change attributable to anthropogenic influences over a similar time period. Even with significant efforts to mitigate climate change, the Bay Area will likely see annual mean warming of approximately 1.8°C by 2050 as compared to 2005 (State of California 2018). Higher temperatures are conducive to air pollution formation and could worsen air quality in California as they rise. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires

have occurred at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen, but if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution. This would effectively reduce the number of large wildfires, thereby ameliorating the pollution associated with them. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Natural Resources Agency 2009).

## **Water Supply**

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the West, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides the majority of California's water supply, as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

## **Hydrology and Sea Level Rise**

Climate change could affect the intensity and frequency of storms and flooding, and the Bay Area's largest winter storms are likely to become more intense and potentially more damaging in future decades (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, observed by satellites, ocean buoys, and land gauges, was approximately 3.2 millimeters per year, double the twentieth century trend of 1.6 millimeters per year. Global mean sea levels averaged over the last decade were about 0.20 meter higher than those of 1880 (World Meteorological Organization 2013). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea-level rise of 0.25 to 0.94 meter by 2100 (IPCC 2018). Over the past century, the sea level in the Bay Area has risen by over 0.2 meter. A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of

buried infrastructure (State of California 2018). Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

## Agriculture

California has an over \$50 billion annual agricultural industry (approximately \$2.2 billion of which is from the Bay Area) that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2020). Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency, but if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent. This would increase water demand as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could change the time of year certain crops bloom or ripen, thereby affecting their quality (California Climate Change Center 2006). In particular, nearly 70 percent of California's existing area of wine production will be vulnerable under future climate change projections by 2050, and wine grape production in the Bay Area could suffer from extreme temperatures and temperature-related water scarcity (State of California 2018).

## Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on the global and local scales. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018). In the Bay Area, the future climate will become less suitable for evergreen forests such as redwoods and Douglas fir and more favorable for heat-adapted vegetation such as chaparral shrubland (State of California 2018).

### d. Regulatory Setting

#### Federal

##### *Federal Clean Air Act*

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the U.S. EPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 S. Ct. 2427 [2014]), the U.S. Supreme Court held the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

#### *Safer Affordable Fuel-Efficient Vehicles Rule*

On September 27, 2019, the U.S. EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The Part One Rule revoked California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. However, on April 26, 2021, in response to President Biden's Executive Order 13990 on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," the U.S. EPA announced it would seek input on its reconsideration of rescinding the action taken by the prior administration, including whether the decision to withdraw California's waiver was appropriate. The U.S. EPA and the National Highway Traffic Safety Administration have finalized rulemaking for Part Two of the SAFE Vehicles Rule, which revises corporate average fuel economy and CO<sub>2</sub> emissions standards for model years 2021-2026 passenger cars and trucks such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase (National Highway Traffic Safety Administration 2021). Part Two of the SAFE Vehicles Rule was published in the Federal Register (85 Federal Register 24174) and became effective on June 29, 2020. To account for the effects of the Part Two Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model.

## **State**

The CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

#### *California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)*

The "California Global Warming Solutions Act of 2006," Assembly Bill (AB) 32, outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires the CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO<sub>2</sub>e. CARB approved the Scoping Plan on December 11, 2008 and the Plan included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the

“near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State’s longer term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT of CO<sub>2</sub>e by 2030 and two MT of CO<sub>2</sub>e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

#### *Senate Bill 375*

SB 375, signed in August 2008, enhances the State’s ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO’s Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as “transit priority projects”) would receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing per capita GHG emissions from passenger vehicles from 2005 levels by 2020 and 2035. The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) were assigned targets of a 10 percent reduction in per capita GHG emissions from passenger vehicle sources below 2005 levels by 2020 and a 19 percent reduction in per capita GHG emissions from passenger vehicle sources below 2005 levels by 2035. MTC and ABAG adopted *Plan Bay Area 2040* in July 2017, which includes the region’s SCS and meets the requirements of SB 375 in place at its time of adoption (i.e., a 7 percent reduction by 2020 and a 15 percent reduction by 2035) (MTC and ABAG 2017a and 2017b). The updated 2018 SB 375 targets will be addressed in the next plan update, *Plan Bay Area 2050*.

#### *Senate Bill 1383*

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery, in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

#### *Senate Bill 100*

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

#### *Executive Order B-55-18*

On September 10, 2018, the former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

#### *California Building Standards Code*

### **CALIFORNIA CODE OF REGULATIONS, TITLE 24 – CALIFORNIA BUILDING CODE**

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The CBC's energy-efficiency and green building standards are outlined below.

### **PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE**

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Energy Code is updated periodically (currently every three years) to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

The City of Berkeley has adopted amendments to the 2019 California Energy Code in BMC Chapter 19.36, which require more stringent energy measures including:

- Extending the solar PV requirement to nonresidential buildings
- Increasing EV charging readiness and installation in new buildings
- Providing two pathways to demonstrate compliance with the 2019 California Energy Code. New all-electric buildings must simply demonstrate compliance with the California Energy Code. However, new mixed-fuel buildings (i.e., electricity and natural gas used within the building) must exceed the energy efficiency requirements of the California

Energy Code by 10 percent for non-residential buildings, high-rise residential buildings, and hotels/motels or by 10 Total Energy Design Rating points for single-family or low-rise residential buildings, or meet a set of prescriptive requirements with equivalent efficiency savings.

- Requiring electric-ready infrastructure for any natural gas appliance in new mixed-fuel buildings to support future electrification

## **PART 11 – CALIFORNIA GREEN BUILDING STANDARDS/CALGREEN**

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The 2019 mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;<sup>2</sup>
- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle charging stations in newly constructed attached garages for single-family and duplex dwellings and nonresidential development; and
- Designation of at least ten percent of parking spaces for multi-family residential developments and a certain quantity (depending on the total number of parking spaces) for non-residential developments as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment

The voluntary standards require:

- **Tier I:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste with third-party verification, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste with third-party verification, 15 percent recycled content for building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar reflective roof.

The City of Berkeley has adopted amendments to 2019 CALGreen in BMC Chapter 19.37, which require more stringent sustainability features. These include requiring at least 20 percent of parking spaces at new multi-family residential developments to be capable of

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<sup>2</sup> Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

supporting electric vehicle chargers and raceway at the remaining 80 percent of parking spaces to facilitate future electric vehicle supply equipment. The amendments also include requiring at least 10 percent of parking spaces at new non-residential developments to include electric vehicle chargers and at least 40 percent of parking spaces to include raceways to facilitate future electric vehicle supply equipment. In addition to a 65 percent diversion of construction/demolition waste, the City of Berkeley requires recycling and salvage of 100 percent of excavated soil and land-clearing debris, concrete, and asphalt during construction and demolition activities.

*California Integrated Waste Management Act (Assembly Bill 341)*

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000.

For more information on the Senate and Assembly bills, executive orders, building codes, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: <https://www.energy.ca.gov/data-reports/reports/californias-fourth-climate-change-assessment>, [www.arb.ca.gov/cc/cc.htm](http://www.arb.ca.gov/cc/cc.htm), and <https://www.dgs.ca.gov/BSC/Codes>.

## **Regional**

*Bay Area Air Quality Management District*

The Bay Area Air Quality Management District (BAAQMD) is responsible for enforcing standards and regulating stationary sources in its jurisdiction. BAAQMD regulates GHG emissions through specific rules, regulations, and project- and plan-level emissions thresholds for GHGs to ensure that the Bay Area contributes to its fair share of emissions reductions. In 2013, BAAQMD adopted a resolution that builds on state and regional climate protection efforts by:

- Setting a goal for the Bay Area region to reduce GHG emissions by 2050 to 80 percent below 1990 levels
- Developing a Regional Climate Protection Strategy to make progress towards the 2050 goal, using BAAQMD's Clean Air Plan to initiate the process
- Developing a 10-point work program to guide the BAAQMD's climate protection activities in the near-term

The BAAQMD has outlined the 10-point work program, which includes policy approaches, assistance to local governments, and technical programs that will help the region make progress toward the 2050 GHG emissions goal, and has adopted the 2017 Clean Air Plan, which includes a control strategy to protect the climate by reducing GHG emissions and developing a long-range vision of how the Bay Area could look and function in a post-carbon economy in 2050 (BAAQMD 2017a).

*Plan Bay Area 2040*

*Plan Bay Area 2040* is a state-mandated, integrated long-range transportation, land-use, and housing plan adopted by MTC and ABAG in July 2017 that supports a growing economy, provides more housing and transportation choices, and reduces transportation-

related pollution in the nine-county San Francisco Bay Area. *Plan Bay Area 2040* builds on earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way. *Plan Bay Area 2040* will be updated every four years to reflect new priorities. The goals of *Plan Bay Area 2040* related to GHG emissions include (MTC and ABAG 2017):

1. **Climate Protection.** Reduce per capita CO<sub>2</sub> emissions.
2. **Healthy and Safe Communities.** Reduce adverse health impacts.
3. **Open Space and Agricultural Preservation.** Direct development within urban footprint.
4. **Transportation.** Increase non-auto mode share.

*Plan Bay Area 2040* also identifies nearly 200 Priority Development Area, which are existing neighborhoods served by public transit that MTC, ABAG, and local governments have identified as suitable for additional, compact development to focus future growth.

## Local

### *City of Berkeley Climate Action Plan*

The City of Berkeley adopted a Climate Action Plan (CAP) in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP center around the following topics (City of Berkeley 2009):

1. Sustainable Transportation and Land Use
2. Building Energy Use
3. Waste Reduction and Recycling
4. Community Outreach and Empowerment
5. Preparing for Climate Change Impacts

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 guiding GHG emission reduction efforts. Since publication of the CAP, the City has outlined several additional climate commitments:

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

### *City of Berkeley General Plan*

The City’s General Plan Environmental Management Element contains the following policies related to GHG emissions (City of Berkeley 2003):

**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.

### *Berkeley Resilience Strategy*

In 2016, the City released its Resilience Strategy to advance the City's resilience, or the ability of the individuals, institutions, businesses, and systems within the community to survive, adapt, and grow no matter what chronic stress or acute shock it experiences. Berkeley's interconnected resilience challenges include earthquakes, wildfires, climate change impacts such as drought and flooding, and racial inequity. The City's Resilience Strategy emphasizing building community resilience by facilitation stronger connections between neighbors; between public, private, nonprofit, and academic institutions; between departments within the City government; and between Bay Area local and regional governments. The six goals of the Resilience Strategy are (City of Berkeley 2016):

1. Build a Connected and Prepared Community
2. Accelerate Access to Reliable and Clean Energy
3. Adapt to the Changing Climate
4. Advance Racial Equity
5. Excel at Working Together within City Government to Better Serve the Community
6. Build Regional Resilience

### *Adeline Corridor Specific Plan*

The Adeline Corridor Specific Plan (ACSP), adopted in December 2020, sets forth a long-range plan for the Adeline Corridor, a neighborhood in South Berkeley that includes the Ashby BART station. The ACSP recognizes that the Ashby BART station has the potential to become a complete neighborhood center with high-density, transit-oriented housing at a range of affordability levels, with space for community-serving retail, office, and attractive public space for commerce, such as the Berkeley Flea Market and the South Berkeley Farmers Market. The ACSP envisions that coordination with BART to ensure that residents, workers, and visitors are well served would allow the City to advance sustainability goals related to economic opportunity, land use and housing, mobility and greenhouse gas reduction.

### *Berkeley Municipal Code*

In 2019, the Berkeley City Council added Chapter 12.80 to the BMC via Ordinance No. 7,672-N.S., which prohibits the installation of natural gas infrastructure in newly constructed buildings unless the entitling body establishes that it is not physically feasible to construct the building without natural gas infrastructure or that its use serves the public interest.

### *Electric Mobility Roadmap*

In July 2020, the City adopted its first Electric Mobility Roadmap, which outlines the City's plan to implement its vision of a fossil fuel-free transportation system that integrates with and supports the City's ongoing efforts to increase walking, biking, and public transportation use in Berkeley and ensures equitable and affordable access to the benefits of clean transportation. The Electric Mobility Roadmap includes strategies to increase electric vehicle charging stations in new and existing development, provide public electric vehicle charging on City properties, advance electric bus rapid transit routes, electrify shared transportation fleets and private fleets, and increase the share of electric vehicle charging powered by 100 percent renewable energy (City of Berkeley 2020c).

## 4.4.2 Impact Analysis

### a. Methodology and Significance Thresholds

#### Methodology

The geographic scope for the GHG emissions analysis is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. The analysis of GHG emission impacts considers the effects of both temporary construction-related emissions and long-term operational emissions. Construction and operational emissions associated with buildout of future development allowed under the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod uses specific information, including the land use mix, square footages, and location, to estimate construction and operational emissions. Operational emissions were also calculated for the existing retail space anticipated to be demolished and subtracted from the proposed project's emissions to determine the net increase in GHG emissions. Emissions are calculated for year 2030, which is the State's next milestone target year for GHG emission reductions and the anticipated buildout horizon under the proposed project. Complete CalEEMod results and assumptions are provided in Appendix F.

The projected size of residential and non-residential land uses input into CalEEMod were based on the buildout assumptions in Section 2, *Project Description*. In addition, consistent with the analysis in Section 4.11, *Transportation*, the total non-residential floor area was divided into six categories (general office building, day-care center, fast food restaurant, health club, sit down restaurant, and convenience market).

Construction-related GHG emissions include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. The BAAQMD has not established a quantitative significance threshold for evaluating construction-related emissions, but it does recommend quantifying and disclosing construction-generated GHG emissions (BAAQMD 2017b). Therefore, this analysis quantifies and discloses construction-generated GHG emissions, both in total and amortized based on the estimated replacement life of the future development under the proposed project (30 years). CalEEMod default values for construction phases and length of construction were used, except the architectural coating phase was extended to overlap with the building construction phase to reflect typical construction schedules. In addition, the amount of soil anticipated to be excavated was based on estimates provided by the project sponsor and based on a conservative assumption that all building footprints would be underlain by subterranean parking garages.

Operational emissions modeled include emissions generated by area sources (e.g., landscaping equipment), energy and water usage, mobile sources (i.e., vehicle emissions), and solid waste generation. Area source emissions are generated by landscape maintenance equipment and fireplaces. In accordance with BAAQMD Regulation 6, Rule 3 and BMC Chapter 12.80, no wood-burning devices would be installed in new residential units. In addition, non-residential energy usage was reduced by 30 percent to account for the requirements of 2019 Title 24 standards (California Energy Commission 2019).

Electricity-generated emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). Future development within the project sites would be served by East Bay Community Energy (EBCE). Therefore, EBCE's specific energy intensity factors (i.e., the amount of CO<sub>2</sub>e per megawatt-hour) are

used in the calculations of GHG emissions. As of 2019, EBCE's energy intensity factor for its base plan (Bright Choice), which consists of 60 percent eligible renewable energy resources, was 135 pounds of CO<sub>2</sub>e per megawatt-hour (EBCE 2020 and 2021). Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030 and 100 percent by 2045. Because EBCE has already met the 2030 RPS target of 60 percent for its base plan, it is conservatively assumed that their current energy intensity factor would be the same in 2030. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the building, such as plug-in appliances. Non-building energy use, or "plug-in energy use," can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.). In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. To account for the requirements of 2019 Title 24 standards that are not included in CalEEMod, energy usage from non-residential land uses under the Existing Specific Plans and the proposed project was reduced by 30 percent (California Energy Commission 2018).

BMC Chapter 12.80 prohibits the use of natural gas infrastructure in all new construction unless the applicant can establish that it is not physically feasible to construct the building without natural gas infrastructure or that its use serves the public interest. Therefore, it was assumed that only 10 percent of new development would include natural gas connections/appliances. To account for the increased electricity usage that would occur in all-electric units, it was assumed that 90 percent of the natural gas demand estimated for the project in CalEEMod would instead be supplied by electricity.

Mobile source emissions consist of emissions generated by vehicle trips to and from the project sites. This analysis focuses on vehicle trips associated with new residential and commercial uses that could be developed under the proposed zoning changes. The proposed project would likely result in the loss of on-site parking for BART riders, which would change the number and/or percentage of riders accessing the BART stations by vehicle. The calculations of mobile emissions associated with the project do not include the change in travel associated with BART rider travel to the sites because it is speculative to assume how removing parking would affect travel patterns. Thus, it is also speculative to assume to potential change in BART rider travel patterns and associated GHG implications. As discussed in Section 4.11, *Transportation*, as a result of the change in the supply of vehicle parking spaces for BART riders, people who currently access the station by private vehicle may choose to: use another mode (e.g., taxi/transportation network company, transit, bike, or walk); drive and park at another station; drive to their destination; or continue to drive to the station and attempt to find parking on streets or parking lots located near the site. There would also be an increase in the number of people who would live in the transit-oriented development at the BART sites who would not need to drive to access the stations.<sup>3</sup> In accordance with the proposed Joint Vision and Priorities document, future development under the project would incorporate strategies to decrease the share of BART riders who access the stations via private vehicle. Reducing the share of riders who access BART via private vehicle would reduce associated mobile emissions. Because this analysis does not take into account the likely reduction in vehicle travel to the sites, this analysis is conservative.

Moreover, as described in Section 4.11, *Transportation*, because the project is consistent with screening criteria for analysis of VMT impacts, a project-specific VMT calculation was

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<sup>3</sup> See Section 4.9, *Population and Housing*, for a discussion of the projected population and jobs growth related to the proposed project.

not completed. Therefore, VMT calculations used in the CalEEMod modeling were based on current and projected VMT for the areas where the project sites are located provided by the Metropolitan Transportation Commission (MTC) based on the current uses within the sites and surrounding neighborhoods (MTC 2021). General office (particularly small office buildings, as described in Appendix H, the Transportation Analysis Methodology Memorandum), day-care, restaurant, and convenience market land uses tend to be local-serving land uses, and given that the project sites are located in urbanized areas of Berkeley, these components of the project would serve to improve retail destination proximity to existing neighborhoods rather than induce trips from other areas of the region. As a result, it was assumed that emissions associated with these vehicle trips would not be net new trips to the broader region, but rather would be emissions from redirected trips that are currently traveling to similar destinations in the region at similar or further distances. Therefore, the VMT estimate used in the CalEEMod modeling only includes trips associated with the residential and health club land uses because GHG emissions generated by these trips would be net new to the broader region as compared to existing baseline conditions.

Because CalEEMod does not calculate N<sub>2</sub>O emissions from mobile sources, N<sub>2</sub>O emissions for both the proposed project and the existing use were quantified using guidance from CARB and the EMFAC2021 Emissions Inventory for the BAAQMD region for the year 2030 using the EMFAC2011 categories (CARB 2018a and 2021; see Appendix F for calculations).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity demand as calculated by the California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California (California Air Pollution Control Officers Association 2017). However, CalEEMod does not incorporate water use reductions required by CALGreen (Part 11 of Title 24). Future development would be subject to CALGreen and East Bay Municipal Water District Section 31 regulations, which requires use of high-efficiency water fixtures and a water-efficient irrigation system. Thus, in order to account for regulatory compliance, the use of high-efficiency water fixtures and a water-efficient irrigation system were included in the water consumption calculations for development under the proposed project. In addition, the default wastewater assumptions for both the proposed buildout and the existing use were adjusted to account for the fact that wastewater in Berkeley is treated by East Bay Municipal Utility District's treatment facility, which only utilizes anaerobic digester processes with no facultative lagoons or septic tanks.

The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste was calculated using waste disposal rates identified by the California Department of Resources Recycling and Recovery (CalRecycle). The methods for quantifying GHG emissions from solid waste are based on the IPCC method, using the degradable organic content of waste. The City of Berkeley has achieved a solid waste diversion rate of 68 percent; therefore, CalEEMod was adjusted to account for increased solid waste diversion as compared to the standard calculations (City of Berkeley 2020b).

## Significance Thresholds

Based on Appendix G of the *CEQA Guidelines*, impacts related to GHG emissions from the proposed project would be significant if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines* §15064[h][1]).

According to the *CEQA Guidelines*, CEQA analyses of GHG impacts for projects can tier from a "qualified" GHG reduction plan. This allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in an adopted GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in its white paper, "Beyond Newhall and 2020," to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions impact on the environment (2016). *CEQA Guidelines* §15183.5 defines the requirements for a plan to qualify as a comprehensive plan for the reduction of GHG emissions. To qualify, a plan must:

1. Quantify existing and projected GHG emissions within the plan area over a specified time period;
2. Establish a reduction target based on substantial evidence at which GHG emissions would not be cumulatively considerable;
3. Identify and analyze sector specific GHG emissions from plan activities;
4. Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve the specified reduction target;
5. Establish a tool to monitor progress and amend if necessary; and
6. Be adopted in a public process following environmental review.

A key aspect of a GHG reduction plan suitable for tiering is that the identified reduction target establishes a threshold at which GHG emissions would not be cumulatively considerable. The AEP Beyond Newhall white paper identifies this criterion as being a local target that aligns with statewide legislative targets. The City of Berkeley adopted a Climate Action Plan (CAP) that sets a year 2020 target to achieve a 33 percent reduction below year 2000 communitywide emissions and identifies actions to achieve the target with the ultimate goal of 80 percent emissions reductions by 2050 (City of Berkeley 2009). However, the CAP does not establish a pathway to achieving the State's goal for 2030. Therefore, the CAP does not qualify as a GHG reduction plan for projects with horizon years beyond 2020. Because future development facilitated by the proposed project would be operational post-2020, consistency with the CAP cannot be used as the basis of the CEQA analysis for the proposed project.

Instead, this analysis evaluates GHG emissions generated by the proposed project compared to a locally appropriate, project-specific efficiency threshold derived from the State's 2030 target and the City's GHG inventory from 2005, which is consistent with current best practices in the industry (AEP 2016). This provides a quantitative assessment of the

project’s GHG emissions compared to a project-specific threshold. The locally appropriate, project-specific efficiency threshold used in this analysis was created to comply with the CEQA Guidelines and interpretative GHG case law. An efficiency threshold is calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the service population (residents plus employees) in that year. This calculation identifies the quantity of emissions that can be generated on a per-service population basis without significantly impacting the environment. This approach is appropriate for the proposed project because it measures the project’s emissions on a local per capita basis to determine its overall GHG emissions efficiency relative to state and local GHG emission reduction goals.

*Year 2030 Threshold of Significance*

For the proposed project, a 2030 efficiency threshold was calculated based on the target GHG emission levels that would be consistent with the State’s 2030 target using the service population (residents + employees) of Berkeley in year 2030. This locally appropriate, project-specific quantitative threshold is derived, in part, from the City’s 2005 GHG inventory in line with CARB’s recommendations in the 2008 Climate Change Scoping Plan and the 2017 Scoping Plan (CARB 2008 and 2017). Consistent with the legal guidance provided in the Golden Door (2018) and Newhall Ranch (2015) decisions regarding the correlation between state and local conditions, the City’s 2005 GHG inventory was used to calculate a locally-appropriate, evidence-based, project-specific threshold consistent with the State’s 2030 target. Accordingly, the threshold established in this EIR is a locally-applicable, project-specific threshold, as opposed to a threshold for general use.

The City completed a 2005 GHG inventory that calculated communitywide emissions of 575,889 MT of CO<sub>2</sub>e per year (see Table 4.4-1). Because the proposed project would allow both residential and commercial development, all three sectors identified in the inventory (Residential Energy, Commercial Energy, and Transportation) are appropriate to use in developing a project-specific threshold because future residents and employees within the project sites would consume energy and generate on-road vehicle trips. Therefore, the project-applicable emissions would be 575,889 MT of CO<sub>2</sub>e for 2005.

**Table 4.4-1 City of Berkeley Baseline Inventory – 2005**

| <b>Source</b>          | <b>2005 Total<br/>(MT of CO<sub>2</sub>e)</b> |
|------------------------|---|
| Residential Energy     | 152,599                                       |
| Commercial Energy      | 157,746                                       |
| Transportation         | 265,544                                       |
| <b>Total Emissions</b> | <b>575,889</b>                                |

MT = metric tons; CO<sub>2</sub>e = carbon dioxide equivalents

Source: City of Berkeley 2009

AB 32 set a statewide target of reducing GHG emissions to 1990 levels by 2020. Therefore, for the City of Berkeley to be consistent with AB 32, annual GHG emissions levels from project-applicable sectors would need to be reduced by 15 percent below 2005 levels by 2020 to approximately 489,506 MT of CO<sub>2</sub>e per year. In addition, the State set a statewide GHG emission reduction target of 40 percent below 1990 levels by 2030. Therefore, annual GHG emissions levels from project-applicable sectors would need to be reduced by 40 percent below 1990 levels to approximately 293,703 MT of CO<sub>2</sub>e per year to be consistent with the State’s 2030 target. Accordingly, the 2030 project-specific efficiency threshold can

be calculated by dividing total communitywide GHG emissions by the communitywide service population (residents + employees) for year 2030. The City’s 2030 service population would be approximately 254,565 persons (ABAG 2017). Therefore, the 2030 locally-appropriate, project-specific threshold would be approximately 1.2 MT of CO<sub>2</sub>e per resident per year (see Table 4.4-2).

**Table 4.4-2 Locally Applicable Project-Specific 2030 Efficiency Threshold**

| Target Year                                       | Value  |
|---|--|
| 2005 Baseline Levels <sup>1</sup>                 | 575,889 MT of CO <sub>2</sub> e/year                   |
| 2020 Target (AB 32) <sup>2</sup>                  | 489,506 MT of CO <sub>2</sub> e/year                   |
| 2030 Target (SB 32) <sup>3</sup>                  | 293,703 MT of CO <sub>2</sub> e/year                   |
| 2030 Service Population <sup>4</sup>              | 254,565 persons  |
| <b>2030 Project-Specific Efficiency Threshold</b> | <b>1.2 MT of CO<sub>2</sub>e per resident per year</b> |

MT = metric tons; CO<sub>2</sub>e = carbon dioxide equivalents

<sup>1</sup> 2005 emission levels from project-applicable sectors (see Table 4.4-1)

<sup>2</sup> AB 32 sets a target of reducing GHG emissions to 1990 levels (i.e., 15 percent below 2005 levels) by 2020.

<sup>3</sup> SB 32 sets a target of reducing GHG emissions 40 percent below 1990 levels by 2030.

<sup>4</sup> 135,680 residents + 118,885 jobs

<sup>4</sup> Source: ABAG 2017

## b. Project Impacts and Mitigation Measures

**Threshold 1:** Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

**IMPACT GHG-1 CONSTRUCTION AND OPERATION OF FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD GENERATE TEMPORARY AND LONG-TERM INCREASES IN GHG EMISSIONS. HOWEVER, WITH MITIGATION, THE PROJECT’S YEAR 2030 EMISSIONS WOULD NOT EXCEED THE LOCALLY-APPLICABLE, PROJECT-SPECIFIC 2030 EFFICIENCY THRESHOLD OF 1.2 MT OF CO<sub>2</sub>E PER PERSON PER YEAR. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

### Construction Emissions

Construction activities facilitated by the proposed project would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling. The BAAQMD has not established a quantitative significance threshold for evaluating construction-related emissions; however, the BAAQMD does recommend quantifying and disclosing construction-related GHG emissions. Therefore, construction-related GHG emissions were quantified for informational purposes. Emissions generated by construction of the development under the proposed project would be approximately 3,369 MT of CO<sub>2</sub>e, or approximately 112 MT of CO<sub>2</sub>e per year when amortized over a 30-year period (i.e., the replacement lifetime of future development under the project).

### Operational Emissions

Table 4.4-3 summarizes operational GHG emissions associated with development under the proposed project for year 2030 (i.e., the State’s next milestone target year). As shown

therein, the project would result in a net increase of approximately 8,093 MT of CO<sub>2</sub>e per year by year 2030 as compared to existing conditions, which would equate to approximately 1.4 MT of CO<sub>2</sub>e per resident per year. Therefore, per capita emissions would exceed the project-specific, locally-applicable 2030 threshold of 1.2 MT of CO<sub>2</sub>e per resident per year. This impact is potentially significant.

**Table 4.4-3 Combined Annual GHG Emissions (MT of CO<sub>2</sub>e)**

| <b>Emission Source</b>                        | <b>2030</b>  |
|---|--------------|
| Area  | 60           |
| Energy  | 1,308        |
| Solid Waste                                   | 585          |
| Water   | 152          |
| Mobile  |              |
| CO <sub>2</sub> and CH <sub>4</sub>           | 5,907        |
| N <sub>2</sub> O                              | 81           |
| <b>Total Project Emissions</b>                | <b>8,093</b> |
| <b>Project Service Population<sup>1</sup></b> | <b>5,889</b> |
| <b>Net New Emissions Per Service Person</b>   | <b>1.4</b>   |
| <b>2030 Threshold of Significance</b>         | <b>1.2</b>   |
| <b>Threshold Exceeded?</b>                    | <b>Yes</b>   |

<sup>1</sup> 5,424 residents + 465 employees (see Section 4.9, *Population and Housing*)

MT = metric tons; CO<sub>2</sub>e = carbon dioxide equivalents

See Appendix F for CalEEMod and EMFAC2021 results.

## Mitigation Measures

### *GHG-1 GHG Reduction Program*

Applicants for future development allowed under the proposed project shall prepare and implement a Greenhouse Gas Reduction Program (GGRP) that includes on-site GHG reduction measures to reduce the project's total remaining GHG emissions to 1.2 MT of CO<sub>2</sub>e per service person per year or less (a total of approximately 1,027 MT of CO<sub>2</sub>e per year). Potential options include, but would not be limited to:

- Supply 100 percent of electricity from renewable energy resources. Current options include opting into EBCE's Renewable 100, PG&E's Solar Choice, or PG&E's Regional Renewable Choice.
- Install additional electric vehicle charging stations beyond those required under BMC Chapter 19.37 within proposed parking areas.
- Implement a transportation demand program that includes measures beyond those required City of Berkeley Transportation Demand Management (TDM) requirements. Program measures may include priority parking spaces for carpools, electric rideshare vehicles for residents and employees, and a bicycle sharing program.

- Prohibit installation of natural gas fireplaces.
- Use electric-powered construction equipment.
- Use electric-powered landscape equipment.

### Significance After Mitigation

As shown in Table 4.4-4, implementation of Mitigation Measure GHG-1 could feasibly reduce GHG emissions by at least 1,159 MT of CO<sub>2</sub>e per year to 1.2 MT of CO<sub>2</sub>e per service person per year through use of renewable electricity.<sup>4</sup> Additional on-site GHG emissions reductions could be achieved through installation of additional electric vehicle charging stations, implementation of a transportation demand program, use of electric construction equipment, and use of electric landscape equipment; however, quantifying potential reductions from these components of the mitigation measure would be speculative due to uncertainty regarding the implementation of such measures. For example, the effectiveness of electric vehicle charging stations is dependent on the adoption rate of electric vehicles among future residents, employees, and patrons of the proposed project. In addition, without knowing the specific transportation policies that would be included in a transportation demand management program, or future residents' response, and engagement with the program, an accurate GHG emission reduction cannot be estimated. Similarly, the use of electric-powered construction equipment would be dependent on the availability of such equipment for project construction, and the use of electric-powered landscape equipment would be dependent on the availability and feasibility of using such equipment during project operation. Therefore, these additional GHG reduction measures identified in Mitigation Measure GHG-1 have not been quantified to provide a conservative estimate of feasible on-site GHG emissions reductions.

Given the reduction of 1,159 MT CO<sub>2</sub>e per year achieved by quantifiable on-site GHG emissions reduction measures (i.e., the use of renewable electricity), with implementation of Mitigation Measure GHG-1, project emissions would equal but not exceed the 2030 threshold of 1.2 MT of CO<sub>2</sub>e per service person, as shown in Table 4.4-4. Therefore, this impact would be less than significant with mitigation incorporated.

**Table 4.4-4 Mitigated Combined Annual GHG Emissions**

| <b>Emission Source</b>                      | <b>Annual Emissions (MT of CO<sub>2</sub>e )</b> |
|---|--|
| Total Unmitigated Project Emissions         | 8,093  |
| Mitigation Measure GHG-1                    |  |
| Renewable Electricity                       | (1,159)  |
| <b>Total Mitigated Project Emissions</b>    | <b>7,374</b>                                     |
| Project Service Population                  | 5,889  |
| <b>Project Emissions Per Service Person</b> | <b>1.2</b>                                       |
| <b>2030 Threshold of Significance</b>       | <b>1.2</b>                                       |
| <b>Threshold Exceeded?</b>                  | <b>No</b>  |

Please note that only GHG reduction measures that are considered to achieve a feasibly calculable reduction with current project information have been included in this table.

See Appendix F for calculations of mitigation measures.

<sup>4</sup> The estimated GHG emissions reduction of 1,159 MT of CO<sub>2</sub>e per year is equivalent to the project's GHG emissions associated with electricity usage supplied partially by nonrenewable energy sources under unmitigated conditions.

**Threshold 2:** Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**IMPACT GHG –2** THE PROPOSED PROJECT WOULD BE CONSISTENT WITH THE GOALS OF PLAN BAY AREA 2040 AND THE CITY’S CAP. THEREFORE, THE PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE PLAN, POLICY, OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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### **Plan Bay Area 2040**

The proposed project would facilitate infill development of housing and commercial uses within the existing urban footprint of the City of Berkeley. The project sites are within 0.5 mile of several bus stops for AC Transit, including stops for routes 12, 18, 52, 88, 604, 688, 800, and F and two existing BART stations, thereby qualifying as transit priority areas (Public Resources Code Sections 21099(a)(7) and 21064.3]).

The areas surrounding the project sites also contain extensive existing pedestrian and bicycle infrastructure that connects to surrounding areas of the city. These alternative transportation and transit options would reduce vehicle trips and average vehicle miles travelled by new residents and workers within new developments, thereby reducing mobile source GHG emissions and contributing to achieving the GHG emissions reduction goals set forth by SB 32 and SB 375. Given the sites’ viable public transit and alternative transportation options and their proximity to existing housing and commercial/retail destinations, future residents and workers would be able to use non-auto modes to travel to and from the project sites, which would reduce per capita CO<sub>2</sub> emissions and associated adverse health impacts related to mobile source air pollutant and GHG emissions.

Furthermore, as discussed in Section 4.11, *Transportation*, the project is consistent with the City of Berkeley VMT screening criteria, and impacts related to VMT would therefore be less than significant. Therefore, the project would be consistent with *Plan Bay Area 2040*.

### **City of Berkeley Climate Action Plan**

The City’s CAP contains 30 goals to reduce communitywide and municipal GHG emissions in order to achieve the City’s interim target of a 33 percent reduction in communitywide GHG emissions below 2000 levels by 2020 with the ultimate goal of reducing emissions by 80 percent below 2000 levels by 2050. 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 4.4-5. As shown therein, the project would be consistent with applicable GHG reduction measures in the City’s CAP. This impact would be less than significant.

**Table 4.4-5 Project Consistency with Applicable Climate Action Plan Measures**

| Recommended Goals   | Project Consistency   |
|---|---|
| <b>Sustainable Transportation and Land Use</b>  |   |
| <b>Goal 1:</b> Increase density along transit corridors.  | <b>Consistent:</b> The project would facilitate increased housing density within the project sites. The project sites contain BART stations and are within 0.5 mile of several bus stops for AC Transit, including stops for routes 12, 18, 52, 88, 604, 688, 800, and F. Therefore, the project would increase density along transit corridors.  |
| <b>Goal 2:</b> 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. | <b>Consistent:</b> The project would facilitate infill development in the existing urban footprint of Berkeley. Therefore, the project would not adversely impact urban green and open space.   |
| <b>Goal 3:</b> Manage parking more effectively to minimize driving demand and to encourage and support alternatives to driving.   | <b>Consistent:</b> The proposed project would not include minimum parking requirements and would institute maximum limits for vehicle parking spaces. In addition, the project would permit shared or unbundled vehicle parking for new developments within the project sites.  |
| <b>Goal 8:</b> Encourage the use of low-carbon vehicles and fuels.  | <b>Consistent:</b> Multi-family housing units constructed under the proposed project would be subject to the requirements of the most recent iteration of CALGreen and the City’s associated amendments, which includes provisions for electric vehicle charging infrastructure. For example, as of 2020, BMC Chapter 19.37 requires 20 percent of parking spaces for new multi-family residential developments to be capable of supporting electric vehicle chargers and the remaining 80 percent of parking spaces to have raceways to facilitate future electric vehicle supply equipment.                   |
| <b>Building Energy Use</b>  |   |
| <b>Goal 1:</b> Make green building business as usual in the new construction & remodel market.  | <b>Consistent:</b> Future development within the project sites facilitated by the proposed project would be required to be constructed in accordance with the latest iteration of CALGreen, including any locally adopted amendments, and the California Energy Code, which include green building practices. In addition, new construction would be required to be all electric pursuant to the requirements of BMC Section 12.80 (unless it is physically infeasible or installation of natural gas infrastructure is in the public interest), which would reduce GHG emissions associated with energy usage. |
| <b>Goal 4:</b> Increase residential and commercial renewable energy use.  | <b>Consistent:</b> Future development facilitated by the proposed project would be automatically enrolled in EBCE’s Bright Choice service, which currently provides approximately 60 percent of electricity from eligible renewable energy sources and approximately 86 percent of electricity from carbon-free sources (EBCE 2021). In addition, future residents and tenants would have the option to enroll in carbon free options from EBCE (EBCE 2021).  |

| Recommended Goals   | Project Consistency   |
|---|---|
| <b>Waste Reduction and Recycling</b>  |   |
| <p><b>Goal 1:</b> Increase residential recycling, composting, and source reduction.</p>     | <p><b>Consistent:</b> In accordance with the Alameda County Waste Management Authority Mandatory Recycling Ordinance 2012-01, new multi-family housing projects with five or more units facilitated by the proposed project would be required to provide recycling service for tenants. Furthermore, future commercial tenants of new businesses and institutions and residents in new multi-family housing developments would be required to separate plant debris from garbage in compliance with the Alameda County Waste Management Authority Plant Debris Landfill Ban Ordinance 2008-01. Future tenants and residents would also have the opportunity to dispose of food waste through the City’s residential plant debris and food waste collection service.</p> |
| <p><b>Goal 3:</b> Increase recycling of construction &amp; demolition (C&amp;D) debris.</p> | <p><b>Consistent:</b> Future development facilitated by the proposed project would be required to divert at least 65 percent of construction and demolition debris pursuant to the requirements of CALGreen. In addition, projects would also be subject to BMC Chapter 19.37, which requires diversion of 65 percent diversion of construction/demolition waste, and recycling and salvage of 100 percent of excavated soil and land-clearing debris, 100 percent of concrete, and 100 percent of asphalt during construction and demolition activities.</p>   |

Source: City of Berkeley 2009

## Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

### c. Cumulative Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. Therefore, GHG emissions and climate change are, by definition, cumulative impacts. As discussed under Section 4.4.1(c), *Potential Effects of Climate Change*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project’s contribution towards an impact is cumulatively considerable. Refer to Impacts GHG-1 and GHG-2 for detailed discussions of the impacts of the proposed project related to climate change and GHG emissions. As discussed therein, the project’s per capita emissions would not exceed the project-specific threshold of 1.2 MT of CO<sub>2</sub>e per resident per year, and impacts would be less than significant with incorporation of Mitigation Measure GHG-1. Therefore, impacts from the proposed project would not be cumulatively considerable.

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## 4.5 Hazards and Hazardous Materials

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This section evaluates potential impacts relating to hazards and hazardous materials in the soil, groundwater, and existing structures in and around the project sites. Geologic hazards are discussed in Section 4.13, *Effects Found to be Less than Significant*, of this EIR.

### 4.5.1 Setting

#### a. Project Sites Setting

The project sites consist of the North Berkeley and Ashby BART Stations and ancillary parking lots. The most common hazards in and around the City of Berkeley are earthquakes, fires, and release of hazardous materials.

The most common hazardous materials in the vicinity of the project sites are those associated with automotive repair shops and auto body repair shops. Most of the hazardous materials found at such sites are petroleum-based or hydrocarbon hazardous waste and include cleaning and paint solvents, lubricants, and oils. Medical wastes, defined as potentially infectious waste from sources such as laboratories, clinics, and hospitals, are also present in the vicinity of the project sites at existing medical offices.

There are properties located within or within the vicinity of the project sites where past uses could have produced localized sub-surface contamination or concentrations of hazardous substances. A search of the California Department of Toxic Substance Control's (DTSC) EnviroStor database and the State Water Resources Control Board's (SWRCB) GeoTracker database (RWQCB, 2021), which contain information on properties in California where hazardous substances have been released or where the potential for a release exists, identified one listed site within or near the North Berkeley BART station site:

- Southern Pacific, Unknown Delaware & Virginia Leaking Underground Storage Tank (LUST) Cleanup Case # 1-1404, case closure dated January 1, 1999 (RWQCB, 2021a)

The online GeoTracker (and EnviroStor) database did not include any additional case information regarding the Southern Pacific release case, including the location of the release; therefore, it is unknown if the North Berkeley BART station site is directly impacted by this case.

Historical aerial photos from [www.historicaerials.com](http://www.historicaerials.com) (Netonline, 2021) were reviewed for the project areas and the following historical information regarding the project sites and their nearby vicinities was obtained:

- **North Berkeley BART station site**
  - Main station site (Lot A as shown in Figure 2-3 in Section 2, Project Description): In 1946, 1958, and 1959, numerous structures (residential and possibly commercial) were present on the site. Some of these structures trended along a northwest to southeast angle, different from the surrounding neighborhoods. In the 1968 photograph the site were highly disturbed with scattered structure remnants, trees, and vacant areas. In the 1980 aerial photographs and later, the site was developed with parking lots and two structures: a rectangular structure in the northwest corner and a circular structure located near the center of the site, similar to current conditions.

- Lots B/C: The earliest aerial photograph reviewed was dated 1946 and appeared to show scattered structures on the sites. Various structures (residential and possibly commercial), were present onsite in 1958, 1959, and 1968. Some of these structures trended along a northwest to southeast angle, different from the surrounding neighborhoods. In the 1980 and 1982 photographs the sites are vacant, and the sites appear disturbed. In the 1988 and later aerial photographs, the sites were developed with two structures in the southwest corner of Lot B and parking lots, similar to current conditions.
- Lots D – Irregular shaped structures, possibly commercial structures, were present on the site in 1946, 1958, and 1959; by 1968 the sites were vacant and seemed disturbed. In the 1980 aerial photograph, the site was vacant and BART tracks appeared to be in place. The site remained vacant in 1982, 1988, and 1993, however by 2002 the site was developed with gardens, similar to current conditions.
- **Ashby BART station site**
  - Portion of the site west of Adeline – In 1946 and 1958, the site was developed with numerous residential and some industrial structures/parking. Additionally, a gasoline service station appears to be present onsite at the southern corner and unknown activity was noted at the northeast corner. In the 1968 photograph the site was vacant and heavily disturbed. In the 1980 aerial photographs and later, the site was developed with parking lots, similar to current conditions.
  - Portion of the site east of Adeline – In 1946 and 1958, the site was developed with numerous residential structures and a portion of a road (former Prince Street) extended onsite. In the 1968 photograph the site was vacant and heavily disturbed. In 1980, 1982, 1988, 1993, 2002, and 2005 the site was developed as a parking lot, along with the western adjacent property. In the 2009 photograph, the site was heavily disturbed and numerous vehicles were present onsite. In the 2010 aerial photographs and later, the site is developed with parking lots and an access road, similar to current conditions.

Based on the historical information obtained from the historical aerial photographs, commercial and industrial uses were formerly present at the North Berkeley BART station site and Ashby BART station site, including at least one former gasoline service station. Although the identified former gasoline service station is not listed as a release site by a regulatory agency, this location and other former commercial/industrial uses on and around the project sites may have resulted in the presence of hazardous materials in soils on the sites.

In addition to hazardous materials used and generated in the area, hazardous materials and waste also pass through the community en route to other destinations via the railroads and major regional routes near the projects sites, including Shattuck Avenue, Ashby Avenue/State Route 13, University Avenue, and others. The City does not have direct authority over the transport of hazardous materials on the major roads and rail lines in the City. Instead, the US Department of Transportation (DOT) regulates transportation of hazardous materials by truck and rail. However, no rail lines are located on or near the project sites.

Emergency evacuation routes and emergency response plans in the City are identified in the City's Multi-Hazard Functional Operations Plan. The project sites are not located in an airport land use plan area; the nearest public airport is Oakland International Airport,

approximately 10 miles south of the Ashby BART station site, the closest project site to the airport.

## **b. Regulatory Setting**

The management of hazardous materials and hazardous wastes is regulated at the federal, state, and local levels through programs administered by the U.S. Environmental Protection Agency (USEPA), agencies under the California Environmental Protection Agency (CalEPA), such as the DTSC, federal and state occupational safety agencies, the Bay Area Air Quality Management District (BAAQMD), Alameda County Department of Environmental Health, and the City of Berkeley Toxics Management Division (TMD).

### **Federal**

At the federal level, the USEPA is the principal regulatory agency. The Occupational Safety and Health Administration regulates the use of hazardous materials, including hazardous building materials, insofar as these affect worker safety through a delegated state program. Furthermore, at the federal level, the DOT regulates transportation of hazardous materials.

#### *Resource Conservation and Recovery Act of 1974*

The Resource Conservation and Recovery Act was enacted in 1974 to provide a general framework for the national hazardous waste management system, including the determination of whether hazardous waste are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.

#### *The Hazardous and Solid Waste Amendments*

The Hazardous and Solid Waste Amendments were enacted in 1984 to better address hazardous waste; this amendment began the process of eliminating land disposal as the principal hazardous waste disposal method.

#### *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was enacted in 1980 to ensure that funds were available to clean up abandoned hazardous waste sites, compensate victims, address releases of hazardous materials, and establish liability standards for responsible parties.

#### *The Superfund Amendments and Reauthorization Act of 1986*

The Superfund Amendments and Reauthorization Act amended CERCLA in 1986 to increase Superfund budget, modify contaminated site cleanup criteria and schedules, and revise settlement procedures. Superfund Amendments and Reauthorization Act also provides a regulatory program and fund for UST clean ups.

### **State**

At the state level, agencies such as Cal/OSHA, the Office of Emergency Services (OES), and the Department of Health Services (DHS) have rules governing the use of hazardous materials that parallel federal regulations and are sometimes more stringent. DTSC is the primary state agency governing the storage, transportation, and disposal of hazardous wastes. DTSC is authorized by the USEPA to enforce and implement federal hazardous

materials laws and regulations. DTSC has oversight of Annual Workplan sites (commonly known as State Superfund sites), sites designated as having the greatest potential to affect human health and the environment.

The California Department of Public Health (CDPH, formerly California Department of Health Services) regulates the generation, handling, storage, treatment, and disposal of medical waste in accordance with the California Medical Waste Management Act (California Health and Safety Code, Sections 117600–118360). This law requires medical waste generators to register with the CDPH, Medical Waste Management Program, and submit a medical waste management plan to the local enforcement agency.

The primary California State laws for hazardous waste are the California Hazardous Waste Control Law, which is the state equivalent of Resource Conservation and Recovery Act, and the Carpenter-Presley-Tanner Hazardous Substance Account Act, which is the state equivalent of CERCLA. State hazardous materials and waste laws are in the California Code of Regulations, Titles 22 and 26. The state regulation concerning the use of hazardous materials in the workplace is included in Title 8 of the California Code Regulations.

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop and update the Hazardous Waste and Substance Sites (Cortese) List. The Cortese List is a planning document used by state and local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites.

#### *California Fire Code*

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code (CFC), included as Part 9 of that Title. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution.

### **Regional and Local**

The RWQCB is authorized by the SWRCB to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the State is threatened and to require remediation of the site, if necessary. Both of these agencies are part of the California EPA. In the Bay Area, BAAQMD may impose specific requirements on remediation activities to protect ambient air quality from dust or other airborne contaminants.

Administration and enforcement of the major environmental programs were transferred to local agencies as Certified Unified Program Agencies (CUPA) beginning in 1996. The purpose of this was to simplify environmental reporting by reducing the number of regulatory agency contacts a facility must maintain and requiring the use of more standardized forms and reports. The City of Berkeley Toxics Management Division (TMD) is the CUPA for Berkeley. It is responsible for regulating the storage, use, treatment, and disposal of hazardous materials and wastes in Berkeley.

The TMD manages a map of areas in Berkeley known or suspected to have contamination issues, known as Environmental Management Areas (EMA), to advise permit applicants of potential health and environmental concerns that may be encountered during construction involving excavation or dewatering. The TMD reviews proposed development projects in an

EMA to determine if special requirements should apply to reduce exposure to contaminants (City of Berkeley 2010). The entirety of the Ashby BART station site is located in the EMA, while the North Berkeley BART station site is not located in the EMA.

*City of Berkeley 2014 Local Hazard Mitigation Plan*

The City of Berkeley 2017 Local Hazard Mitigation Plan (LHMP) is intended to prepare the community for potential life-threatening emergencies, such as fire, flood, and earthquakes. The LHMP is essentially a “road map” for action involving hazard mitigation and emergency preparedness. In general, the LHMP includes guiding objectives and actions, organized into high, medium, and low priority actions for emergency preparedness (City of Berkeley 2014).

*City of Berkeley General Plan*

The Berkeley General Plan Disaster Preparedness and Safety Element includes goals and policies to reduce the risk of death, injuries, and property damage in the city. Relevant goals and policies are listed below:

**Policy S-1 Response Planning.** Ensure that the City’s emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources.

**Policy S-10 Mitigation of Potentially Hazardous Buildings.** Pursue all feasible methods, programs, and financing to mitigate potentially hazardous buildings.

**Policy S-12 Utility and Transportation Systems.** Improve the disaster-resistance of utility and transportation systems to increase public safety and to minimize damage and service disruption following a disaster.

**Policy S-13 Hazards Identification.** Identify, avoid and minimize natural and human-caused hazards in the development of property and the regulation of land use.

**Policy S-14 Land Use Regulation.** Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications.

**Policy S-15 Construction Standards.** Maintain construction standards that minimize risks to human lives and property from environmental and human-caused hazards for both new and existing buildings.

**Policy S-21 Fire Preventative Design Standards.** Develop and enforce construction and design standards that ensure new structures incorporate appropriate fire prevention features and meet current fire safety standards.

**Policy S-22 Fire Fighting Infrastructure.** Reduce fire hazard risks in existing developed areas.

**Policy S-23 Property Maintenance.** Reduce fire hazard risks in existing developed areas by ensuring that private property is maintained to minimize vulnerability to fire hazards.

**Policy S-24 Mutual Aid.** Continue to fulfill legal obligations and support mutual aid efforts to coordinate fire suppression in Alameda and Contra Costa Counties, Oakland, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.

## 4.5.2 Impact Analysis

### a. Methodology and Significance Thresholds

Based on Appendix G of the *CEQA Guidelines*, a significant impact would occur if the proposed project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. 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;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
5. Be 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, and result in a safety hazard for people residing or working in the project area;
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
7. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

### b. Project Impacts and Mitigation Measures

|                     |  |
|---------------------|--|
| <b>Threshold 1:</b> | Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?   |
| <b>Threshold 2:</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? |

**Impact HAZ-1** IMPLEMENTATION OF THE PROPOSED PROJECT WOULD INCLUDE DEVELOPMENT OF RESIDENTIAL OR COMMERCIAL LAND USES THAT COULD INVOLVE THE USE, STORAGE, DISPOSAL, OR TRANSPORTATION OF HAZARDOUS MATERIALS. UPSET OR ACCIDENT CONDITIONS ON THE PROJECT SITES COULD INVOLVE THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT. HOWEVER, REQUIRED ADHERENCE TO EXISTING REGULATIONS AND THE NATURE OF THE PROPOSED LAND USES WOULD ENSURE THAT IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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### Construction Activities

The proposed rezoning would allow for residential and commercial uses on the project site, but would not allow industrial uses. Although the area for potential underground development would be limited because of the presence of underground BART facilities, there is a potential for underground parking to be developed on both project sites such that some excavation of the sites may occur.

### *Use of Hazardous Materials during Construction*

Construction associated with future development on the project sites may include the temporary transport, storage, and use of potentially hazardous materials including fuels, lubricating fluids, cleaners, or solvents. If spilled, these substances could pose a risk to the environment and to human health. However, the transport, storage, use, or disposal of hazardous materials would be subject to federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, which would assure that risks associated with hazardous materials are minimized. The transport of hazardous materials would be subject to federal, state, and local regulations, which would assure that risks associated with the transport of hazardous materials are minimized. Impacts associated with the use of hazardous materials during construction would be less than significant.

### *Release of Contaminated Materials during construction*

There is one listed site located on or potentially adjacent to the North Berkeley BART station site. In addition, there are unknown former commercial and industrial uses within both project sites that may have included the use and storage of hazardous materials, including a gasoline service station. Additionally, the entirety of the Ashby BART station site is in an Environmental Management Area (EMA) as identified by the City's TMD. These areas of the city have been identified as areas known or suspected to have groundwater contamination (City of Berkeley 2010).

Hazardous materials in subsurface soils and groundwater may be encountered during grading (construction) at the project sites and construction workers or nearby residents could be exposed to contaminated soil resulting from development of a contaminated property. Potential health and environmental concerns related to contaminated groundwater and soil may occur during soil excavation and groundwater dewatering for new construction.

Also, development in the EMA requires project review by the TMD prior to issuance of permits. Upon project review, the TMD determines if any special requirements apply based on site conditions. Typically, projects in the EMA must include preparation of a Phase I Environmental Site Assessment, implementation of a soil and groundwater management plan, and/or a groundwater dewatering and monitoring plan to ensure the discharge of clean water. In addition, because the project sites are identified as potential sources of contamination, future development under the proposed rezoning may be subject to regulatory programs such as those overseen by the RWQCB and the DTSC. These agencies require applicants for development of potentially contaminated properties to perform investigation and cleanup if the properties are contaminated with hazardous materials. This may involve excavation and removal of contaminated soil to achieve the appropriate residential screening levels, or utilization of engineering controls such as a vapor barrier on future structures.

Grading or excavation on sites with existing contamination may also result in the transport and disposal of hazardous materials if they are unearthed and removed from the site. However, the transport, storage, use, or disposal of hazardous materials would be subject to federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, which would assure that risks associated with hazardous materials are minimized. In addition, construction activities that transport hazardous materials would be required to transport such materials along designated roadways in the city, thereby limiting risk of upset. Impacts would be less than significant.

## Operational Activities

The proposed project would facilitate the construction of new residential and commercial land uses that could involve the use, storage, disposal, or transportation of hazardous materials. The potential residential and commercial uses do not generally involve the use, storage, disposal, or transportation of significant quantities of hazardous materials. They may involve use and storage of some materials considered hazardous, though these materials would be primarily limited to solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be different from household chemicals and solvents already in wide use throughout the City. Residents and workers are anticipated to use limited quantities of products routinely for periodic cleaning, repair, and maintenance or for landscape maintenance/pest control that could contain hazardous materials. Those using such products would be required to comply with all applicable regulations regarding the disposal of household waste.

The current and proposed zoning for the project sites prohibit industrial uses. The proposed project would not establish new industrial, warehouse, auto-service, or manufacturing zones. Therefore, the proposed project would not introduce new manufacturing, warehouse, or industrial uses that would sell, use, store, transport, or release substantial quantities of hazardous materials.

New residential uses in mixed-use or commercial areas could be exposed to the transport of hazardous materials through area roadways. Certain allowed uses close to mixed residential uses may use or create hazardous materials. For example, commercial development on the project sites may result in the transport of hazardous materials. However, the numerous hazardous material regulations detailed in the Regulatory Setting section would minimize impacts related to hazardous materials. Hazardous materials would be required to be transported under DOT regulations. In addition, the City's Toxics Management Division has substantial regulations concerning hazardous materials under its CUPA jurisdiction and related Unified Programs. Compliance with existing laws and regulations governing the transport, use, storage, disposal, or release of hazardous materials and wastes would reduce impacts related to exposure of the public or environment to the routine use or accidental release of hazardous materials to less than significant levels.

## Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

|   |
|---|
| <p><b>Threshold 3:</b> Would implementation of the proposed project result in land uses that emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p> |
|---|

**Impact HAZ-2** IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT INVOLVE FACILITIES THAT WOULD PRODUCE OR EMIT HAZARDOUS MATERIALS NEAR SCHOOLS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The closest schools to the North Berkeley BART station site are Cedar Creek Montessori School, which is located approximately 600 feet to the north of the site; The Berkeley School (University Avenue Campus), which is located approximately 1,300 feet southwest of the site; and Jefferson Elementary School, which is located approximately 1,200 feet from the

northernmost ancillary parking lot. The closest school to the Ashby BART station site is Malcolm X Elementary School, located approximately 700 feet west of the site. All other schools are located more than 0.25 mile (1,320 feet) of the project sites.

The proposed project would not involve new industrial or manufacturing uses. The potential residential uses and the potential commercial uses would not involve the use, storage, disposal, or transportation of significant quantities of hazardous materials. They may involve use and storage of some materials considered hazardous, though primarily these would be limited to solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be different from household chemicals and solvents already in general and wide use throughout the City. Uses in the City that sell, use, store, generate, or release hazardous materials must adhere to applicable federal, State, and local safety standards, ordinances, and regulations.

As discussed in Impact HAZ-1 above, construction associated with future development may include the temporary transport, storage, and use of potentially hazardous materials including fuels, lubricating fluids, cleaners, or solvents. However, adherence to applicable policies regarding emission and transport of hazardous materials would ensure impacts at the program level would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 4:** Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

**Impact HAZ-3** THERE IS ONE LISTED SITE LOCATED ON OR POTENTIALLY ADJACENT TO THE NORTH BERKELEY BART STATION SITE. IN ADDITION, THERE ARE UNKNOWN FORMER COMMERCIAL AND INDUSTRIAL USES WITHIN THE NORTH BERKELEY BART STATION SITE AND ASHBY BART STATION SITE THAT MAY HAVE INCLUDED THE USE AND STORAGE OF HAZARDOUS MATERIALS, INCLUDING A GASOLINE SERVICE STATION. THEREFORE, HAZARDOUS MATERIALS IN SUBSURFACE SOILS MAY BE ENCOUNTERED DURING GRADING (CONSTRUCTION) AND CONSTRUCTION WORKERS OR NEARBY RESIDENTS COULD BE EXPOSED TO CONTAMINATED SOIL RESULTING FROM DEVELOPMENT OF A CONTAMINATED PROPERTY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Based on the information obtained from historical aerial photographs, it appears that commercial and industrial uses were formerly present at the North Berkeley and Ashby BART station sites, including former unidentified commercial/industrial site uses, at least one former gasoline service station (Ashby), and possibly a LUST site (North Berkeley). Although the former commercial/industrial site uses and the former gasoline service station are not listed as releases site by a regulatory agency, these locations may have resulted in the presence of contaminated soil at the North Berkeley and Ashby BART Station project site which may be disturbed during construction activities such as grading or excavation. Therefore, contaminated soil or other impacted wastes (impacted soil vapor or groundwater) may be encountered in the subsurface during construction and could result in a significant hazard to the public and/or construction worker safety. This impact is potentially significant and mitigation is required.

## Mitigation Measures

The following mitigation measures are required prior to development on both the North Berkeley and Ashby BART Station project sites:

### *Mitigation Measure HAZ-1 Property Assessment – Phase I and II ESAs*

Prior to issuance of a building permit for grading, the project applicant shall retain a qualified environmental professional (EP), as defined by ASTM E-1527 to prepare a project specific Phase I ESA in accordance with standard ASTM methodologies, to assess the land use history of the property that would be developed.

If the Phase I ESA identifies recognized environmental conditions or potential areas of concern, the project applicant shall retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase II ESA for the project site to determine whether the soil, groundwater, and/or soil vapor has been impacted at concentrations exceeding regulatory screening levels for residential land uses. The Phase II ESA shall be completed prior to building permit authorizing construction and shall be based on the results of the Phase I ESA.

As part of the Phase II ESA, the qualified environmental consultant shall screen the analytical results against the San Francisco Regional Water Quality Control Board residential environmental screening levels (ESL). These ESLs are risk-based screening levels under various depth and land use scenarios. The lead agency shall review and approve the Phase II ESA prior to demolition and grading (construction).

If the Phase II ESA for the development site indicates that contaminants are detected in the subsurface at the project site, the project applicant shall take appropriate steps to protect site workers and the public. This may include the preparation of a Soil Management Plan for Impacted Soils (see Mitigation Measure HAZ-2) prior to project construction.

If the Phase II ESA for the contaminant site indicates that contaminants are present at concentrations exceeding hazardous waste screening thresholds for contaminants in soil and/or groundwater (California Code of Regulations [CCR] Title 22, Section 66261.24 Characteristics of Toxicity), the project applicant shall take appropriate steps to protect site workers and the public. This may include the completion of remediation (see Mitigation Measure HAZ-3) at the project site prior to onsite construction.

### *Mitigation Measure HAZ-2 Soil Management Plan for Impacted Soils*

If impacted soils or other impacted wastes are present at the project site, the project applicant shall retain a qualified environmental consultant (PG or PE), to prepare a Soil Management Plan (SMP) prior to construction. The SMP, or equivalent document, shall be prepared to address onsite handling and management of impacted soils or other impacted wastes and reduce hazards to construction workers and offsite receptors during construction. The plan must establish remedial measures and/or soil management practices to ensure construction worker safety, the health of future workers and visitors, and the off-site migration of contaminants from the site. These measures and practices may include, but are not limited to:

- Stockpile management including stormwater pollution prevention and the installation of BMPs
- Proper disposal procedures of contaminated materials
- Monitoring and reporting

- A health and safety plan for contractors working at the site that addresses the safety and health hazards of each phase of site construction activities with the requirements and procedures for employee protection
- The health and safety plan shall also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.

The City of Berkeley shall review and approve the development site Soil Management Plan for Impacted Soils prior to issuance of a grading permit.

#### *Mitigation Measure HAZ-3 Remediation*

If soil present within the construction envelope at the development site contains chemicals at concentrations exceeding hazardous waste screening thresholds for contaminants in soil (California Code of Regulations [CCR] Title 22, Section 66261.24), the project applicant shall retain a qualified environmental consultant (PG or PE), to conduct additional analytical testing and recommend soil disposal recommendations, or consider other remedial engineering controls, as necessary.

The qualified environmental consultant shall utilize the development site analytical results for waste characterization purposes prior to offsite transportation or disposal of potentially impacted soils or other impacted wastes. The qualified environmental consultant shall provide disposal recommendations and arrange for proper disposal of the waste soils or other impacted wastes (as necessary), and/or provide recommendations for remedial engineering controls, if appropriate.

The project applicant shall review and approve the disposal recommendations prior to transportation of waste soils offsite, and review and approve remedial engineering controls, prior to construction.

Remediation of impacted soils and/or implementation of remedial engineering controls may require additional delineation of impacts; additional analytical testing per landfill or recycling facility requirements; soil excavation; and offsite disposal or recycling.

The City of Berkeley shall review and approve the development site disposal recommendations prior to transportation of waste soils offsite and review and approve remedial engineering controls, prior to issuance of a grading permit.

#### **Significance After Mitigation**

Implementation of mitigation measure HAZ-1 would require completion of a Phase I Environmental Site Assessment (ESA) to investigate the former site uses and possibly the completion of a Phase II ESA to physically investigate the subsurface for potential impacts.

Where potential impacts are identified in the Phase II ESA, implementation of mitigation measure HAZ-2 would address the onsite handling and management of impacted soils or other impacted wastes and would reduce hazards to construction workers and offsite receptors during construction.

Where remediation of onsite soils or other impacted wastes is necessary, implementation of mitigation measure HAZ-3 would address the offsite removal and proper disposal of impacted soils or other impacted wastes.

Implementation of mitigation measures HAZ-1, HAZ-2, and HAZ-3 would identify, manage onsite, and/or remove hazardous material impacted soils prior to construction (demolition

and grading) and would reduce exposure to hazards resulting from development of a potential hazardous materials site to a less than significant level.

**Threshold 5:** Would the project be 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, and result in a safety hazard for people residing or working in the project area?

**Impact HAZ-4 THE PROJECT SITES ARE NOT LOCATED IN AN AIRPORT LAND USE PLAN. NO IMPACT WOULD OCCUR.**

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The nearest airport to the project sites is the Oakland International Airport approximately 10 miles south of the Ashby BART station site, which is closest to the Oakland International Airport. Neither project sites are in the land use plan for the airport (Alameda County 2012). There are no private airstrips near the project sites. The project would not result in a safety hazard for people residing or working in the project area because there are no airports near the project sites. There would be no impact.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 6:** Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**Impact HAZ-5 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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Figure 14 of the Berkeley General Plan identifies existing emergency access and evacuation routes in the City. Sacramento Street, Ashby Avenue, and other nearby roadways are designated as emergency access routes to move people and emergency response equipment in a disaster. General Plan Policy T-28 identifies actions for emergency access. These include not installing diverters or speed humps on streets identified as Emergency Access and Evacuation Routes. While traffic increases associated with the proposed rezoning may affect streets within the city, Sacramento Street, Adeline Street, Ashby Avenue, and Shattuck Avenue would still serve as evacuation routes in case of emergency.

As discussed in Section 4.10, *Public Services and Recreation*, development on the project sites would be required to conform to the latest fire code requirements, including provisions for emergency access. With adherence to existing General Plan policies and other regulations, the proposed project would not impair or interfere with an emergency response or evacuation plan. Impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 7:** Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

**Impact HAZ-6** IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE OR STRUCTURES TO A SIGNIFICANT RISK FROM WILDLAND FIRES BECAUSE THE PROJECT SITES ARE LOCATED IN AN URBANIZED SETTING. NO IMPACT WOULD OCCUR.

The project sites are surrounded by urban land uses that are not mixed with or adjacent to wildlands. Surrounding land uses include commercial and residential development and are not located in an area subject to wildland fire hazards. The project sites are not located in a Very High Fire Hazard Severity Zone and would not be exposed to an increased risk of wildfires (CAL FIRE 2008). Therefore, the project would not expose people or structures to a significant risk from wildland fires. There would be no impact.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

Cumulative development in Berkeley as shown in Table 3-1 in Section 3, *Environmental Setting*, has potential to expose future area residents, employees, and visitors to current and historical use of hazardous materials. Continued urban development in Berkeley could cumulatively increase the potential for exposure to existing hazards associated with hazardous materials. Therefore, an overall increase in the potential for human health hazards could occur as intensification of development occurs. However, the magnitude of hazards for individual projects would depend upon the location, type and size of development and the specific hazards associated with individual sites. Compliance with regulatory requirements and General Plan policies would avoid potential hazard impacts associated with cumulative development in Berkeley.

Overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. Because hazards and hazardous materials are required to be examined as part of the permit application and environmental review process, it is anticipated that potential impacts associated with individual projects would be adequately addressed and mitigated prior to permit approval. With adherence to existing General Plan emergency evacuation policies and other federal, state, regional, and local regulations, no significant cumulative human health impacts would occur.

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## 4.6 Hydrology and Water Quality

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This section evaluates the potential environmental effects related to hydrology and water quality associated with implementation of the proposed project.

### 4.6.1 Setting

#### a. Hydrology

##### **Regional Watershed**

The California Department of Water Resources divides surface watersheds in California into 10 hydrologic regions. Berkeley lies in San Francisco Bay Hydrologic Region (Bay Region), which contains 33 alluvial groundwater basins, covers approximately 4,500 square miles, and includes all of San Francisco County and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. The Bay Region comprises numerous watersheds that drain directly into San Francisco Bay, downstream of the Sacramento-San Joaquin River Delta and coastal creek watersheds in Marin and San Mateo counties that drain directly to the Pacific Ocean. Within the San Francisco Bay Hydrologic Region, the project sites are in the Bay Bridges Hydrologic Unit, Berkeley Hydrologic Area, undefined Hydrologic Sub-Area, undefined CDFW Super Planning Watershed, and Point Richmond CDFW Planning Watershed.

##### **Local Watersheds**

The Ashby BART Station site overlies the Potter Watershed, while the North Berkeley BART Station site overlies the Schoolhouse Watershed (City of Berkeley 2011).

The Potter Watershed is the largest watershed in the city, encompassing approximately one-third of the land area from the southern boundary of the Strawberry Creek Watershed in the north to roughly the Berkeley city limit in the south, and from Claremont Canyon in the east to the San Francisco Bay shore in the west. This watershed begins in the Claremont Canyon and directs flows to the west through open channel creeks, culverted creeks, and through storm drains in residential and commercial areas, towards San Francisco Bay. The Schoolhouse Watershed is the third smallest watershed in the city, located in Northwest Berkeley and encompassing one-square mile that begin at the base of the hills and extends to the bay.

##### **Groundwater**

As discussed in Section 4.12, *Utilities and Service Systems*, water supply to the project sites would be provided by the East Bay Municipal Utility District (EBMUD). The majority of the water delivered by EBMUD originates from the Mokelumne River watershed, and the remaining water originates as runoff from the protected watershed lands and reservoirs in the East Bay Hills. Supplemental groundwater projects would allow EBMUD to be flexible in response to changing external conditions, such as single-year or multiple-year droughts. For example, the Bayside Groundwater Project will allow EBMUD to bank water during wet years for extraction, treatment, and use during dry years. Construction of the project was completed in 2010, but subsequent dry conditions and the need to obtain the necessary approvals have prevented EBMUD from injecting water into the project (EBMUD 2015).

## Surface Water

The closest waterway to the North Berkeley BART Station site is Codornices Creek, located approximately 0.3 mile north of the site. The closest waterway to the Ashby BART Station site is Claremont Creek, located approximately 1.1 mile east of the site (USGS n.d.)

### b. Water Quality

#### Regional Stormwater and Urban Runoff

The San Francisco Bay region's immediate watershed is highly urbanized, resulting in contaminant loads from point and nonpoint sources. Stormwater runoff pollutants vary with land use, topography, and the amount of impervious surface, as well as the amount and frequency of rainfall and irrigation practices. Typically, runoff in developed areas contains oil, grease, litter, and metals accumulated in streets, driveways, parking lots, and rooftop. It also contains pollutants applied to landscaped areas. All stormwater runoff generated in Berkeley eventually discharges into San Francisco Bay. The runoff is conveyed by storm drains, open channel creeks, and culverted creeks to the Bay. The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) is the primary agency charged with protecting and enhancing surface and ground water quality in the region (City of Berkeley 2011).

The SFBRWQCB monitors surface water quality through implementation of the Basin Plan and designates beneficial uses for surface water bodies and groundwater. Since all of the waterways within the Potter Watershed are underground, the San Francisco Bay RWQCB has not designated beneficial uses for any of the waterways in the watershed (SFBRWQCB 2017).

#### Project Sites Stormwater and Urban Runoff

The majority of the project sites are covered with impervious surfaces (i.e., structures, parking lots, roadways), with the exception of the northernmost ancillary lot in the North Berkeley BART station site that is not covered with impervious surfaces. The stormwater runoff on the project sites is collected by drainage inlets and conduits that eventually discharge into San Francisco Bay. There are no surface water bodies on the project sites. According to the City's geographic information system (GIS) creek viewer database, there are no creeks, culverted creeks, open creeks, or historic creek traces on the project sites that are covered by the City's creek ordinance and warrant special protection (City of Berkeley 2021).

### c. Flood Hazards

#### FEMA Flood Hazard Zones

The Federal Emergency Management Agency (FEMA) establishes base flood elevations (BFE) for 100-year and 500-year flood zones and establishes Special Flood Hazard Areas (SFHA). SFHAs are those areas within 100-year flood zones or areas that will be inundated by a flood event having a one percent chance of being equaled or exceeded in any given year. The 500-year flood zone is defined as the area that could be inundated by the flood which has a 0.2 percent probability of occurring in any given year, or once in 500 years, and is not considered an SFHA. Development in flood zones is regulated through the Berkeley Municipal Code Chapter 17.12 Flood Development. The project sites, as shown on FEMA Flood Insurance Rate Map panels 6001C0018H, 06001C0056H, and 06001C0057G, are

not located in an SFHA or 100-year flood zone, but are located in Zone X, defined as an area of minimal flood hazard (FEMA 2009, 2018)

### **Dams and Levees**

No dams or levees are located on or near the project sites.

### **Tsunami and Seiches**

A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific Ocean can cause tsunamis around the entire Pacific basin.

Seiches are waves generated in an enclosed body of water, such as San Francisco Bay, from seismic activity. Seiches are related to tsunamis for enclosed bays, inlets, and lakes. These tsunami-like waves can be generated by earthquakes, subsidence or uplift of large blocks of land, submarine and onshore landslides, sediment failures and volcanic eruptions. The strong currents associated with these events may be more damaging than inundation by waves. The largest seiche wave ever measured in San Francisco Bay, following the 1906 earthquake, was four inches high.

## **d. Regulatory Setting**

### **Federal**

#### *Federal Clean Water Act*

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 National Pollutant Discharge Elimination System (NPDES) Program, to the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs).

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body’s designated beneficial use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Applicable water quality standards are contained in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan).

Section 303(d) of the CWA bridges the technology-based and water quality-based approaches for managing water quality. Section 303(d) requires that states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the USEPA administrator deems they are appropriate),

states are to develop total maximum daily loads (TMDL). TMDLs are established at the level necessary to implement the applicable water quality standards. A TMDL must account for all sources of the pollutants that caused the water to be listed.

Section 404 of the CWA prohibits the discharge of any pollutants into “waters of the United States,” except as allowed by permit. 33 Code of Federal Resources § 328.3(a)(3). Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, “waters of the United States” are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands.

#### *National Pollutant Discharge Elimination System (NPDES)*

In California, the National Pollutant Discharge Elimination System (NPDES) program is administered by the SWRCB through the nine RWQCBs. The City of Berkeley lies within the jurisdiction of SFBRWQCB (Region 2) and is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (MRP) (Order No. R2-2015-0049) and NPDES Permit No. CAS612008, which was issued on November 19, 2015 and went into effect on January 1, 2016. The MRP has expired and the SFBRWQCB is in the process of re-issuing the MRP. It is anticipated the new MRP will include new and more restrictive requirements which could expand the definition of regulated projects and add new requirements. Under Provision C.3 of the MRP, Berkeley is required to use its planning authority to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address stormwater runoff pollutant discharges and address increases in runoff flows from new development and redevelopment projects. These requirements are generally reached through the implementation of Low Impact Development (LID) techniques and other controls (City of Berkeley 2011).

The MRP requires appropriate LID and Stormwater Treatment technologies in new development and redevelopment projects, in order to mimic the natural hydrology of the lands prior to disturbance. The objective of LID and post-construction BMPs for stormwater is to reduce runoff and mimic a site’s predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

## **State**

#### *State Water Resources Control Board General Construction Permit*

The SWRCB is responsible for developing statewide water quality policy and exercise the powers delegated to the state by the federal government under the Clean Water Act. Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (Order 2012-0006-DWQ). Under the terms of the permit, applicants must file Permit Registration Documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Stormwater Pollution Prevention Plan

(SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Storm Water Multiple Application and Report Tracking System website.

Applicants must also demonstrate conformance with applicable BMPs and prepare a Storm Water Pollution Prevention Plan (SWPPP) with a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, and discharge points, general topography before and after construction, and drainage patterns across the city. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants if there is a failure of the BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Some sites also require implementation of a Rain Event Action Plan. The updated Construction General Permit (2012-0006-DWQ) went into effect on July 17, 2012 and requires applicants to comply with post-construction runoff reduction requirements (SWRCB 2017a).

#### *Porter-Cologne Water Quality Act*

The Porter-Cologne Water Quality Control Act establishes the SWRCB and each RWQCB as the principal agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and groundwater) and directs the RWQCBs to develop regional basin plans.

The SFBRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. Water quality objectives for receiving waters within Alameda County are specified in the Water Quality Control Plan for the Basin Plan, prepared by the SFBRWQCB in compliance with the federal CWA and the Porter Cologne Act. The principal elements of the Basin Plan are a statement of beneficial water uses protected under the plan; water quality objectives necessary to protect the designated beneficial water uses; and strategies and time schedules for achieving the water quality objectives. Together, narrative and numerical objectives define the level of water quality that shall be maintained in the region. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDR).

The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders or Cease and Desist Orders, assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

#### *State Updated Model Water Efficient Landscape Ordinance (Assembly Bill 1881)*

The updated Model Water Efficient Landscape Ordinance required cities and counties to adopt landscape water conservation ordinances by January 31, 2010 or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Water Efficient Landscape Ordinance (WELO). The City of Berkeley adopted the Bay-Friendly

Landscape Ordinance in accordance with this requirement. The ordinance incorporates landscape protocols developed by the Alameda County Waste Management Authority and all parameters in the WELO. The ordinance became effective as of February 1, 2010. In May of 2015, the governor issued Executive Order B-29-15 requiring the state to revise the model WELO to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, onsite stormwater capture, and by limiting the portion of landscapes that can be covered in turf. The last update to the City's Water Efficient Landscape Ordinance occurred on December 1, 2015.

## **Local**

### *San Francisco Bay Regional Water Quality Control Board*

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. Berkeley is within the jurisdiction of SFBRWQCB (Region 2).

The SFBRWQCB addresses region-wide water quality issues through the Basin Plan, updated most recently in March 2017. This Basin Plan designates beneficial uses of the state waters in Region 2, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan (SFBRWQCB 2017). The Water Quality Control Policy for the Enclosed Bays and Estuaries of California, as adopted by the SWRCB in 1995, also provides water quality principles and guidelines to prevent water quality degradation and protect the beneficial uses of waters of enclosed bays and estuaries.

### *Alameda County Clean Water Program*

The City of Berkeley, along with 13 other incorporated cities in Alameda County has joined with the ACFCD, the Zone 7 Water Agency, and Alameda County in the Alameda Countywide Clean Water Program (ACCWP). Members of the program are regulated waste dischargers under the Municipal Regional Stormwater Permit (order No. R2-2015-0049) issued by the SFBRWQCB and are responsible for municipal storm drain systems that they own or operate. As part of the permitting process, dischargers must submit a Stormwater Management Plan that describes a framework for management of stormwater discharges during the term of the permit (City of Berkeley 2011).

The City of Berkeley, as a MRP co-permittee, is subject to the Provision C.3 requirements for new development and redevelopment projects, including post-construction stormwater management requirements. Provision C.3 requirements are separate from, and in addition to, requirements for erosion and sediment control and for pollution prevention measures during construction. All new development or redevelopment projects that create or replace 10,000 square feet of impervious surfaces or 5,000 square feet or more of impervious surface for special land use categories (i.e., uncovered parking lots, restaurants, auto service facilities, and gasoline stations) are considered to be "regulated projects" and are required to implement site design measures, source control measures, and stormwater treatment measures to reduce stormwater pollution during operation of the project. The permit specifies methods to calculate the required size of treatment devices. All projects that create and/or replace 2,500 square feet but less than 10,000 square feet of impervious surface are required to meet site design requirements in Provision C.3.i of the MRP.

Regulated projects subject to stormwater treatment measures would require the implementation of LID features, such as harvesting and reuse, bioretention areas, pervious paving, green roofs, flow-through planters, tree well filters, and media filters. LID facilities must be designed to treat stormwater runoff volume equal to the 85th percentile 24-hour storm event, 80 percent of the annual runoff from the site, a flow design of runoff from a rain event equal to 0.2 inches/hour intensity, or an equivalent method (City of Berkeley 2011).

The project sites are shown as a solid white area on CWP's Hydromodification Management Susceptibility Map (Alameda County 2007). According to the CWP, solid white designates the land area between the hills and the tidal zone. The hydromodification standard and all associated requirements apply to projects in solid white area unless a project proponent demonstrates that all project runoff will flow through fully hardened channels. Plans to restore a hardened channel may affect the hydromodification standard applicability in this area. Only a small portion of the city, along the Codornices Creek and in the Berkeley Hills, is subject to hydromodification measures, as determined by the CWP's Hydromodification Management Susceptibility Map. This would require projects in the hydromodification area that create and/or replace one acre or more of impervious surface to match post-development stormwater flow rates and volumes to pre-development conditions.

*City of Berkeley General Plan: A Guide for Public Decision-Making (2001)*

Applicable General Plan policies and actions related to hydrology and water quality are included in the Environmental Management Element and the Disaster Preparedness and Safety Element. Environmental Management Element Goal EM-4 promotes water conservation, improving water quality and restoring creeks. The Disaster Preparedness and Safety Element identifies areas of potential hazards in the city and includes goals and policies to improve safety with respect to natural disasters and environmental hazards such as flooding.

#### **ENVIRONMENTAL MANAGEMENT ELEMENT POLICIES AND ACTIONS**

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

**Policy EM-23: Water Quality in Creeks and San Francisco Bay.** Take action to improve water quality in creeks and San Francisco Bay.

**Action EM-23D.** Restore a healthy freshwater supply to creeks and the Bay by eliminating conditions that pollute rainwater, and by reducing impervious surfaces and encouraging use of swales, cisterns, and other devices that increase infiltration of water and replenishment of underground water supplies that nourish creeks.

**Policy EM-24: Sewers and Storm Sewers.** Protect and improve water quality by improving the citywide sewer system.

**Action EM-24E.** Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

**Policy EM-25: Groundwater.** Protect local groundwater by promoting enforcement of state water quality laws that ensure non-degradation and beneficial use of groundwater.

**Policy EM-26: Water Conservation.** Promote water conservation through City programs and requirements.

**Policy EM-27: Creeks and Watershed Management.** Whenever feasible, daylight creeks by removing culverts, underground pipes, and obstructions to fish and animal migrations.

**Action EM-27D.** Restrict development on or adjacent to existing open creeks. When creeks are culverted, restrict construction over creeks and encourage design solutions that respect or emphasize the existence of the creek under the site.

**Action EM-27G.** Regulate new development within 30 feet of an exposed streambed as required by the Creeks Ordinance and minimize impacts on water quality and ensure proper handling of stormwater runoff by requiring a careful review of any public or private development or improvement project proposed in water sensitive areas.

**Action EM-27 H.** Consider amending the Creek Ordinance to restrict parking and driveways on top of culverts and within 30 feet of creeks.

#### DISASTER PREPAREDNESS AND SAFETY ELEMENT POLICIES AND ACTIONS

**Policy S-26: Flood Hazards Mitigation.** Reduce existing flood hazards in Berkeley.

**Action S-26A.** Conduct periodic evaluation of reservoir safety and undertake actions necessary to mitigate the potential for dam failure.

**Action S-26B.** Continue to rehabilitate the City storm drain system to reduce local flooding caused by inadequate storm drainage.

**Action S-26C.** Continue and significantly strengthen programs promoting storm drain maintenance by public and private sectors.

**Action S-26D.** Continue to work with the East Bay Municipal Utility District to complete the planned seismic improvements to the Berryman Reservoir.

**Policy S-27: New Development.** Use development review to ensure that new development does not contribute to an increase in flood potential.

**Action S-27A.** Regulate development in the Waterfront flood-prone areas consistent with the Berkeley Waterfront Specific Plan.

**Action S-27B.** Ensure that new development conforms to requirements and guidelines of the National Flood Insurance Program (NFIP).

**Action S-27C.** Require new development to provide for appropriate levels of on-site detention and/ or retention of storm water.

**Action S-27D.** Regulate development within 30 feet of an exposed streambed as required by the Preservation and Restoration of Natural Watercourses (Creeks) Ordinance.

**Policy S-28: Flood Insurance.** Reduce the cost of flood insurance to property owners in the City.

**Action S-28A.** Identify, prioritize, and implement activities necessary to qualify for a high Community Rating System (CRS) evaluation under the National Flood Insurance Program (NFIP).

**Action S-28B.** Update and revise flood maps for the city.

**Action S-28C.** Incorporate FEMA guidelines and suggested activities into City plans and procedures for managing flood hazards.

#### *Berkeley Municipal Code*

Four chapters of the City of Berkeley Municipal Code (BMC) contain directives pertaining to hydrology and water quality issues, as explained in the following paragraphs:

- **Preservation and Restoration of Natural Watercourses – Chapter 17.08.** The purpose of this chapter is to regulate: (1) building over or near culverted creeks; (2) building near open creeks; (3) the rehabilitation and restoration of natural waterways; and (4) the management of watersheds.
- **Stormwater Management and Discharge Control – Chapter 17.20.** This chapter provides the stormwater requirements for projects conducted within the City of Berkeley and is consistent with the requirements of the San Francisco RWQCB and the MRP permit. The purpose of this chapter is to ensure the health, safety, and general welfare of the City of Berkeley’s citizens by eliminating non-stormwater discharges to the City’s storm drain system and by reducing the contamination of stormwater by pollutants to the maximum extent practicable.
- **Standards of Construction in Special Flood Hazard Zones – Chapter 17.12.** The ordinance also ensures that property owners construct new and substantially improved buildings in the 100-year floodplain in accordance with the National Flood Insurance Program’s goals to protect life and property. Section 500 of this chapter addresses standards of construction in special flood hazard areas. Section 530 addresses coastal high hazard areas vulnerable to future sea level rise.
- **Grading, erosion and sediment control requirements – Section 21.40.270.** This requires projects to comply with all grading, erosion and sediment control regulations on file in the Public Works Department.

### 4.6.2 Impact Analysis

#### **a. Methodology and Significance Thresholds**

Assessment of impacts is based on review of site information and conditions and City information regarding hydrology and water quality issues. In accordance with Appendix G of the *CEQA Guidelines*, a project would result in a significant impact if it would:

- 1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- 2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- 3 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
  - a. Result in substantial erosion or siltation on- or off-site
  - b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site

- c. 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
  - d. Impede or redirect flood flows;
- 4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- 5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

## b. Project Impacts and Mitigation Measures

**Threshold 1:** Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

**IMPACT HYD-1** FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES AND THE USE OF HEAVY MACHINERY THAT COULD RELEASE MATERIALS, INCLUDING SEDIMENTS AND FUELS, WHICH COULD ADVERSELY AFFECT WATER QUALITY. IN ADDITION, OPERATION OF POTENTIAL FUTURE DEVELOPMENT COULD RESULT IN DISCHARGES TO STORM DRAINS THAT COULD BE CONTAMINATED AND AFFECT DOWNSTREAM WATERS. HOWEVER, COMPLIANCE WITH REQUIRED PERMITS AND EXISTING REGULATIONS, AND IMPLEMENTATION OF BEST MANAGEMENT PRACTICES CONTAINED THEREIN, WOULD ENSURE THAT POTENTIAL WATER QUALITY IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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## Construction Impacts

Construction activities associated with development on the project sites under the proposed project would have the potential to degrade water quality caused by soil erosion from exposed soil or from an accidental release of hazardous materials used for equipment such as vehicle fuels and lubricant, from temporary siltation from storm water runoff. Soil disturbance could occur during excavation for proposed building foundations or grading. Furthermore, future development may involve dewatering for construction of foundations or subsurface parking if groundwater is encountered during construction. However, future development within the project sites would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the SWRCB Construction General Permit, which requires preparation and implementation of a SWPPP for projects that disturb one acre or more of land. The SWPPP must include erosion and sediment control BMPs that would meet or exceed measures required by the Construction General Permit, as well as those that control hydrocarbons, trash, debris, and other potential construction-related pollutants. Construction BMPs would include scheduling inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Post-construction stormwater performance standards are also required to specifically address water quality and channel protection events. All projects, including those that disturb less than one acre of land, would be required to comply with BMC Section 17.20.050(B), which includes construction BMPs to catch dirt, debris, or other pollutants, as well as incorporating applicable portions of state stormwater best practices. Implementation of these BMPs would prevent or minimize environmental impacts and ensure that discharges during the construction phase of future construction on the

project sites would not cause or contribute to the degradation of water quality in receiving waters.

Should dewatering be necessary during construction, it may result in the discharge of potentially contaminated groundwater to surface water and may degrade the water quality of surrounding watercourses and waterbodies. However, future development projects would be subject to the San Francisco Bay Regional Water Quality Control Board Order No. R2-2012-0060, General Waste Discharge Requirements for Discharge or Reuse of Extracted Brackish Groundwater, Reverse Osmosis Concentrate Resulting from Treated Brackish Groundwater, and Extracted Groundwater from Structural Dewatering Requiring Treatment (Groundwater General Permit). The Groundwater General Permit requires dischargers to obtain an Authorization to Discharge, treat effluent to meet water quality-based effluent limitations, and comply with the Monitoring and Reporting Program. Pumped groundwater must be tested and if determined to be contaminated, the water must be collected and either treated or disposed of according to waste discharge requirements of Order No. R2-2012-0060. The project applicant is required to comply with all requirements of the Groundwater General Permit. As such, with adherence to applicable laws and regulations related to dewatering, dewatering would not result in water quality impacts.

In addition, BMC Chapter 21.40 requires project applicants to comply with grading, erosion, and sediment control regulations on file in the Public Works Department and BMC Chapter 17.20 requires BMPs to be implemented to minimize non-stormwater discharges from the site during construction (City of Berkeley 2016). Compliance with local and State regulatory requirements and implementation of construction BMPs would minimize discharges during the construction phase of future development projects allowed by the proposed project and would not result in the degradation of water quality in receiving waters; therefore, construction-related water quality impacts would be less than significant.

## **Operational Impacts**

The project sites are currently fully urbanized; therefore, they are almost entirely covered with impervious surfaces except for landscaped areas. Development facilitated by the project would involve infill and redevelopment of existing sites. Future development would be required to be implemented in compliance with existing programs and permits, including the BMC and the Municipal Regional Stormwater NPDES Permit (No. CAS612008). Development design would include BMPs to avoid adverse effects associated with stormwater runoff quality. Specifically, proposed development facilitated by the proposed project would be required to implement LID Measures and on-site infiltration, as required under the C.3 provisions of the Municipal Regional Stormwater Permit (MRP). Implementation of LID measures would reduce water pollution from stormwater runoff as compared to existing conditions. For example, on-site infiltration would improve the water quality of stormwater prior to infiltration or discharge from the site.

### *Water Quality*

Implementation of development facilitated by the proposed project would result in a significant impact if activities would conflict with applicable water quality permits or waste discharge requirements. Future development facilitated by the project would be subject to multiple permits and approvals associated with the protection of water quality, as discussed below.

The City of Berkeley is responsible for enforcing the requirements of the Municipal Regional Stormwater Permit (MRP). Compliance with the MRP will include operational and

maintenance control measures, or BMPs and construction-related BMPs. Provisions specified in the MRP that affect construction projects generally include but is not limited to Provision C.3 (New Development and Redevelopment), Provision C.6 (Construction Site Control), and Provision C.15 (Exempted and Conditionally Exempted Discharges), as described below. Future projects would be required to comply with all provisions of the MRP, including those listed below:

- **Provision C.3** requires LID techniques be utilized to employ appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects; to address stormwater runoff pollutant discharges; and to prevent increases in runoff flows from new development and redevelopment projects by mimicking a site's predevelopment hydrology. This is to be accomplished by employing principles such as minimizing disturbed areas and imperviousness, and preserving and recreating natural landscape features, in order to "create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product" (SFBRWQCB 2015). These LID practices, as well as other provisions and BMPs specified in the MRP, may require long-term operational inspections and maintenance activities to ensure the effective avoidance of significant adverse impacts associated with water quality degradation.
- **Provision C.6** requires implementation of a construction site inspection and control program at all construction sites and an Enforcement Response Plan to prevent construction-related discharges of pollutants into storm drains. Inspections shall confirm implementation of appropriate and effective erosion and other BMPs by construction site operators/developers, and reporting shall be used to confirm and demonstrate the effectiveness of its inspections and enforcement activities to prevent polluted construction site discharges into storm drains.
- **Provision C.10** recognizes trash as a significant pollutant in urban runoff and aims to reduce trash loads from municipal separate storm sewer systems. (Refer to Section 4.10, *Utilities and Service Systems* regarding solid waste generation impacts of the project.) The City currently implements a suite of zero-waste programs, including a requirement that all residential properties of five or more units provide recycling and organics collection for their tenants' food scraps, food soiled papers, and any plant debris generated at the property.
- **Provision C.15** exempts specified unpolluted non-stormwater discharges and to conditionally exempt non-stormwater discharges that are potential sources of pollutants. In order for non-stormwater discharges to be conditionally exempted, those permitted under the MRP must identify appropriate BMPs, monitor the non-stormwater discharges where necessary, and ensure implementation of effective control measures to eliminate adverse impacts to waters of the state consistent with the discharge prohibitions of the Order.

Provision C.3 of the MRP addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 10,000 square feet or more of impervious area or special land use categories that create and/or replace 5,000 square feet of impervious surfaces, such as auto service facilities, retail gas stations, restaurants, and uncovered parking lots. These "regulated" projects are required to meet certain criteria: 1) incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions. Additionally, projects in Berkeley which drain to a

natural water body must also construct and maintain hydromodification measures to ensure that estimated post-project runoff peaks and durations do not exceed estimated pre-project peaks and duration. LID methods are the primary mechanisms for implementing such controls.

Compliance with the MRP and BMC would increase infiltration of stormwater, decrease stormwater runoff, and would reduce the risk of water contamination from operation of new developments to the maximum extent practicable, and the project would reduce water pollution from stormwater runoff as compared to existing conditions. Therefore, the proposed project would not violate water quality standards or waste discharge requirements, would not significantly contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and would not substantially degrade water quality. Impacts would be less than significant.

### Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

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|---------------------|--|
| <b>Threshold 2:</b> | Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level? |
| <b>Threshold 5:</b> | Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?   |

**IMPACT HYD-2 CONSTRUCTION OF FUTURE DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY DEplete GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THERE WOULD BE A NET DEFICIT IN AQUIFER VOLUME OR A LOWERING OF THE LOCAL GROUNDWATER TABLE. FURTHER, IMPLEMENTATION OF LOW IMPACT DEVELOPMENT MEASURES AND ON-SITE INFILTRATION REQUIRED UNDER THE C.3 PROVISIONS OF THE MRP, COMPLIANCE WITH GENERAL PLAN GOALS AND POLICIES, AND COMPLIANCE WITH THE BERKELEY MUNICIPAL CODE WOULD INCREASE THE POTENTIAL FOR GROUNDWATER RECHARGE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

Future development facilitated by the proposed zoning would not use or deplete groundwater resources. Water supply for the project sites is provided by the East Bay Municipal Water District. The groundwater aquifer beneath Berkeley is not currently used for water storage or drinking water supply. Therefore, future development facilitated by the proposed project would not include installation of new groundwater wells or use of groundwater from existing wells.

If construction activities for future development under the project encounter groundwater, dewatering may be required. However, dewatering would only occur to the extent that it was necessary for construction, and a resulting lowering of the groundwater table would be temporarily and localized. Furthermore, any depressions created by underground structures would be localized. Groundwater levels would be expected to recover upon cessation of dewatering activities.

The project sites are fully urbanized, and development associated with the proposed project would not result in an increase in the amount of impervious surfaces in the area, and therefore would not interfere with groundwater recharge. Additionally, development facilitated by the project would be required to comply with Provision C.3 of the MRP which

promotes infiltration. Implementation of LID measures would increase absorption of stormwater runoff and the potential for groundwater recharge.

Berkeley is under the jurisdiction of the SFBRWQCB, which is responsible for preparing the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The Basin Plan serves as the basis for the SFBRWQCB's regulatory programs and incorporates an implementation plan for achieving water quality objectives. With adherence to the State and local water quality standards discussed above, the project would not have an adverse effect on water quality and would not interfere with the objectives and goals in the Basin Plan.

Therefore, development facilitated by the proposed zoning standards would not result in a net deficit in aquifer volume or a lowering of the groundwater table and would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

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| <b>Threshold 3a:</b> 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, in a manner which would result in substantial erosion or siltation on- or off-site?  |
| <b>Threshold 3b:</b> 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? |
| <b>Threshold 3c:</b> Would the project 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?   |

**IMPACT HYD-3 FUTURE DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE PROJECT SITES, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER, IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE OR SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING OR EXCEED THE CAPACITY OF STORMWATER DRAINAGE SYSTEMS. IMPACTS RELATED TO DRAINAGE PATTERNS WOULD BE LESS THAN SIGNIFICANT.**

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The project sites and vicinities are urbanized, largely consisting of impervious surfaces, including structures, parking lots, and roadways. Stormwater runoff generated by new development or redevelopment facilitated by the project would be collected by drainage inlets and conduits and conveyed to the San Francisco Bay, as under current conditions. As discussed in Setting above, there are no surface waters within the project sites and the project sites are not located within a FEMA designated Flood Hazard Area.

Site-specific drainage pattern alterations could occur with development that could be facilitated by the proposed project, but such alterations would not result in substantial adverse effects. The area is largely covered with impervious surfaces, and development under the proposed zoning would not introduce new impervious areas to the extent that the

rate or amount of surface runoff would substantially increase. Development that could be facilitated by the proposed project would not introduce substantial new surface water discharges and would not result in flooding on- or off-site. Overall drainage patterns, including direction of flow and conveyance to stormwater infrastructure, would not be modified by the project, and the runoff volume and rate from the project rate would be reduced compared to existing conditions.

### *Runoff Quantity*

As discussed under Impact HYD-1 above, MRP-regulated projects within the project sites must treat 80 percent or more of the volume of annual runoff for volume-based treatment measures or 0.2-inch per hour for flow-based treatment measures. Furthermore, projects that create or replace 2,500 square feet or more, but less than 10,000 square feet, of impervious surface must implement site design measures to reduce stormwater runoff.

All regulated projects within the City are also required to prepare a Stormwater Management Plan (SWMP) that includes the post-construction BMPs that control pollutant levels. All SWMPs would be reviewed by the City of Berkeley prior to the issuance of building permits. In areas within the city that have soils with low permeability and/or area with high water tables, BMPs that do not rely on infiltration are most appropriate.

Compliance with the General Plan goals and policies, and the BMC would increase infiltration of stormwater and reduce stormwater runoff from operation of new developments to the maximum extent practicable, and the project would reduce stormwater runoff as compared to existing conditions. Therefore, development that could be facilitated by the proposed project would not substantially alter the existing drainage pattern of the site or area or alter the course of any stream or river, would not result in erosion or siltation, and would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site or exceed capacity of a stormwater system. Impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

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| <b>Threshold 3d:</b> 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 impede or redirect flood flows? |
| <b>Threshold 4:</b> In flood hazard, tsunami or seiche zones, would the project risk release of pollutants due to project inundation?   |

**IMPACT HYD-4 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT IMPEDE OR REDIRECT FLOOD FLOWS OR EXPOSE PEOPLE OR STRUCTURES TO OTHER FLOOD HAZARDS SUCH AS TSUNAMIS OR SEICHES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The project sites are not located within a FEMA designated flood hazard area (FEMA 2009, 2018). The project sites are not located in either a dam or tsunami inundation area and are not located near a large water body or in proximity to the San Francisco Bay such that a seiche could affect the project sites (City of Berkeley 2001). As a result, implementation of future development under the project would not introduce new flood-related hazards.

Therefore, development under the proposed project would not place housing and other structures within FEMA-designated flood hazard areas, would not impede or redirect flood flows, would not expose people or structures to significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam, and would not result in inundation by seiche, tsunami, or mudflow. Impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

Development under the proposed project in combination with future development in Berkeley as shown in Table 3-1 in Section 3, *Environmental Setting*, could increase stormwater runoff such that water quality impacts could occur. However, overall, development facilitated by the project would not substantially increase the rate or amount of surface runoff would not result in substantial groundwater use or affect groundwater recharge, and would not modify the course of an existing stream or river. Required conformance with State and local policies and regulations would reduce hydrology and water quality impacts associated with future development. New development and redevelopment within the City would be subject to City, State, and federal policies and ordinances, design, guidelines, the Zoning Code, and other applicable regulatory requirements that reduce impacts related to water quality on a project-by-project basis.

All development in Berkeley would be subject to similar regulatory requirements and be required to comply with various City regulations (such as the BMC), as well as numerous water quality regulations that control the quality and quantity of construction related and operation discharge of pollutants in stormwater. The water quality regulations implemented by the SFBRWQCB take a basin-wide approach and consider water quality impairment in a regional context. For example, the NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the MRP encompasses all of the surrounding municipalities to manage stormwater systems and be collectively protective of water quality.

Policies and regulatory requirements described above would avoid significant impacts to water quality and reduce stormwater runoff with future development. Therefore, future development in Berkeley in combination with development under the proposed project would not result in a significant cumulative impact with respect to hydrology and water quality. Cumulative impacts would be less than significant (not cumulatively considerable).

## 4.7 Land Use and Planning

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This section describes the existing land uses on the project sites and the policy and regulatory framework that guides development on and near the project sites and analyzes the project's consistency with existing plans and policies.

### 4.7.1 Setting

#### a. Existing Land Uses on the Project Sites

##### *Ashby BART Station Site*

The Ashby BART station western parking lot and the eastern parking lot, located east of the Ed Roberts campus, have a land use designation of Adeline Corridor Mixed-Use and are zoned Adeline Corridor Commercial (C-AC). The land use designations of the Ashby BART station site and surrounding area are shown in Figure 4.7-1, and zoning is shown on Figure 4.7-2. In the vicinity of the Ashby BART station site are neighborhood and avenue commercial uses and multi-family residential buildings.

##### *North Berkeley BART Station Site*

The General Plan land use designation of the North Berkeley BART station is Institutional, while the three auxiliary parking lots are designated Institutional and Low Density Residential. The BART station site is zoned Unclassified (U) and the auxiliary parking lots are zoned Single Family Residential (R-1) and Restricted Two-family Residential (R-2A). The land use designations of the North Berkeley BART station site and surrounding area are shown in Figure 4.7-3, and zoning is shown on Figure 4.7-4. The North Berkeley BART Station and the auxiliary parking lots are surrounded by single-family and multi-family residential development.

#### b. Regulatory Setting

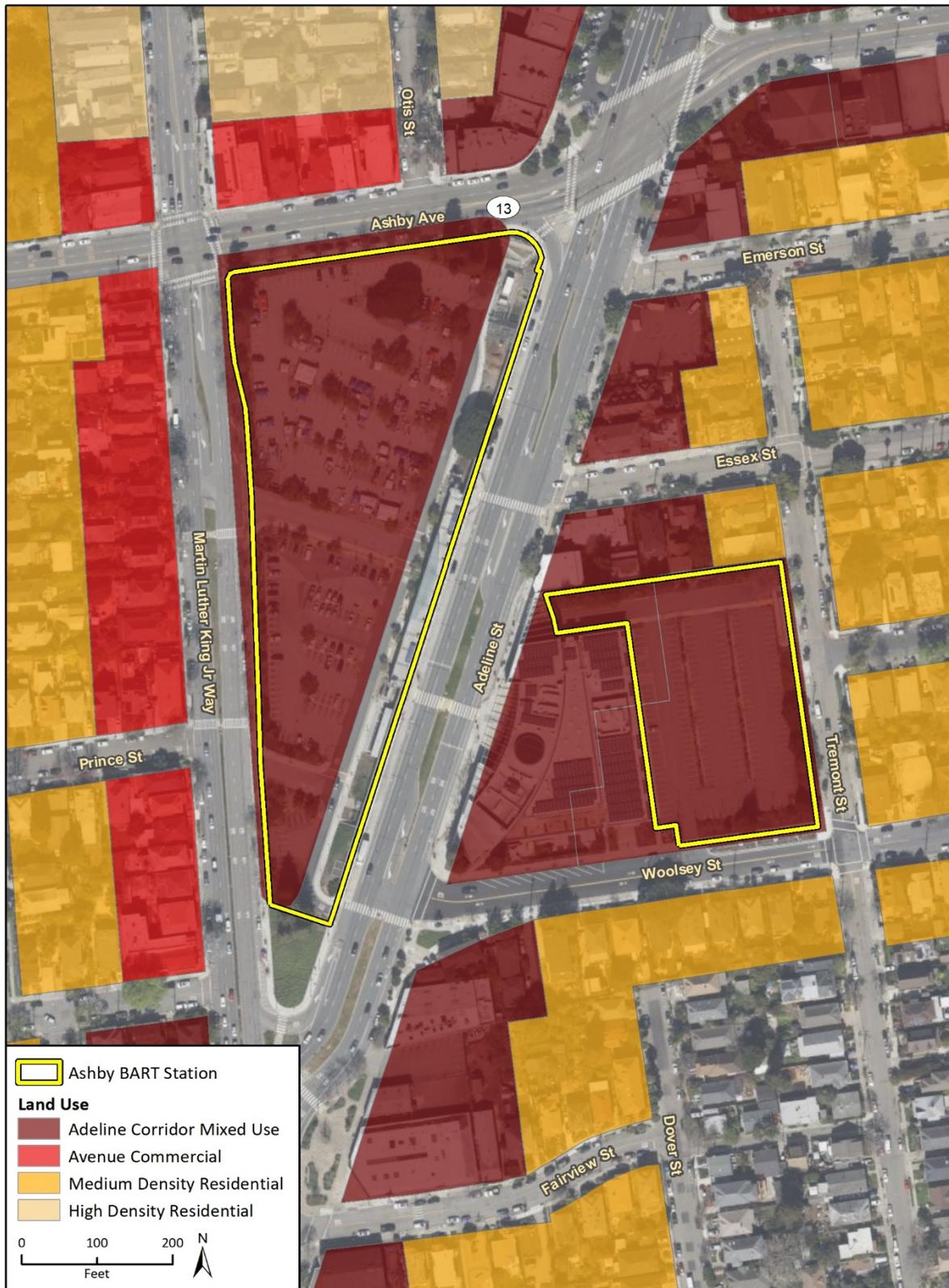
##### **Regional**

##### *Plan Bay Area*

Plan Bay Area 2040 was adopted on July 26, 2017. It is a limited and focused update of the region's previous integrated Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS), Plan Bay Area, adopted in 2013. Plan Bay Area 2040 builds upon the growth pattern and strategies developed in the original Plan Bay Area but with updated planning assumptions that incorporate recent economic, demographic and financial trends (ABAG and MTC 2017a).

In 2008, MTC and ABAG initiated a regional effort (FOCUS) to link local planned development with regional land use and transportation planning objectives. Through this initiative, local governments identified Priority Development Areas (PDAs). The PDAs form the implementing framework for Plan Bay Area. The PDAs are areas along transportation corridors which are served by public transit that provide opportunities for transit-oriented development. Over two-thirds of all regional growth by 2040 is expected to occur within PDAs. The PDAs throughout the Bay Area are expected to accommodate 78 percent (or over 509,000 units) of new housing and 62 percent (or 690,000) of new jobs.

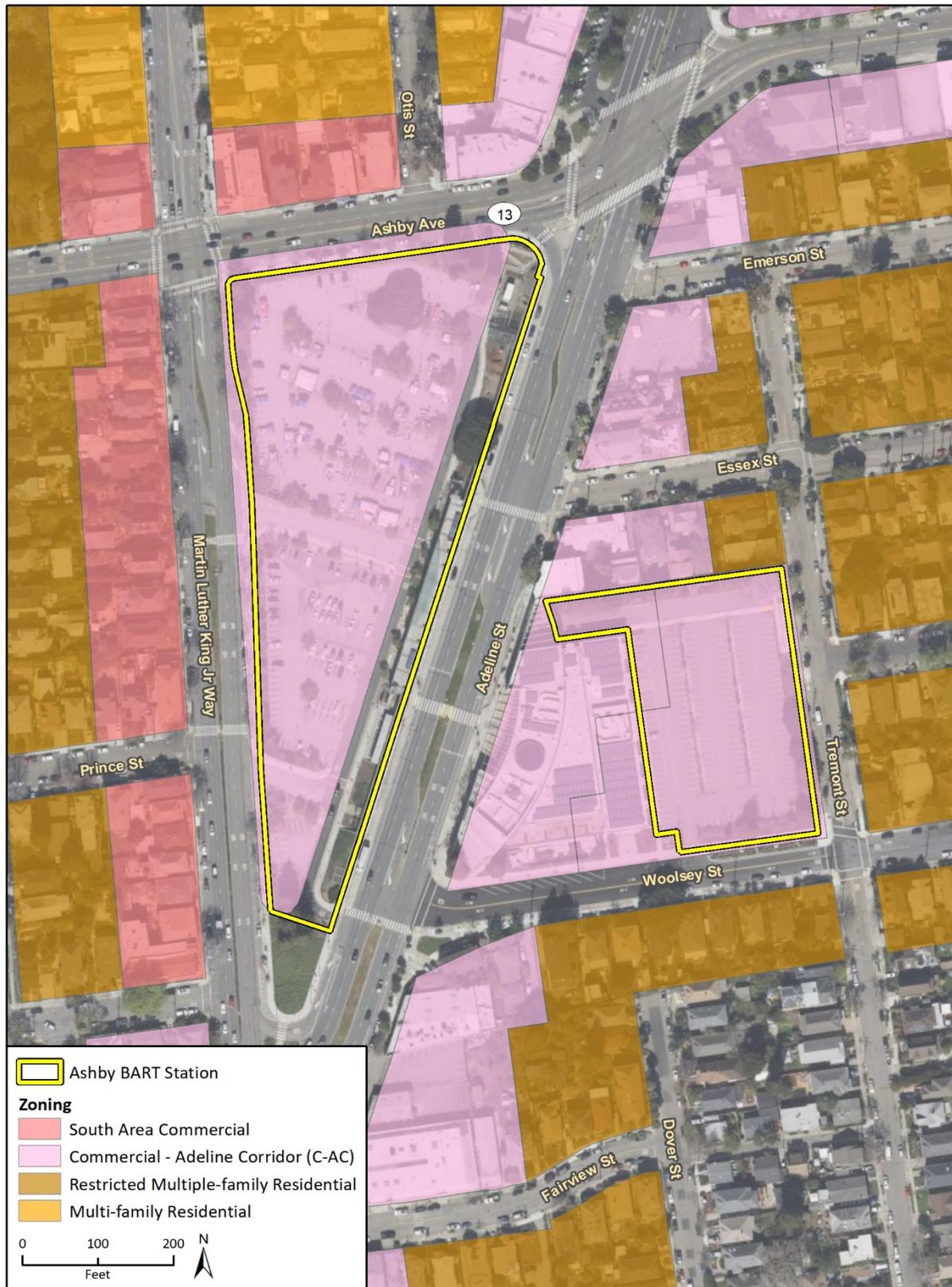
**Figure 4.7-1 Ashby BART Station Site General Plan Land Use Designations**



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 Land use data provided by City of Berkeley, 2019.

Fig 4.7-1 Land Use\_Ashby

Figure 4.7-2 Ashby BART Station Site Zoning Designations



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Fig. 4.7-2 Zoning, Ashby

**Figure 4.7-3 North Berkeley BART Station Site General Plan Land Use Designations**



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 Land use data provided by City of Berkeley, 2019.

Fig 4.7-3 Land Use, N Berkeley

**Figure 4.7-4 North Berkeley BART Station Site Zoning Designations**



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 Land use data provided by City of Berkeley, 2019.

Fig. 4.7-4 Zoning, N Berkeley

Designated PDAs in Berkeley include portions of University Avenue, San Pablo Avenue, Telegraph Avenue (which was later amended to include the Southside area), Adeline Street, South Shattuck Avenue and Downtown. The Ashby BART station site is within the Adeline Street PDA.

PDAs were selected by the City of Berkeley because they provide opportunities for infill development consistent with the objectives of Plan Bay Area. While ABAG and MTC approved the City's designation of the Ashby BART station site as a PDA, all future planning and regulatory decisions for the area remain under the authority of the City of Berkeley.

#### *Assembly Bill 2923*

California Assembly Bill (AB) 2923, passed in 2018, requires the adoption of transit-oriented development (TOD) zoning standards for BART-owned properties within ½-mile of station entrances in Alameda, Contra Costa and San Francisco counties that establish specific local zoning requirements for height, density, parking, and floor area ratio.

Pursuant to AB 2923, zoning standards developed for the Ashby and North Berkeley BART stations must allow the following:

- Development at a density of 75 units per acre (or higher)
- Development at a height of seven stories (or higher)
- Development with a Floor Area Ratio (FAR) of 4.2 (or higher)

In addition, the following parking standards are required:

- No minimum required vehicle parking
- No more than one vehicle parking space per unit is permitted
- A minimum of one bicycle parking space per unit

#### *BART Transit-Oriented Development Policy*

Adopted in 2016, BART's TOD development policy aims to partner with communities to ensure that BART achieves the following objectives:

- Contributes to neighborhood/district vitality, creating places offering a mix of uses and incomes
- Leads in the delivery of the region's land use and transportation vision to achieve quality of life, economic, and greenhouse gas reduction goals
- Increases BART ridership, particularly in locations and times when the system has capacity to grow
- Enhances the stability of BART's financial base by capturing the value of transit, and reinvesting in the program to maximize TOD goals
- Leverages land use and urban design to encourage non-auto transportation choices both on and off BART property, through enhanced walkability and bikeability, and seamless transit connectivity; and
- Serves households of all income levels by linking housing affordability with access to opportunity.

## Local

### *City of Berkeley General Plan*

Adopted in 2001, the Berkeley General Plan is a long-range statement of policies for the development and preservation of Berkeley.<sup>1</sup> The General Plan identifies seven major goals: 1) Preserve Berkeley's unique character and quality of life; 2) Ensure that Berkeley has an adequate supply of decent housing, living wage jobs, and businesses providing basic goods and services; 3) Protect local and regional environmental quality; 4) Maximize and improve citizen participation in municipal decision-making; 5) Create a sustainable Berkeley; 6) Make Berkeley a disaster-resistant community, that can survive, recover from, and thrive after a disaster; and 7) Maintain Berkeley's infrastructure, including streets, sidewalks, buildings, and facilities; storm drains and sanitary sewers; and open space, parks, pathways, and recreation facilities.

The General Plan's goals are implemented through decisions and actions consistent with the objectives policies and actions of each of the nine Elements: Land Use, Transportation, Housing, Disaster Preparedness & Safety, Open Space & Recreation, Environmental Management, Economic Development and Employment, Urban Design & Preservation and Citizen Participation. The General Plan explicitly recognizes that given its broad scope, "inherent tensions exist between Plan objectives and policies that must be balanced against one another through the decision-making process on particular development and land use decisions."<sup>2</sup>

The Land Use Element of the City's General Plan includes goals, policies and actions that support context-sensitive infill development, historic preservation, transit-oriented development, mobility and access that prioritizes alternative modes of transportation, "complete neighborhoods" that are well-served by a balance of commercial, community-serving/institutional and residential uses, and zoning changes to incentivize affordable housing.

The Land Use Element also categorizes areas in Berkeley into different land use classifications and includes a Land Use Diagram that maps these classifications. As noted specifically in the Land Use Element, the Diagram "depicts the general distribution, location, and density of land uses in Berkeley based upon the policies of the General Plan and existing land uses" but is not intended to portray the specific use or other development regulations of each parcel of land, which is determined by the City's Zoning Ordinance. The General Plan Land Use designations for the project sites are described below and shown on Figure 4.7-2 and Figure 4.7-4.

- **Adeline Corridor Mixed-Use.** These areas of Berkeley are characterized by pedestrian-oriented commercial development and multifamily residential structures. These areas are typically located on wide, multi-lane avenues served by transit or BART. Appropriate uses for these areas include local-serving and regional-serving commercial, residential, office, community service, and institutional. Building intensity will generally range from a Floor Area Ratio (FAR) of 2 to an FAR of 5. Population density will generally range from 100 to 300 persons per acre.
- **Institutional.** These are areas of Berkeley for institutional, government, educational, recreational, open space, natural habitat, woodlands, and public service uses and

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<sup>1</sup> The City of Berkeley Housing Element of the General Plan was last updated in April 2015. Unlike other General Plan elements, Berkeley's Housing Element is updated every 8 years, according to requirements of the California Housing and Community Development Department.

<sup>2</sup> City of Berkeley General Plan (2001), p.I-2.

facilities, such as the University of California, BART, Berkeley Unified School District, and East Bay Municipal Utility District facilities. It is General Plan policy that public agencies comply with General Plan policies and local zoning standards. Within these areas, building intensity will generally range from a Floor Area Ratio (FAR) of less than 1 to an FAR of 4.

- **Low Density Residential.** These areas are generally characterized by single-family homes. Appropriate uses for these areas include: residential, community services, schools, home occupations, recreational uses, and open space and institutional facilities. Building intensity will range from one to 10 dwelling units per net acre<sup>6</sup>, not including secondary units, and the population density will generally not exceed 22 persons per acre.

Other applicable General Plan policies are discussed in other sections of this EIR including:

- Policies from the Urban Design and Preservation Element are discussed in Section 4.2, *Cultural Resources*.
- Policies from the Environmental Management Element are discussed in Sections 4.1, *Air Quality*; 4.4, *Greenhouse Gas Emissions*; 4.5 *Hazards and Hazardous Materials*; 4.8 *Noise*; 4.10, *Public Services and Recreation*; and 4.12, *Utilities and Service Systems*.

#### *City of Berkeley 2015-2023 Housing Element*

The City of Berkeley Housing Element serves as the City's framework for housing goals, policies, and detailed programs for meeting existing and future housing needs and for increasing affordable housing opportunities. The current 2015-2023 Housing Element addresses the planning period of January 31, 2015 to January 31, 2023 as required by the State Housing Element Law. The Housing Element guides decisions to facilitate the development, rehabilitation, and availability of housing in Berkeley. Details and policies from the Housing Element are discussed in Section 4.9, *Population and Housing*.

#### *City of Berkeley Climate Action Plan (2009)*

Adopted in 2009, the Berkeley Climate Action Plan (CAP) outlines a vision for a more sustainable Berkeley and addresses policies and actions for transportation, energy, waste, community engagement and climate adaptation. Chapter 3, Sustainable Transportation and Land Use, of the CAP presents a vision that “cycling, walking, public transit, and other sustainable modes of transportation become mainstream.” This chapter has a goal to “Increase density along transit corridors” and policy to “encourage the development of housing (including affordable housing) retail services, and employment centers in areas of Berkeley best served by transit.” Other CAP goals and policies relevant to the project are discussed in more detail in Section 4.4, *Greenhouse Gas Emissions*.

#### *City of Berkeley Zoning Ordinance*

The General Plan, area plans, and other citywide plans are implemented through the Zoning Ordinance and other City ordinances. The City's Zoning Ordinance and associated Zoning Maps set forth specific zoning districts and codify development standards that apply to each district. Figure 4.7-2 and Figure 4.7-4 show the zoning designations of the project sites, and these zoning districts are described further below.

- **Adeline Corridor Commercial (C-AC):** The Adeline Corridor Commercial (C-AC) zone is intended to: incentivize greater quantities of on-site affordable housing in return for allowing specified levels of density (dwelling units/acre), floor area ratio (FAR), height,

lot coverage, usable open space and parking; simplify and clarify development standards and permit processes in order to provide more certainty for project applicants and community members; and facilitate uses that align with the vision of the Adeline Corridor Specific Plan.

- **Single-Family Residential (R-1):** The Single-Family Residential (R-1) zone is intended to recognize and protect the existing pattern of development in the low density, single family residential areas of the City; make available housing for persons who desire detached housing accommodations; protect adjacent properties from unreasonable obstruction of light and air; and permit the construction of community facilities such as places for religious assembly, schools, parks and libraries that are designed to serve the immediate neighborhood.
- **Multiple-Family Residential (R-3):** The Multiple-Family Residential (R-3) zone promotes relatively high density residential development, and also allows construction of specialized treatment facilities and group living accommodations such as nursing homes, dormitories, rooming houses, and senior congregate housing. R-3 parcels allow for approximately 26 dwelling units per acre, and heights of 35 feet.
- **Restricted Multiple-Family Residential (R-2A):** The Restricted Multiple-Family Residential (R-2A) zone is intended to encourage medium density development by promoting small multi-family and "garden-type" apartment developments, with as much open space as possible. This zoning designation allows for slightly higher-density development while still encouraging compatibility with low-density development and single-family residences in the area. The R-2A zone creates a transition in intensity of uses from the busier commercial corridor outwards towards more residential areas to the east and west.
- **Restricted Two-Family Residential (R-1):** The purposes of this district are to: 1) Recognize and protect the existing pattern of development in the low density, single family residential areas of the City in accordance with the Master Plan; 2) Make available housing for persons who desire detached housing accommodations and a relatively large amount of Usable Open Space; 3) Protect adjacent properties from unreasonable obstruction of light and air; and 4) Permit the construction of community facilities such as places for religious assembly, Schools, parks and libraries which are designed to serve the local population when such will not be detrimental to the immediate neighborhood.
- **Unclassified:** The Unclassified District has two purposes, which are to implement the Master Plan's designations for areas in the U District Zoning classification, and to provide a designation until such areas are classified into residential, commercial, or manufacturing districts.

#### *Adeline Corridor Specific Plan*

The Adeline Corridor Specific Plan (ACSP), adopted in December 2020, sets forth a long-range plan for the Adeline Corridor, a neighborhood in South Berkeley that includes the Ashby BART station. The ACSP recognizes that the Ashby BART station has the potential to become a complete neighborhood center with high-density, transit-oriented housing at a range of affordability levels, with space for community-serving retail, office, and attractive public space for commerce, such as the Berkeley Flea Market and the South Berkeley Farmers Market. The ACSP also envisions improvements to bicycle and pedestrian access, transit connections, and shared mobility technologies that make it easier to access the station without driving.

The ACSP envisions further collaboration and planning between the City, BART, the Berkeley Flea Market, the Ecology Center Farmers Market, and the community to further explore possibilities for the Ashby BART station area. The area has the capacity for a substantial amount of affordable housing and open space, including a plaza that could accommodate the Berkeley Flea Market and potentially also the Ecology Center Farmers Market. It also has the potential for other uses/amenities desired by the community, such as affordable space for community non-profits and other community facilities (e.g., sports or recreation center).

## 4.7.2 Impact Analysis

### **a. Methodology and Significance Thresholds**

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact related to land use if it would cause of the following conditions to occur:

1. Physically divide an established community; or
2. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

### **b. Project Impacts and Mitigation Measures**

|  |
|--|
| <b>Threshold 1:</b> Would the proposed project physically divide an established community? |
|--|

**Impact LU-1 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT RESULT IN THE PHYSICAL DIVISION OF AN ESTABLISHED COMMUNITY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

---

The project sites are located in urban, developed areas in Berkeley. The proposed project does not include elements that would physically divide the established communities around the project sites. For example, no new major roads or other large or linear facilities would be constructed that would physically divide an established community. Both the Ashby BART station site and the North Berkeley BART station site are currently surface parking lots that may be traversed by the public. While specific development has not been proposed on the sites, future development facilitated by the rezoning would preserve pedestrian access to the stations and through the sites. Therefore, no significant land use impacts related to the physical division of an established community would occur as a result of adoption and implementation of the proposed project. This impact would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 2:** Would the project conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

**Impact LU-2 THE PROPOSED PROJECT WOULD IMPLEMENT AND BE CONSISTENT WITH THE GOALS AND POLICIES OF APPLICABLE LAND USE PLANS AND POLICIES ADOPTED FOR THE PURPOSE OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

The project would create the Residential BART Mixed-Use District (R-BMU) with the purpose of addressing City priorities such as affordable housing, civic and public space, multi-modal transportation and site access, high-quality building design and architecture, and a mix of land uses that contribute positively to the community, and to establish zoning standards in compliance with AB 2923. The proposed project would also involve amending the Berkeley General Plan text and maps to redesignate the North Berkeley and Ashby BART station sites to “Ashby and North Berkeley BART Transit-Oriented Development” so that the General Plan and Zoning Ordinance are consistent. The proposed General Plan amendments and zoning standards are included in Appendix B.

Development standards in the R-BMU district include a minimum new lot size of 10,000 square feet, a maximum building height of 80 feet and 7 stories, a residential minimum density of 75 dwelling units per acre. The R-BMU district would not require parking and would have a parking maximum of 0.5 spaces per dwelling unit and 1.5 spaces per 1,000 square feet of non-residential space. Bicycle parking would be required at a minimum of one space per unit. A minimum of 40 square feet of private usable open space and 35 square feet of public space would be required per dwelling unit.

Conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves. As stated in *CEQA Guidelines* §15358(b), “[e]ffects analyzed under CEQA must be related to a physical change.” *CEQA Guidelines* §15125(d) states that that EIRs must discuss inconsistencies between the proposed project and applicable General Plans that decision-makers should address. A project is considered consistent with the provisions and general policies of an applicable city or regional land use plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy.<sup>3</sup> More specifically, according to the ruling in *Sequoyah Hills Homeowners Association v. City of Oakland*, state law does not require an exact match between a project and the applicable general plan.

Rather, to be “consistent” the project must be “compatible with objectives, policies, general land uses, and programs specified in the applicable land use plan, meaning that a project must be in “agreement or harmony” with the applicable land use plan to be consistent with that plan. If a project is determined to be inconsistent with specific objectives or policies of a land use plan, but not inconsistent overall with the land use goals of that plan and would not preclude the attainment of the primary intent of the plan, that project would be considered generally consistent with the plan on an overall basis. As stated in the City’s General Plan:

Given the broad scope of the General Plan, inherent tensions exist between Plan objectives and policies that must be balanced against one another through the decision-making process on particular development and land use decisions. It is not the intent of

<sup>3</sup> *Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704,719.

the General Plan to predetermine these decisions, but rather to help guide the decision-making process.<sup>4</sup>

Furthermore, *CEQA Guidelines* Appendix G makes explicit the focus on environmental policies and plans, asking if the project would conflict with any applicable land use plan, policy, or regulation “*adopted for the purpose of avoiding or mitigating an environmental effect*” (emphasis added). A policy inconsistency is considered a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect and it is anticipated that the inconsistency would result in a significant adverse physical impact based on the established significance criteria. Consistency with the goals and policies of the General Plan are discussed in Table 4.7-1, and with the ACSP, which applies only to the Ashby BART station site, in Table 4.7-2.

Consistency with other applicable regional and local plans that include policies related to land use, including the 2017 Clean Air Plan, Plan Bay Area 2040, and the City’s Climate Action Plan, is discussed in Section 4.1, *Air Quality*, and 4.4, *Greenhouse Gas Emissions*, of this EIR.

**Table 4.7-1 Project Consistency with Relevant General Plan Goals and Policies**

| General Plan Policy  | Discussion   |
|--|--|
| <b>Land Use Element</b>  |  |
| <b>Maintain and Preserve the Character of Berkeley</b>   |  |
| <b>Policy LU-4 Discretionary Review.</b> Preserve and enhance the aesthetic, environmental, economic, and social character of Berkeley through careful land use and design review decisions.   | <b>Consistent.</b> Under the proposed transit-oriented development standards, future development would be guided by these land use and policy changes, and future discretionary review would be required.  |
| <b>Maintain and Enhance Berkeley’s Residential Areas</b>   |  |
| <b>Policy LU-9 Non-Residential Traffic.</b> Minimize or eliminate traffic impacts on residential areas from institutional and commercial uses through careful land use decisions.  | <b>Consistent.</b> The proposed transit-oriented development standards would encourage development that takes advantage of the existing adjacent BART stations and would generate fewer automobile trips than similar development in most other parts of Berkeley. |
| <b>Policy LU-11 Pedestrian- and Bicycle-Friendly Neighborhoods.</b> Ensure that neighborhoods are pedestrian- and bicycle-friendly with well-maintained streets, street trees, sidewalks, and pathways.  | <b>Consistent.</b> As detailed in Impact T-1 in Section 4.11, <i>Transportation</i> , the proposed project would represent an overall improvement to bicycle and pedestrian access and circulation.  |
| <b>Maintain and Enhance Berkeley’s Commercial Areas and the Downtown</b>   |  |
| <b>Policy LU-21 Transit-Oriented Development.</b> Encourage and maintain zoning that allows greater commercial and residential density and reduced residential parking requirements in areas with above-average transit service such as Downtown Berkeley. | <b>Consistent.</b> The proposed project specifically includes transit-oriented zoning and development standards around the Ashby and North Berkeley BART stations.   |

<sup>4</sup> City of Berkeley General Plan (2001), p.I-2.

| General Plan Policy  | Discussion  |
|--|---|
| <p><b>Policy LU-30 Ashby BART Station.</b> Encourage affordable housing or mixed-use development including housing on the air rights above the Ashby BART station and parking lot west of Adeline Street.</p>  | <p><b>Consistent.</b> The proposed transit-oriented development rezoning and development standards would allow for at least seven stories of development and commercial space (a mix of uses) above the Ashby BART station and development at a density of at least 75 units per acre of housing. The concepts for development on the site include an affordable component.</p> |
| <b>Transportation Element</b>  |   |
| <b>Automobile Use Reduction</b>  |   |
| <p><b>Policy T-10 Trip Reduction.</b> To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips, such as:</p> <ol style="list-style-type: none"> <li>1. Participation in a citywide Eco-Pass Program (also see Transportation Policy T-3).</li> <li>2. Participation in the Commuter Check Program.</li> <li>3. Carpooling and provision of carpool parking and other necessary facilities.</li> <li>4. Telecommuting programs.</li> <li>5. "Free bicycle" programs and electric bicycle programs.</li> <li>6. "Car-sharing" programs.</li> <li>7. Use of pedal-cab, bicycle delivery services, and other delivery services.</li> <li>8. Programs to encourage neighborhood-level initiatives to reduce traffic by encouraging residents to combine trips, carpool, telecommute, reduce the number of cars owned, shop locally, and use alternative modes.</li> <li>9. Programs to reward Berkeley citizens and neighborhoods that can document reduced car use.</li> <li>10. Limitations on the supply of long-term commuter parking and elimination of subsidies for commuter parking.</li> <li>11. No-fare shopper shuttles connecting all shopping districts throughout the city.</li> </ol> | <p><b>Consistent.</b> The project involves the adoption of transit-oriented zoning and development standards on existing BART station sites that are also near transit corridors (University Avenue and Adeline Avenue). By its nature, the project focuses growth in proximity to transit which would reduce vehicle trips.</p>  |
| <b>Neighborhood Traffic Calming</b>  |   |
| <p><b>Policy T-20 Neighborhood Protection and Traffic Calming.</b> Take actions to prevent traffic and parking generated by residential, commercial, industrial or institutional activities from being detrimental to residential areas.</p>   | <p><b>Consistent.</b> As discussed in Section 4.11, <i>Transportation</i>, implementation of the proposed Specific Plan would not significantly impact roadways in surrounding neighborhoods.</p>   |

| General Plan Policy   | Discussion  |
|---|---|
| <b>Housing Element</b>  |   |
| <b>Expansion of the Housing Supply</b>  |   |
| <p><b>Policy H-12 Transit-Oriented New Construction.</b> 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.</p> | <p><b>Consistent.</b> The project involves the adoption of transit-oriented development zoning and development standards to facilitate housing development on two existing BART station sites and along major transit corridors. By its nature, the project focuses growth on a major transit corridor. Future development on the project sites would be required to be consistent with the new transit-oriented development requirements and guidelines. As discussed in Section 4.4, <i>Greenhouse Gas Emissions</i>, the proposed project is consistent with the City’s Climate Action Plan.</p> |
| <b>Energy Efficiency</b>  |   |
| <p><b>Policy H-30 Energy Efficiency and Waste Reduction.</b> 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.</p>  | <p><b>Consistent.</b> As described in Section 4.4, <i>Greenhouse Gas Emissions</i>, development on the project sites would be required to implement provisions of the City’s Climate Action Plan as well as regional and state goals to reduce GHG Emissions.</p>   |
| <b>Urban Design &amp; Preservation</b>  |   |
| <b>New Construction and Alterations</b>   |   |
| <p><b>Policy UD-26 Pedestrian-Friendly Design.</b> Architecture and site design should give special emphasis to enjoyment by, and convenience and safety for, pedestrians.</p>  | <p><b>Consistent.</b> As detailed in Impact T-1 in Section 4.11, <i>Transportation</i>, the proposed project would represent an overall improvement to pedestrian access and circulation.</p>   |
| <p><b>Policy UD-33 Sustainable Design.</b> Promote environmentally sensitive and sustainable design in new buildings.</p>   | <p><b>Consistent.</b> As discussed in Section 4.4, <i>Greenhouse Gas Emissions</i>, the project would be energy efficient and designed to promote sustainable design and reduce overall GHG emissions from implementation of the proposed project.</p>  |

**Table 4.7-2 Project Consistency with Relevant ACSP Goals and Policies**

| Adeline Corridor Specific Plan Policy  | Discussion   |
|--|--|
| <b>Land Use</b>  |  |
| <p><b>3.8 Sustainable Building Design and Energy Use.</b> Ensure that the design of new buildings incorporates features that address energy use and further the goals of Berkeley’s Climate Action Plan.</p> | <p><b>Consistent.</b> As discussed in Section 4.4, <i>Greenhouse Gas Emissions</i>, the proposed project is consistent with the City’s Climate Action Plan.</p>  |
| <b>Transportation</b>  |  |
| <p><b>6.8 BART.</b> Work with BART to maintain and improve its ability to serve Bay Area travelers and accommodate regional growth, including growth around the Ashby Station.</p>                           | <p><b>Consistent.</b> As described in Section 2, <i>Project Description</i>, the City and BART have entered into a Memorandum of Understanding (MOU) that establishes a framework for development of the Ashby and North Berkeley BART stations. The City continues to coordinate with BART on project-related activities.</p> |

As shown in Table 4.7-1 and Table 4.7-2, the proposed project is generally consistent with the General Plan and ACSP. The proposed project would not cause a significant environmental impact due to a conflict with an applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect and would not cause a significant environmental impact due to such a conflict. As a result, no significant land use impacts would occur.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

Development under the project would not physically divide an established community, would not result in the introduction of new land uses that would conflict with existing land uses on the project sites, and would be generally consistent with City of Berkeley plans and policies intended to direct high-density development toward areas served by transit. Such development would not create or contribute to significant adverse land use impacts, either directly or cumulatively.

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## 4.8 Noise

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This section evaluates the impacts of noise generated by future development under the proposed project on noise-sensitive land uses.

### 4.8.1 Setting

#### a. Noise Overview

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by hearing organs (e.g., the human ear). Noise is defined as sound, which is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler et al. 1999). Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007).

Human perception of noise has no simple correlation with sound energy; the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); a change of 5 dBA is readily perceptible (8 times the sound energy); and an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of noise source (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (FHWA 2011). Structures can substantially reduce occupants’ exposure to noise as well. The FHWA’s guidelines indicate modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The time of day when noise occurs and the duration of the noise are also important. Most noise lasting for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level ( $L_{eq}$ ), which considers both duration and sound power level.  $L_{eq}$  is defined as the single steady A-weighted level equivalent to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically,  $L_{eq}$  is summed over a one-hour period (1H).  $L_{max}$  is the highest root mean squared (RMS) sound pressure level within the sampling period, and  $L_{min}$  is the lowest RMS sound pressure level within the measuring period (Crocker 2007). Normal conversational levels are in the 60 to 65 dBA  $L_{eq}$  range; ambient noise levels greater than 65 dBA  $L_{eq}$  can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise occurring at night tends to be more disturbing than noise occurring during the day. Community noise is usually measured using Day-Night Average Level ( $L_{dn}$ ), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by  $L_{dn}$  and CNEL usually differ by about 1 dBA. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range.

## b. Vibration Overview

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020a). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020a).

**c. Noise-Sensitive Receptors**

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Berkeley General Plan’s Environmental Management Element defines noise-sensitive receptors as residences, child-care centers, hospitals, nursing homes, and other similar land uses (City of Berkeley 2001). The location, hours of operation, type of use, and extent of development warrant close analysis in an effort to ensure that noise-sensitive receptors are not exposed to adverse noise levels. The Regulatory Setting, below, describes the City’s thresholds for the exposure of noise-sensitive receptors to noise.

Table 4.8-1 describes the noise-sensitive receptors near the project sites. Each parcel where development under the proposed project could occur is adjacent to noise-sensitive receptors. Most affected receptors are residences in neighborhoods surrounding the station sites. Other receptors near the project sites include recreational areas and schools. Figures 2-2 and 2-3 in Section 2, *Project Description*, show the locations of nearby residential areas and recreational areas.

**Table 4.8-1 Noise-Sensitive Receptors Near the Project Sites**

| Station Site  | Receptor Type | Receptor Description                        | Receptor Location   | Zoning District |
|---|---------------|---|---|-----------------|
| <b>Ashby BART Station Site</b>                                    |               |   |   |                 |
| Surface parking lot on east side of Adeline Street                | Residential   | Multi-family residences                     | Adjacent to north: on Essex St.   | R-2A            |
|   |               | Single-family residences                    | Adjacent to north/east/south: on Essex St., Tremont St., Woolsey St.;<br>East of site: on Essex St., Prince St., Woolsey St.;<br>South of site: on Dover St., Tremont St. | R-2A            |
|   | School        | Ed Roberts Campus <sup>1</sup>              | Adjacent to west  | C-AC            |
| Parcel surrounded by Adeline Street, Ashby Avenue and MLK Jr. Way | Residential   | Alliance Francaise de Berkeley <sup>2</sup> | Southeast of site: on Woolsey St. east of Tremont St.   | R-2A            |
|   |               | Single-family residences                    | Adjacent to west: on west side of MLK Jr. Way;<br>Northwest of site: on Ashby Ave. and MLK Jr. Way  | C-AC, R-2A      |
|   | School        | Via Nova Children’s School <sup>3</sup>     | Adjacent to west: on MLK Jr. Way north of Prince St.  | C-AC            |

| Station Site                            | Receptor Type | Receptor Description     | Receptor Location   | Zoning District |
|---|---------------|--------------------------|---|-----------------|
| <b>North Berkeley BART Station Site</b> |               |                          |   |                 |
| Parcel with station entrance            | Recreational  | Ohlone Greenway          | Southeast of site: east of Sacramento St./Delaware St. intersection;<br>Northwest of site: from Virginia St./Acton St. intersection | R-1, R-2        |
|   | Residential   | Single-family residences | Adjacent to all sides: north of Virginia St., east of Sacramento St., south of Delaware St., west of Acton St.                      | R-1, R-2        |

Notes: C-SA = South Area Commercial District; R-1 = Single Family Residential District; R-2 = Restricted Two-Family Residential District; R-2A = Restricted Multi-Family Residential District

<sup>1</sup> The Ed Roberts Campus has a child development center and vocational training facilities.

<sup>2</sup> The Alliance Francaise de Berkeley is non-profit organization that provides French classes.

<sup>3</sup> The Via Nova Children’s School is a preschool for children aged two to six.

Sources: Alliance Francaise de Berkeley 2021; Via Nova 2021; Berkeley 2014

### **d. Existing Noise Conditions and Sources**

The primary sources of noise near the project sites are motor vehicles, BART trains, aircraft, and noise associated with operation of commercial and residential uses.

#### **Motor Vehicles**

Motor vehicles, including passenger vehicles, trucks, and buses, are the most common sources of noise in Berkeley. The loudest roadways near the project sites are arterial routes that carry the highest traffic volumes, including Adeline Street, Martin Luther King Jr. Way, Ashby Avenue (State Route 13), and Sacramento Street. AC Transit buses travel on Adeline Street, Martin Luther King Jr. Way, Sacramento Street, and Cedar Street, and generate noise when accelerating and braking.

#### **Trains**

Bay Area Regional Transit (BART) trains contribute to the noise environment to the north of Peralta Avenue, where the railway tracks emerge from a tunnel and rise to an elevated viaduct toward the El Cerrito Plaza Station. South of Peralta Avenue, the BART railway tracks are underground through the North Berkeley, Downtown Berkeley, and Ashby BART Stations. Approximately 0.2 mile south of the Ashby BART Station, the railway tracks again emerge from a tunnel to an elevated viaduct. On the underground portion of the tracks, BART trains do not generate noise that substantially contributes to equivalent ambient noise levels at nearby sensitive receptors. Trains on the Richmond-Daly City/Millbrae and Richmond-Warm Springs lines pass through the project sites. As discussed in Section 4.11, *Transportation*, the Ashby and North Berkeley BART stations are served by the Richmond-Berryessa/North San José train from 5:15 AM to 10:00 PM on weekdays and from 7:30 AM to 10:15 PM on weekends and the Richmond-Daly City/Millbrae train from 5:10 AM to 9:10 PM on weekdays only. The Ashby and North Berkeley BART stations are served by about 16 trains per hour during the weekday peak commute periods. The peak hour of station exits by transit users occurs between 6 and 7 PM at the Ashby BART station and between 5 and 6 PM at the North Berkeley BART station.

## On-Site Operational Noise

Equipment used in the operation of retail, other commercial, and residential uses near the project sites contributes to ambient noise. In commercial areas, restaurants, retail stores, and other businesses can generate on-site noise from heating, ventilation, and air conditioning (HVAC) systems; loading dock activity; trash compactors; outdoor dining; music; and other sources. Residential neighborhoods generate noise from the use of home appliances, yard maintenance and home construction equipment, air conditioners, power tools, and other household activities.

## Aircraft

Noise from aircraft overflights is a minor contributor to ambient noise in Berkeley. The nearest airport to the project sites, Oakland International Airport, is located approximately 8.5 miles to the south of the Ashby BART Station. Although individual aircraft in the vicinity of the project sites are occasionally audible, the sites are well outside the 60 CNEL noise contour associated with this airport (Alameda County 2012).

## Noise Measurements

To establish existing ambient noise conditions in the vicinity of the project sites, daytime noise measurements were taken by Rincon Consultants, Inc. staff at five locations using an ANSI Type II integrating sound level meter on February 26, 2021 (see Figure 4.8-1 and Figure 4.8-2 for noise measurement locations). The five locations were selected as representative of ambient noise levels at sensitive receptors near potential future development on the project sites. In the vicinity of the Ashby BART station site, measurements were taken near residences and educational facilities on Woolsey Street, Tremont Street, and Martin Luther King Jr. Way. Around the North Berkeley BART station site, measurements were taken near residences on Delaware Street and Virginia Street. The measurements provide baseline data against which modeled noise level projections can be compared. Table 4.8-2 lists the noise measurement locations and measured noise levels.

**Table 4.8-2 Noise Measurement Results**

| No. | Measurement Location <sup>1</sup>                                      | Primary Noise Source                  | Sample Time      | L <sub>eq</sub> dBA <sup>2</sup> |
|-----|--|---------------------------------------|------------------|----------------------------------|
| 1   | Woolsey Street south of Ed Roberts Campus parking lot (Ashby Site)     | Traffic on Woolsey St.                | 10:14 – 10:29 AM | 53.3                             |
| 2   | Tremont Street northeast of Ed Roberts Campus parking lot (Ashby Site) | Traffic on Tremont St.                | 10:36 – 10:51 AM | 61.8                             |
| 3   | Martin Luther King Jr. Way west of Ashby BART Station parking lot      | Traffic on Martin Luther King Jr. Way | 11:05 – 11:20 AM | 65.4                             |
| 4   | Delaware Street south of North Berkeley BART Station                   | Traffic on Delaware St.               | 11:40 – 11:55 AM | 65.0                             |
| 5   | Virginia Street west of Acton Street (North Berkeley Site)             | Traffic on Virginia St.               | 12:06 – 12:21 PM | 57.5                             |

<sup>1</sup> Measurement locations are shown in Figure 4.8-1.

<sup>2</sup> All measurements were taken on February 26, 2021, using an ANSI Type II sound level meter. Refer to Appendix G for noise measurement results.

Figure 4.8-1 Noise Measurement Locations: Ashby BART Station



Figure 4.8-2 Noise Measurement Locations: North Berkeley BART Station



As shown in Table 4.8-2, ambient noise levels ranged from approximately 53 to 65 dBA  $L_{eq}$  in the vicinity of the project sites. Noise levels were highest next to Martin Luther King Jr. Way, a high-volume arterial roadway, reaching 65 dBA  $L_{eq}$ . Measured noise levels may be quieter than usual because of lower traffic volumes during the protracted coronavirus pandemic. The traffic analytics firm INRIX found that vehicle miles traveled (VMT) in the Bay Area have ranged from 60 to 80 percent of pre-pandemic VMT from June 2020 through February 2021 (Savidge 2021). Nonetheless, the noise measurements provide a conservative baseline for comparison to noise levels generated by the project. Therefore, they are appropriate for establishing baseline conditions against which to compare noise impacts.

**e. Regulatory Setting**

**State**

Caltrans has published applicable guidelines for vibration annoyance caused by transient and intermittent sources, as shown in Table 4.8-3.

**Table 4.8-3 Caltrans Criteria for Vibration Annoyance**

| Human Response         | Maximum PPV (in/sec)           |   |
|------------------------|--------------------------------|---|
|                        | Transient Sources <sup>1</sup> | Continuous/Frequent Intermittent Sources <sup>1</sup> |
| Barely perceptible     | 0.04                           | 0.01  |
| Distinctly perceptible | 0.25                           | 0.04  |
| Strongly perceptible   | 0.9                            | 0.10  |
| Severe                 | 2.0                            | 0.4   |

<sup>1</sup> Caltrans defines transient sources as those that create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources can include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020a

In addition, Caltrans has published guidelines for structural damage from vibration, as shown in Table 4.8-4.

**Table 4.8-4 Caltrans Criteria for Vibration Damage**

| Structure and Condition  | Maximum PPV (in/sec) |  |
|--|----------------------|--|
|  | Transient Sources    | Continuous/Frequent Intermittent Sources |
| Extremely fragile historic buildings, ruins, ancient monuments | 0.12                 | 0.08                                     |
| Fragile buildings  | 0.20                 | 0.10                                     |
| Historic and some old buildings                                | 0.50                 | 0.25                                     |
| Older residential structures                                   | 0.50                 | 0.30                                     |
| New residential structures                                     | 1.00                 | 0.50                                     |
| Modern industrial/commercial buildings                         | 2.00                 | 0.50                                     |

Source: Caltrans 2020a

## Local

Section 13.40, Community Noise, of the Berkeley Municipal Code establishes the City's standards for on-site operational noise and construction noise. Section 13.40.050 sets limits for exterior noise generated on a property, as measured at any other property. Table 4.8-5 shows the City's exterior noise limits that cannot be exceeded for more than 30 minutes in any hour (i.e., the L<sub>50</sub>).

**Table 4.8-5 City of Berkeley Exterior Noise Limits (L<sub>50</sub>)**

| Zone          | Time Period        | Noise Level, dBA <sup>1</sup> |
|---------------|--------------------|-------------------------------|
| R-1, R-2      | 7:00 AM – 10:00 PM | 55                            |
|               | 10:00 PM – 7:00 AM | 45                            |
| R-3 and Above | 7:00 AM – 10:00 PM | 60                            |
|               | 10:00 PM – 7:00 AM | 55                            |
| Commercial    | 7:00 AM – 10:00 PM | 65                            |
|               | 10:00 PM – 7:00 AM | 60                            |
| Industry      | Anytime            | 70                            |

<sup>1</sup>L<sub>50</sub> is the noise level that cannot be exceeded for more than 30 minutes in any hour.  
Source: Berkeley, Municipal Code Section 13.40.050

Exterior noise generated on a property also cannot exceed the following limits for shorter periods of time in a given hour:

- The noise standard for that land use as specified in Table 4.8-5 plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
- The noise standard for that land use as specified in Table 4.8-5 plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
- The noise standard for that land use as specified in Table 4.8-5 plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- The noise standard for that land use as specified in Table 4.8-5 plus 20 dBA for any period of time.

Section 13.40.060 of the Berkeley Municipal Code sets interior noise limits for multi-residential uses as shown in Table 4.8-6. These standards apply within dwellings with their windows in normal seasonal configurations.

**Table 4.8-6 City of Berkeley Interior Noise Limits**

| Zone | Time Period        | Noise Level, dBA (L <sub>eq</sub> ) |
|------|--------------------|-------------------------------------|
| All  | 7:00 AM – 10:00 PM | 45                                  |
|      | 10:00 PM – 7:00 AM | 40                                  |

Source: City of Berkeley Municipal Code Section 13.40.060

Section 13.40.070 of the Berkeley Municipal Code sets standards for construction noise. This section prohibits construction activity between the hours of 7:00 PM and 7:00 AM on weekdays, and between 8:00 PM to 9:00 AM on weekends and holidays, such that the resulting noise creates a noise disturbance across a residential or commercial property line. Table 4.8-7 lists the City's maximum sound levels for mobile and stationary equipment that

apply to construction activity “where technically and economically feasible” during permitted hours of construction (Section 13.40.070.B of the Berkeley Municipal Code).

**Table 4.8-7 Construction Noise Standards**

| Equipment Type          | Day/Times                                   | Residential (R-1, R-2) | Multi-Family Residential (R-3) | Commercial/Industrial |
|-------------------------|---|------------------------|--------------------------------|-----------------------|
| Mobile <sup>1</sup>     | Weekdays<br>7:00 AM to 7:00 PM              | 75 dBA                 | 80 dBA                         | 85 dBA                |
|                         | Weekends and Holidays<br>9:00 AM to 8:00 PM | 60 dBA                 | 65 dBA                         | 70 dBA                |
| Stationary <sup>2</sup> | Weekdays<br>7:00 AM to 7:00 PM              | 60 dBA                 | 65 dBA                         | 70 dBA                |
|                         | Weekends and Holidays<br>9:00 AM to 8:00 PM | 50 dBA                 | 55 dBA                         | 60 dBA                |

<sup>1</sup> Section 14.40.070 of the Berkeley Municipal Code defines mobile equipment as “nonscheduled, intermittent, short-term operation (less than 10 days).

<sup>2</sup> Section 14.40.070 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 of Berkeley’s Construction Noise Standards:

[http://www.ci.berkeley.ca.us/uploadedFiles/Health\\_Human\\_Services/Level\\_3\\_-\\_General/Construction%20Noise%20Standard.pdf](http://www.ci.berkeley.ca.us/uploadedFiles/Health_Human_Services/Level_3_-_General/Construction%20Noise%20Standard.pdf)

## 4.8.2 Impact Analysis

### a. Methodology and Significance Thresholds

The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise from development under the proposed project. Based on Appendix G of the *CEQA Guidelines*, impacts would be significant if the project would:

- 1) 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;
- 2) Result in generation of excessive groundborne vibration or groundborne noise levels; or
- 3) 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, expose people residing or working in the project area to excessive noise levels.

### Temporary Noise Increase from Construction

Noise from temporary construction activity was estimated using the Federal Highway Administration’s Roadway Construction Noise Model (RCNM). The model applies a typical list of equipment used in multi-story residential developments during each phase of construction. Impact or sonic pile drivers, if used to install foundations, would be the loudest individual noise source. This equipment can generate noise levels exceeding 100 dBA within 50 feet. Pile drivers are most often used to set pile foundations for new concrete buildings that are at least six stories in height. It is assumed that the proposed project would allow buildings up to eight stories tall on the project sites. Therefore, this analysis assumes

that pile drivers could be used in construction. This is a conservative assumption because several multi-story buildings approved in recent years in Berkeley did not propose the use of pile drivers, including a 16-story hotel at 2129 Shattuck Avenue and 18-story mixed-use buildings at 2190 Shattuck Avenue and 2211 Harold Way.

Construction equipment is assumed to typically operate near the center of the project sites. At the Ashby BART station site, the nearest sensitive receptor (the Ed Roberts Campus) would be approximately 100 feet from the center of construction activity. Construction noise was also estimated at a distance of 150 feet, which is representative of the nearest residences to the center of construction activity at parcels on Ashby BART station site. At the North Berkeley BART station site, the nearest sensitive receptors (residences) would be approximately 400 feet from the center of construction activity. These are conservative distances for the purpose of estimating equivalent noise levels over a one-hour period ( $L_{eq}$ ). Construction noise level estimates do not account for the presence of intervening structures or topography, which could substantially reduce noise levels at receptor locations in this densely developed urban area. Therefore, the estimated construction noise levels represent a conservative estimate of actual construction noise.

The proposed project would have a significant impact if construction noise occurs outside of permitted hours or if it occurs during permitted daytime hours in excess of the noise standards for stationary equipment shown in Table 4.8-7. These standards do not specifically define where the noise level should be analyzed at affected properties; i.e., they do not state if the limits apply to the property line, exterior use areas, etc. This analysis applies the City's noise standards for stationary construction equipment as "frequent human use areas," as defined by Caltrans; these are exterior areas where frequent human use occurs that would benefit from a lowered noise level (Caltrans 2020b). As an example, a parking lot is not considered to be an area of frequent human use that would benefit from a lowered noise level because people only spend a few minutes there getting in and out of their cars and there would be no benefit to a lowered noise level. Typical frequent human use areas are backyards, outdoor seating areas at restaurants or outdoor use areas at hotels, if those are areas where people spend an extended period of time on a regular basis. Areas of frequent human use would also include the interior locations of nearby buildings such as offices or residences.

## Groundborne Vibration

The analysis of vibration uses reference data from the FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018) for vibration levels from construction equipment. A formula provided in Caltrans' *Transportation and Construction Vibration Guidance Manual* (2020) is used to calculate the attenuation of vibration from a reference distance of 25 feet to the distances of the nearest noise-sensitive receptors:

$$PPV = PPV_{ref} \times (25/D)^n \text{ (in/sec)}$$

This formula takes into account the reference vibration level ( $PPV_{ref}$ ), the distance from vibration-generating equipment to the receptor ( $D$ ), and a constant value related to the attenuation rate through the ground ( $n$ ). The  $n$ -value is assumed to be 1.1, Caltrans' suggested value for conservative analysis. The distance is measured from the edge of construction activity closest to receptors.

The City has not adopted specific numerical thresholds for groundborne vibration impacts. Therefore, this analysis uses applicable Caltrans criteria for human annoyance (Table 4.8-3) and structural damage (Table 4.8-4) in response to vibration.

## Permanent Noise Increase from On-Site Operational Activity

The primary source of on-site operational noise at future developments on the project sites would be HVAC units. For modeling purposes this analysis assumes the use of a typical HVAC unit for commercial or multi-family residential sites, the 16.7-ton Carrier 38AUD25 split system condenser (refer to Appendix G for a complete list of assumptions, applicable HVAC manufacturer's noise data, and operational noise calculations). This HVAC unit has a sound power level of 85 dBA. Based on projected buildout of the proposed project, this analysis assumes a total of 47 rooftop-mounted HVAC units at each parcel on the Ashby BART station site and 86 rooftop-mounted HVAC units at the North Berkeley BART station site. On each parcel, it is assumed that the equipment produces a combined noise level at off-site receptors that is equivalent to all units being located at the center of the project site. A standard attenuation rate of 6 dBA per doubling of distance from point sources is assumed from the reference distance to the nearest potential noise-sensitive receptors. In addition, rooflines that block the line of sight between rooftop equipment on new multi-story buildings and ground-level sensitive receptors would reduce noise levels by at least 5 dBA.

This section also analyzes noise from trash hauling and delivery trucks that would service future development on the project site. As discussed in the Regulatory Setting, the City's exterior noise standards in Section 13.40.050 of the Berkeley Municipal Code are applicable to on-site operational noise.

Additional on-site noise sources would include landscape maintenance, conversations, and music from personal electronic devices. These noise sources would occur occasionally and would not substantially contribute to overall ambient noise levels. Therefore, they are not analyzed further.

## Permanent Noise Increase from Traffic

Noise levels from existing traffic and with-project traffic on segments of Adeline Street, Martin Luther King Jr. Way, Ashby Avenue, Sacramento Street, and Delaware Street near the project sites are estimated in terms of peak-hour Leq using the Traffic Noise Model, Version 2.5 (TNM 2.5) (Federal Highway Administration [FHWA] 2004). TNM 2.5 noise modeling data sheets can be viewed in Appendix G. Existing traffic volumes are derived from Caltrans' annual average daily traffic (AADT) counts conducted in 2018 (Caltrans 2018) for Ashby Avenue (State Route 13) and the City of Berkeley Transportation Division's counts of average daily traffic (ADT) on local roadways (City of Berkeley 2008).

Daily vehicle trips are divided by 10 to estimate peak-hour traffic (a standard conversion rate between daily and peak-hour traffic, as peak hour traffic is typically 10 percent of daily vehicle trips). Traffic speeds are assumed to be the same as posted speed limits. On Ashby Avenue, the modal split of vehicle trips is 98 percent passenger cars, 1 percent medium trucks, and 1 percent heavy trucks, based on Caltrans truck traffic counts (Caltrans 2018). For arterial roadways, a typical modal split of 95 percent passenger cars, 3 percent medium trucks, and 2 percent heavy trucks is assumed. On Delaware Avenue, a local collector street, vehicle trips are assumed to be 95 percent passenger cars and 5 percent medium trucks, based on observed traffic during noise measurement #4.

This analysis uses trip generation estimates in the Transportation Analysis Methodology Memorandum prepared by Kittelson & Associates to determine the proposed project's effect on traffic noise (Kittelson & Associates 2021a). During weekday afternoon peak hours, the proposed project would generate an estimated 538 vehicle trips at the Ashby BART station site and 347 vehicle trips at the North Berkeley BART station site. The distribution of new vehicle trips on Ashby Avenue, Martin Luther King Jr. Way, and Adeline Street was derived

from Kittelson’s assumptions (Kittelson & Associates 2021b). Reasonably conservative estimates of new vehicle trips on Sacramento Street and Delaware Street were developed based on overall trip generation and trip distribution assumptions to other arterial roadways. Table 4.8-8 shows the estimated number of existing and with-project vehicle trips on the studied roadway segments.

**Table 4.8-8 Estimated Existing and With-Project Vehicle Trips**

| Roadway Segment   | Existing Peak-Hour Vehicle Trips <sup>1</sup> | Existing Plus Project Peak-Hour Vehicle Trips <sup>2</sup> |
|---|---|--|
| Ashby Ave. from King St. to Martin Luther King Jr. Way    | 4,390   | 4,444  |
| Ashby Ave. from Martin Luther King Jr. Way to Adeline St. | 4,390   | 4,444  |
| Ashby Ave. from Adeline St. to Shattuck Ave.              | 4,390   | 4,449  |
| Adeline St. from Ashby Ave. to Martin Luther King Jr. Way | 1,300   | 1,370  |
| Martin Luther King Jr. Way from Ashby Ave. to Adeline St. | 2,300   | 2,370  |
| Sacramento St. from Cedar St. to Delaware St.             | 2,150   | 2,300  |
| Sacramento St. from Delaware St. to University Ave.       | 2,150   | 2,300  |
| Delaware St. from Acton St. to Sacramento St.             | 540   | 640  |

<sup>1</sup> Existing vehicle trips were derived from Caltrans and City daily traffic counts and converted to peak hour by assuming 10 percent of daily traffic would occur during the peak hour.

<sup>2</sup> Peak-hour project-generated trips on Ashby Avenue, Adeline Street, and Martin Luther King Jr. Way were derived from trip distribution data prepared by Kittelson & Associates in March 2021, and project-generated trips on Sacramento Street and Delaware Street were conservatively estimated based on this trip distribution data.

Sources: Caltrans 2018; Berkeley 2008; Kittelson & Associates 2021a

This section evaluates the proposed project’s effect on traffic noise based on the FTA’s recommended criteria. The FTA criteria, listed in Table 4.8-9, are based on the idea that the allowable increase in exposure to traffic noise depends on existing noise levels; as the existing noise level rises, the allowable increase in noise exposure decreases.

**Table 4.8-9 Significance of Changes in Operational Roadway Noise Exposure**

| Existing Noise Exposure (dBA L <sub>dn</sub> or L <sub>eq</sub> ) | Maximum Increase in Noise Exposure (dBA L <sub>dn</sub> or L <sub>eq</sub> ) |
|---|--|
| 45-50   | 7  |
| 50-55   | 5  |
| 55-60   | 3  |
| 60-65   | 2  |
| 65-74   | 1  |
| 75+   | 0  |

Source: FTA 2018

## b. Project Impacts and Mitigation Measures

**Threshold 1:** 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?

**Impact N-1** FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD TEMPORARILY GENERATE HIGH NOISE LEVELS NEAR THE PROJECT SITES. ALTHOUGH CONDITIONS OF APPROVAL WOULD RESTRICT THE HOURS OF CONSTRUCTION ACTIVITY AND MINIMIZE NOISE FROM EQUIPMENT TO THE EXTENT FEASIBLE, CONSTRUCTION NOISE COULD STILL EXCEED THE CITY'S STANDARDS AT SENSITIVE RECEPTORS. THEREFORE, THE IMPACT FROM A TEMPORARY INCREASE IN CONSTRUCTION NOISE WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The proposed adoption of transit-oriented zoning and development standards for the BART station sites would allow for the future construction of an estimated up to 2,400 residential units and 125,000 square feet of non-residential space on the project sites. Construction allowed by the proposed project would generate temporary increases in ambient noise levels. Major noise-generating construction activities would include demolition of existing asphalt surface parking lots, site preparation, grading and excavation, building construction, and paving. Construction noise varies based on the type of construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the construction activities. This analysis considers construction noise from impact pile driving and typical construction activities, the City's standard conditions of approval to reduce noise, and consistency with the City's construction noise standards.

### Temporary Noise from Pile Driving

The construction of new buildings up to eight stories tall on the station sites could potentially involve the use of pile drivers.

Table 4.8-10 estimates noise generated by construction at distances of 100, 150, and 400 feet, assuming the use of impact pile drivers to install pile foundations, using the RCNM program. One-hundred feet is representative of the distance from the center of construction activity at parcels on the Ashby BART station site to the eastern edge of the Ed Roberts Campus. One-hundred fifty (150) feet is representative of the distance between the center of construction at parcels on the Ashby BART station site and the nearest residences on Tremont Street, including backyards that are frequent outdoor use areas. Four hundred (400) feet is representative of the nearest noise-sensitive receptors to the center of construction at the North Berkeley BART station site. These estimates do not account for noise reductions achieved by standard conditions of approval that the City imposes on large projects, which are calculated separately below.

**Table 4.8-10 Estimated Construction Noise with Impact Pile Driving**

| Construction Phase    | Equipment  | Noise Level (dBA L <sub>eq</sub> ) |             |             |
|-----------------------|--|------------------------------------|-------------|-------------|
|                       |  | At 100 feet                        | At 150 feet | At 400 feet |
| Demolition            | Concrete saw, excavators (3), dozers (2)   | 80                                 | 77          | 68          |
| Site preparation      | Dozers (3), tractors/loaders/backhoes (4)  | 80                                 | 76          | 68          |
| Grading               | Excavators (2), grader, dozer, scrapers (2), tractors/loaders/backhoes (2)                 | 81                                 | 78          | 69          |
| Building construction | Crane, forklifts (3), generator, impact pile driver, tractors/loaders/backhoes (3), welder | 89                                 | 86          | 77          |
| Paving                | Pavers (2), paving equipment (2), rollers (2)  | 80                                 | 77          | 68          |
| Architectural coating | Air compressor   | 68                                 | 64          | 56          |

See Appendix G for RCNM modeling results.

Without the use of noise control measures, construction noise including impact pile drivers on the project sites could temporarily reach an estimated 89 dBA L<sub>eq</sub> at the nearest noise-sensitive receptor (the Ed Roberts Campus). This receptor is adjacent to the eastern parcel on the Ashby BART station site. While the Ed Roberts Campus does not have outdoor use areas facing that parcel, its indoor classrooms would be sensitive to construction noise. Exterior building walls and windows in modern buildings typically reduce exposure to exterior noise by 20 dBA. Therefore, the nearest sensitive areas at this receptor would be exposed to an estimated noise level of 69 dBA L<sub>eq</sub> during pile driving. It is also possible that concurrent construction activity on both parcels at the Ashby BART station site could result in a higher combined temporary increase in ambient noise. However, the estimates in Table 4.8-10 are highly conservative because they assume the use of impact pile drivers.

Building construction noise during pile driving also would affect nearby residences. Residences on Tremont Street have backyards located as close as 150 feet from the center of construction activity on the eastern parcel at the Ashby BART station site. These backyards would be frequent outdoor use areas that are sensitive to exterior noise. At these sensitive receptors, building construction noise would reach an estimated 86 dBA L<sub>eq</sub> with pile drivers. Near the North Berkeley BART station site, building construction noise would reach an estimated 77 dBA L<sub>eq</sub> at the nearest residential backyards.

### Temporary Noise from Typical Construction Activities

Table 4.8-11 estimates noise from all phases of construction at distances of 100, 150, and 400 feet, assuming the use of typical construction equipment in multi-story buildings, including auger drills instead of impact pile drivers to install foundations. Without pile drivers, noise levels from the building construction phase would decrease by an estimated 6 to 7 dBA L<sub>eq</sub>. As discussed above, these modeled noise levels do not account for noise control measures, which would further reduce construction noise.

**Table 4.8-11 Estimated Construction Noise with Typical Equipment**

| Construction Phase    | Equipment   | Noise Level (dBA L <sub>eq</sub> ) |             |             |
|-----------------------|---|------------------------------------|-------------|-------------|
|                       |   | At 100 feet                        | At 150 feet | At 400 feet |
| Demolition            | Concrete saw, excavators (3), dozers (2)  | 80                                 | 77          | 68          |
| Site preparation      | Dozers (3), tractors/loaders/backhoes (4)   | 80                                 | 76          | 68          |
| Grading               | Excavators (2), grader, dozer, scrapers (2), tractors/loaders/backhoes (2)              | 81                                 | 78          | 69          |
| Building construction | Augur drill rig, crane, forklifts (3), generator, tractors/loaders/backhoes (3), welder | 83                                 | 79          | 71          |
| Paving                | Pavers (2), paving equipment (2), rollers (2)   | 80                                 | 77          | 68          |
| Architectural coating | Air compressor  | 68                                 | 64          | 56          |

See Appendix G for RCNM modeling results.

Estimated construction noise from future development on the project sites using typical construction equipment could temporarily reach an estimated 83 dBA L<sub>eq</sub> at the Ed Roberts Campus. Exterior building materials would reduce noise exposure in indoor classrooms by approximately 20 dBA, resulting in a noise level of up to 63 dBA L<sub>eq</sub>. At the backyards of residences on Tremont Street, construction noise would be up to 79 dBA L<sub>eq</sub>, during building construction. At the backyards of residences near the North Berkeley BART station site, construction noise would reach an estimated 71 dBA L<sub>eq</sub>. Grading, demolition, and paving activity would produce similar noise levels at sensitive receptors.

### Standard Conditions of Approval

To minimize the effect of construction noise on sensitive receptors, the City would impose its standard conditions of approval on future developments on the project sites. The following conditions of approval would apply to projects involving construction in non-residential zoning districts:

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

This condition would restrict construction activity to daytime hours on Monday through Saturday, avoiding adverse effects on sensitive receptors during normal sleeping hours and reducing exposure to construction noise on weekends.

Additionally, the City would impose the following standard conditions of approval for projects at the Ashby and North Berkeley BART station sites:

**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.

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, (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, (5) commitment to notify neighbors at least four days in advance of authorized extended work hours and the reason for extended hours, and (6) 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.

One condition of approval requires that applicants develop a site-specific noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible. The noise reduction program would include several elements that would reduce the exposure of sensitive receptors to construction noise, such as the following:

- Equipping all internal combustion engine-driven equipment with mufflers in good condition
- Pre-drilling foundation pile holes to minimize the use of pile drivers
- Installing solid plywood fences around construction sites adjacent to sensitive receptors
- Erecting temporary noise control blanket barriers along building façades facing construction sites.

Pre-drilling of foundation pile holes would minimize the duration of pile driving, which could reduce their contribution to hourly noise levels from construction activity. In addition, solid barriers that block the line of sight between construction equipment and sensitive receptors can achieve a 5 dBA reduction, with an approximate 1 dBA additional noise level reduction for each 2 feet of height after breaking the line of sight to receptors (FHWA 2011). It is estimated that these and other noise control techniques would reduce construction noise levels by at least 5 dBA  $L_{eq}$  from the levels shown in Table 4.8-10 and Table 4.8-11.

## Impacts

### *Ashby BART Station Site*

Construction noise from development under the proposed project would be subject to the City's standards shown in Table 4.8-7 at sensitive receptors in various zoning districts. At the Ed Roberts Campus, the City's standards for commercial zones (including the C-SA zone) would apply. These standards are 70 dBA on weekdays and 60 dBA on weekdays and holidays. As discussed above, implementation of noise control techniques in the City's standard conditions of approval would reduce exposure to construction noise by at least 5 dBA  $L_{eq}$ . With these noise control measures, indoor classrooms at the Ed Roberts Campus would be exposed to construction noise levels reaching an estimated 64 dBA  $L_{eq}$  if impact pile drivers are used and 58 dBA  $L_{eq}$  if augur drill sets are used. Construction noise levels from stationary equipment would not exceed the City's standard of 70 dBA on weekdays in commercial zones. However, the noise level of 64 dBA  $L_{eq}$  with pile drivers would exceed the City's standard of 60 dBA on weekdays and holidays by 4 dBA. Therefore, development under the proposed project could produce excessive noise at the Ed Roberts Campus.

At sensitive receptors in residential zones (R-1, R-2, R-2A), construction noise would be subject to the City's standards of 60 dBA on weekdays and 50 dBA on weekends and holidays. Residential backyards near the Ashby BART station site would be exposed to construction noise up to 81 dBA  $L_{eq}$  if pile drivers are used and 74 dBA  $L_{eq}$  without pile drivers. These noise levels would exceed the City's standards in residential zones, regardless of how building foundations are installed. During foundation work on weekends and holidays, construction noise would exceed the standard of 50 dBA by up to 31 dBA. Construction noise also would exceed the measured daytime ambient noise level of 61.8 dBA  $L_{eq}$  along Tremont Street by up to 19 dBA.

### *North Berkeley BART Station Site*

Construction noise from development under the proposed project at the North Berkeley BART station site would occur near residences in the R-1 and R-2 zones. Residential backyards near the North Berkeley BART station site would be exposed to construction noise up to 72 dBA  $L_{eq}$  if pile drivers are used and 66 dBA  $L_{eq}$  without pile drivers. These noise levels would exceed the City's standards of 60 dBA on weekdays and 50 dBA on weekends and holidays in residential zones, regardless of how building foundations are installed. The noise standard on weekends and holidays would be exceeded by up to 16 dBA. Construction noise with pile drivers also would exceed the measured daytime ambient noise level of 65.0 dBA  $L_{eq}$  next to Delaware Street by 7 dBA. However, construction noise without pile drivers would be similar to existing ambient noise levels.

### *Impact Summary*

Because construction noise generated by development under the proposed project would exceed the City's standards for stationary construction equipment at sensitive receptors

near both station sites, the impact of temporary construction noise would be potentially significant.

## Mitigation Measures

### *N-1 Foundation Pile Noise and Vibration Reduction Measures*

The City shall require the construction contractor at individual future developments on the project sites to implement one of the following measures to minimize noise and vibration from the installation of pile foundations:

- Use of an impact or sonic pile driver shall not occur; or
- Use of drilled piles only with temporary noise barriers and/or blankets with a minimum height of 10 feet shall be constructed along the southern project site boundary. The temporary noise barriers and/or blankets may be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations. Temporary noise barriers and/or blankets may be constructed of, but not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, and hay bales; or
- If an alternative method for foundation piles is proposed other than drilled piles (e.g., micro piles), the method shall be reviewed by a qualified acoustician to ensure that noise and vibration levels do not exceed the City's noise standards and applicable Caltrans vibration criteria for human annoyance. The analysis shall be performed prior to project approval from the City.

## Significance After Mitigation

During the construction of future development on the project sites, reductions of up to 31 dBA  $L_{eq}$  may be necessary to meet the City's standards for construction noise from stationary sources (as low as 50 dBA on weekends and holidays in residential zones). As discussed above, the City's standard conditions of approval for large projects would reduce construction noise levels to the maximum extent feasible. These conditions would include the installation of temporary sound barriers, which are the most effective advanced measure to reduce noise from construction sites adjacent to sensitive receptors. It is estimated that the standard conditions of approval would reduce construction noise levels by at least 5 dBA  $L_{eq}$ . In addition, Mitigation Measure N-1 would require alternatives to pile driving such as augur drilling of piles, which would reduce construction noise by 6 to 7 dBA  $L_{eq}$  during the building construction phase. These reduction measures would reduce construction noise to the extent feasible. However, construction noise levels from grading activity would still reach an estimated 73 dBA  $L_{eq}$  at residences next to the Ashby BART station site, which would exceed the City's standards of 60 dBA on weekdays and 50 dBA on weekends and holidays in residential zones. Furthermore, grading noise would be an estimated 64 dBA  $L_{eq}$  at residences next to the North Berkeley BART station site, which would exceed the same standards. Therefore, this impact would be significant and unavoidable.

**Threshold 1:** 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?

**Impact N-2** THE PROPOSED PROJECT WOULD FACILITATE NEW DEVELOPMENT THAT WOULD INTRODUCE ADDITIONAL OPERATIONAL NOISE SOURCES ON THE PROJECT SITES. WITH IMPLEMENTATION OF MITIGATION TO REDUCE NOISE FROM ON-SITE MECHANICAL EQUIPMENT AND TRASH HAULING ACTIVITY, OPERATIONAL NOISE WOULD NOT EXCEED APPLICABLE STANDARDS. OPERATIONAL NOISE IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION

Future development at the Ashby and North Berkeley BART station sites under the proposed project would introduce on-site noise sources such as rooftop-mounted heating, ventilation, and air conditioning (HVAC) equipment, and trucks for deliveries and trash hauling.

*Heating, Ventilation, and Air Conditioning Equipment*

Rooftop-mounted HVAC equipment at future buildings on the project sites would generate noise. It is assumed that the equipment would operate during both daytime and nighttime hours. As discussed under Methodology and Significance Thresholds, this analysis also assumes that full buildout of the project would require approximately 47 HVAC units that are typical of multi-family residential and commercial development on each parcel on the Ashby BART station site and 86 units on the North Berkeley BART station site. Table 4.8-12 shows estimated noise levels from the combined use of all HVAC units at each station site (refer to Appendix G for assumptions, manufacturer’s noise data, and operational noise calculations).

**Table 4.8-12 Estimated HVAC Noise**

| Station Site        | Noise Level (dBA $L_{eq}$ ) |             |             | Applicable Standards (dBA $L_{eq}$ )                                       |
|---------------------|-----------------------------|-------------|-------------|--|
|                     | At 150 feet                 | At 200 feet | At 400 feet |  |
| Ashby BART          | 55                          | 53          | 47          | C-SA zone: 65 daytime, 60 nighttime<br>R-2A zone: 55 daytime, 45 nighttime |
| North Berkeley BART | N/A                         | N/A         | 49          | R-1, R-2 zone: 55 daytime, 45 nighttime                                    |

Sources: City of Berkeley 2020; Appendix G

As shown in Table 4.8-12, future development on the Ashby BART station site would generate HVAC noise estimated at 55 dBA  $L_{eq}$  at the nearest off-site sensitive receptor, the Ed Roberts Campus. HVAC noise also would be an estimated 53 dBA  $L_{eq}$  at the nearest off-site residences to the Ashby BART station site. At the North Berkeley BART station site, HVAC noise would reach an estimated 49 dBA  $L_{eq}$  at the nearest off-site residences. These estimates account for a reduction of 5 dBA by rooflines that would typically block line-of-sight of the rooftop-mounted equipment (due to the height difference between the parapets of new multi-story buildings and surrounding development).

HVAC noise levels reaching 53 dBA  $L_{eq}$  at residences near the Ashby BART station and 49 dBA  $L_{eq}$  at residences near the North Berkeley BART station site would not be louder than measured daytime ambient noise levels from traffic near the project sites, as shown in Table 4.8-2. However, they would exceed the City’s nighttime standard of 45 dBA in the R-1 and R-2 zones. Therefore, noise generated from HVAC units would have a potentially significant impact.

### *Delivery and Trash Hauling Trucks*

The proposed project would facilitate construction of multi-story buildings that are regularly serviced by delivery and trash hauling trucks. Smaller delivery trucks generate noise levels that have been measured at 67 dBA  $L_{max}$  at a distance of 50 feet at loading areas (Sacramento County 2011). Idling garbage trucks generate a noise level of approximately 65 dBA  $L_{max}$  at a distance of 50 feet (DSA Engineers 2003). This analysis makes the conservative assumption that on-site truck noise could occur as close as 50 feet from sensitive receptors adjacent to the project sites. California's anti-idling regulations prohibit trucks with a Gross Vehicle Weight Rating of at least 10,000 pounds – ranging from larger light-duty trucks to heavy-duty trucks – from idling for more than five minutes, with certain exceptions (CARB 2013). These regulations would limit the duration of most on-site truck noise. The City's exterior noise standards allow up to 80 dBA for a cumulative period of one to five minutes in a daytime hour in commercial zones and up to 70 dBA for this time period in the R-1 and R-2 zones (City of Berkeley 2020). Estimated noise levels of up to 67 dBA from delivery trucks and idling garbage trucks would not exceed these standards.

In addition to idling noise, garbage trucks would make noise while emptying dumpster bins at future buildings on the project sites. This is a sharp impulse noise caused by the truck's forks knocking against the metal bin, which has been measured at nearly 90 dBA  $L_{max}$  at a distance of 50 feet (DSA Engineers 2003). The City's exterior noise standards allow up to 85 dBA for any period of time in a daytime hour in commercial zones and up to 75 dBA for this time period in the R-1 and R-2 zones (City of Berkeley 2020). In unshielded loading areas, noise from trash hauling trucks could exceed the City's standards within approximately 100 feet of properties in the C-SA zone and approximately 300 feet of residences in the R-1 and R-2 zones. Emptying metal dumpsters also could cause more noise than emptying plastic trash and recycling bins at single-family residences. Therefore, it would generate additional noise in single-family residential neighborhoods near the BART stations. This impact would be potentially significant.

### *Traffic Noise*

As discussed in Section 4.11, *Transportation*, during peak afternoon travel hours, new development at the Ashby BART station site would add an estimated 538 vehicle trips, while new development at the North Berkeley BART station site would add an estimated 347 vehicle trips (Kittelson & Associates 2021a). New vehicle trips associated with development on the project sites would increase ambient traffic noise. Table 4.8-13 estimates the effect of new trips on ambient noise at representative sensitive receptors along studied roadway segments.

**Table 4.8-13 Increase in Traffic Noise Due to Project-Generated Traffic**

| Sensitive Receptor   | Existing Traffic Noise (dBA $L_{eq}$ ) | With-Project Traffic Noise (dBA $L_{eq}$ ) | Increase in Traffic Noise (dBA $L_{eq}$ ) |
|--|--|--|---|
| Ashby Ave. residences west of Martin Luther King Jr. Way                 | 73                                     | 73   | <1  |
| Martin Luther King Jr. Way residences between Ashby Ave. and Adeline St. | 71                                     | 71   | <1  |
| Ed Roberts Campus on Adeline St.   | 68                                     | 68   | <1  |
| Delaware St. residences between Acton St. and Sacramento St.             | 66                                     | 67   | 1   |
| Sacramento St. residences  | 70                                     | 70   | <1  |

Modeled traffic noise levels are shown rounded to the nearest integer (whole number).

Source: Appendix G

Development under the proposed project would increase existing traffic noise levels at residences along Delaware Street between Acton Street and Sacramento Street by an estimated 0.6 dBA  $L_{eq}$  (rounded to 1 dBA  $L_{eq}$  in Table 4.8-13). In this area, existing daytime traffic noise was measured at 65.0 dBA  $L_{eq}$ . Where existing traffic noise is between 65 and 75 dBA, the FTA's guidelines find that an increase of up to 1 dBA would be acceptable. The estimated increase in traffic noise along Delaware Street would not exceed this FTA criterion. At all other studied sensitive receptors along Sacramento Street, Ashby Avenue, Martin Luther King Jr. Way, and Adeline Street, new vehicle trips would not increase modeled traffic noise by more than 0.2 dBA  $L_{eq}$ . In addition, while the proposed project would increase traffic volumes in Berkeley, this increase would be minimized by locating new development at BART station sites. In fact, it is estimated that new multi-modal trips at each station site (i.e., transit, pedestrian, and bicycle trips) would exceed motor vehicle trips (Kittelson & Associates 2021a). Therefore, the proposed project would have a less than significant impact related to increases in existing traffic noise.

## Mitigation Measures

The following mitigation measures are required.

### N-2 HVAC Noise Reduction Measures

Prior to the issuance of building permits, applicants for development projects on the project sites shall retain a qualified acoustical consultant to review the type, location, and design of heating, ventilation, and cooling (HVAC) equipment. The acoustical consultant shall determine specific noise reduction measures as necessary to comply with the City's daytime and nighttime exterior noise standards in Section 13.40.050 of the Berkeley Municipal Code at properties in the R-1, R-2, and C-SA zones. Noise reduction measures could include, but are not limited to, selecting HVAC equipment that emits low noise levels, locating HVAC equipment as far from off-site sensitive receptors as possible, and installing equipment enclosures. The City's Planning and Development Department shall review the type, location, and design of HVAC equipment in site plans to verify that the project has incorporated recommended noise reduction measures.

### N-3 *Trash Hauling Noise Reduction Measures*

Prior to the issuance of building permits, applicants for development projects on the project sites shall retain a qualified acoustical consultant to review the location and design of proposed loading areas. The acoustical consultant shall recommend measures as necessary to ensure that trash hauling noise at loading areas does not exceed the City's exterior noise standards in Section 13.40.050 of the Berkeley Municipal Code at neighboring properties. This includes compliance with noise standards that may not be exceeded for any period of time and for more than one minute in a given hour. Noise reduction measures could include, but are not limited to, locating loading areas as far as possible from off-site sensitive receptors, shielding loading areas to block the line of sight to sensitive receptors, and installing a damping treatment on dumpsters. The City's Planning and Development Department shall review the layout and design of loading areas in site plans to verify that the project has incorporated recommended noise reduction measures.

### **Significance After Mitigation**

Implementation of Mitigation Measure N-2 would reduce the exposure of sensitive receptors to HVAC noise. For example, placing HVAC equipment within an enclosure would result in a sound transmission loss of at least 9 dBA, with the amount of noise reduction depending on the enclosure material selected and the frequency of noise (CED Engineering 2015). With this amount of noise reduction, HVAC noise would be an estimated 44 dBA  $L_{eq}$  at residences near the Ashby BART station site and 40 dBA  $L_{eq}$  at residences near the North Berkeley BART station site. These noise levels would not exceed the City's exterior noise standard of 45 dBA in residential zones.

Implementation of Mitigation Measure N-3 would ensure that trash hauling noise does not exceed the City's exterior noise standards at sensitive receptors. Noise reduction measures that may be required by Mitigation Measure N-3 include locating loading areas as far as possible from sensitive receptors, shielding loading areas, and installing damping material on dumpsters. Shielding would block the line of sight to sensitive receptors, reducing noise exposure by at least 5 dBA. Damping materials can reduce noise from emptying dumpsters by 4 to 5 dBA (DSA Engineers 2003). In combination, these measures could reduce exposure to trash hauling noise to below the City's exterior noise standards. As discussed above, the estimated increase in traffic noise also would not exceed the FTA's criteria. Therefore, with implementation of mitigation measures N-2 and N-3, operational noise from development allowed by the proposed project would have a less than significant impact.

|   |
|---|
| <b>Threshold 2:</b> Would the proposed project result in generation of excessive groundborne vibration or groundborne noise levels? |
|---|

**Impact N-3 CONSTRUCTION ALLOWED BY THE PROPOSED PROJECT WOULD GENERATE GROUNDBORNE VIBRATION WITHIN AND ADJACENT TO THE PROJECT SITES. MITIGATION WOULD BE REQUIRED TO PREVENT ANNOYANCE FROM THE POTENTIAL USE OF PILE DRIVERS. IMPLEMENTATION OF STANDARD CONDITIONS OF APPROVAL WOULD AVOID STRUCTURAL DAMAGE FROM VIBRATION. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT AFTER MITIGATION.**

Construction of future development under the proposed project would temporarily generate strong vibration. Equipment used during the demolition, excavation, site grading, building construction, and paving phases of new developments could cause vibration.

Table 4.8-14 shows estimated maximum vibration levels from potential construction equipment at noise-sensitive receptors located 25, 50, 100, and 200 feet from the source equipment.

**Table 4.8-14 Vibration Levels for Construction Equipment at Noise-Sensitive Receptors**

| Equipment                     | Estimated PPV (in/sec) at Nearest Sensitive Receptors |         |          |          |
|-------------------------------|---|---------|----------|----------|
|                               | 25 Feet   | 50 Feet | 100 Feet | 200 Feet |
| Pile-driver (Impact, typical) | 0.644   | 0.300   | 0.140    | 0.065    |
| Pile-driver (Sonic, typical)  | 0.170   | 0.079   | 0.037    | 0.017    |
| Caisson Drill                 | 0.089   | 0.042   | 0.019    | 0.009    |
| Vibratory Roller              | 0.210   | 0.098   | 0.046    | 0.021    |
| Large Bulldozer               | 0.089   | 0.042   | 0.019    | 0.009    |
| Loaded Trucks                 | 0.076   | 0.035   | 0.017    | 0.008    |
| Small Bulldozer               | 0.003   | 0.001   | <0.001   | <0.001   |

Sources: FTA 2018

As shown in Table 4.8-14, pile driving could produce the strongest vibration during construction. Impact pile drivers would generate estimated vibration levels of 0.644 PPV at a distance of 25 feet and 0.300 PPV at 50 feet. Pile drivers stay in one place for extended periods of time and intermittently make the same vibration every few seconds. Therefore, this analysis defines them as “frequent intermittent” as a source under the Caltrans vibration criteria. Vibration levels of 0.065 PPV and higher within 200 feet of pile driving equipment would exceed Caltrans’ criteria of 0.04 PPV for distinctly perceptible vibration from frequent intermittent sources (see Table 4.8-3). As discussed in Impact N-1, the City would impose standard conditions of approval to restrict construction activity to daytime hours on Monday through Saturday. This would avoid vibration annoyance during normal sleeping hours. During daytime hours, however, pile driving would cause vibration annoyance at nearby residences and sensitive institutional land uses.

Vibratory rollers, large bulldozers, and caisson drills (augurs) would produce relatively strong vibration. Caisson drills would likely be used in lieu of pile drivers to install foundations; these involve drilling holes into the ground and filling the holes with concrete to use as the foundation. Vibration levels from rollers would reach an estimated 0.210 PPV at 25 feet. Large bulldozers and caisson drills would cause an estimated 0.089 PPV at 25 feet. These sources may move back and forth near a property line for a few hours at a time but do not generate intermittent vibration from a single location like a pile driver. Therefore, this analysis defines them as “transient” sources under the Caltrans vibration criteria. Vibration levels from rollers and bulldozers would not exceed Caltrans’ criteria of 0.25 PPV for distinctly perceptible vibration from transient sources (see Table 4.8-3).

Within approximately 50 feet of pile drivers, vibration levels shown in Table 4.8-14 could exceed Caltrans’ criteria of 0.25 PPV for potential damage to historic and some old buildings located (see Table 4.8-4). Transient vibration-generating equipment would not result in vibration levels exceeding Caltrans’ criteria of 0.5 PPV for damage to historic and older buildings. To avoid potential damage to buildings from construction equipment that cause

vibration, the City would impose the following standard condition of approval on large developments in project sites:

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.

With implementation of this standard condition of approval, applicants for large developments on the project sites would be required to submit a screening-level analysis of vibration and, if necessary, apply construction methods to avoid the potential damage. Therefore, the proposed amendments would not result in damage to historic and older buildings from vibration.

As discussed above, the potential use of pile drivers would result in annoyance of sensitive receptors near the project sites. Therefore, the proposed amendments would have a potentially significant impact related to vibration.

### **Mitigation Measure**

Mitigation Measure N-1 would be required (see above).

## Significance After Mitigation

Mitigation Measure N-1 would prohibit the use of pile drivers to install foundations. Instead, this measure would require drilling of piles or alternate equipment that does not generate vibration levels exceeding applicable Caltrans criteria for human annoyance. As discussed above, construction equipment other than pile drivers would not generate vibration levels exceeding Caltrans criteria. The City's standard conditions of approval also would prevent structure damage from vibration. Therefore, the impact of vibration generated by construction equipment would be less than significant after mitigation.

## Mitigation Measures

No mitigation is required.

**Threshold 3:** 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?

**Impact N-4** THE STATION SITES ARE LOCATED OUTSIDE OF NOISE CONTOURS ASSOCIATED WITH AIRPORTS. THEREFORE, NEW DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT BE EXPOSED TO EXCESSIVE NOISE LEVELS FROM AIRCRAFT OPERATIONS, AND NO IMPACT WOULD OCCUR.

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The nearest airport to Berkeley, Oakland International Airport, is located approximately 9 miles south of the Ashby BART station site. Although individual aircraft in the vicinity of the station sites are occasionally audible, the station sites are outside of the 60 CNEL noise contour associated with the airport (Alameda County 2012). No private airstrips are located in the vicinity. Therefore, new development facilitated by the proposed project would not be exposed to adverse noise from aircraft overflights. No impact would occur.

## Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

### c. Cumulative Impacts

Cumulative development near the project sites would generate temporary noise and vibration during construction. However, construction noise and vibration are localized and rapidly attenuate in an urban environment. It is also anticipated that construction of other projects outside the project sites would not occur at the same time and sufficiently close to projects within the project sites to result in a cumulative impact. The North Berkeley BART station site and portions of the Ashby BART station site also are surrounded by lower-density residential zoning districts where large-scale construction activity would not occur. In addition, applicants for new development throughout Berkeley, including in the project sites, would be required to meet the City's quantitative standards for construction noise as shown in Table 4.8-7. Therefore, cumulative noise impacts would not be significant and although the project-impact would be significant and unavoidable, it would not contribute to a significant cumulative impact.

Cumulative development would add sources of on-site operational noise in and near the project sites. It is expected that new residential, commercial, and other development would involve the operation of HVAC equipment and loading and trash hauling trucks. As

discussed in Impact N-2, new HVAC units on the project sites could generate noise levels exceeding the City's exterior noise standards at sensitive receptors. However, HVAC noise can be reduced to acceptable levels with appropriate siting, selection, and design, as required by Mitigation Measure N-2. It is anticipated that new commercial and other development in the C-SA zone adjacent to the Ashby BART station site would replace existing HVAC equipment with modern equipment that may be quieter. Similarly, trash and delivery trucks already visit commercial properties that could be redeveloped near the station sites, so cumulative development would not generate substantially higher truck noise. Cumulative development also would be subject to the City's exterior noise standards shown in Table 4.8-5 to protect sensitive receptors. Therefore, impacts associated with operational noise would not be cumulatively considerable.

The proposed project would allow for the future construction of up to 1,200 residential units and 100,000 square feet of non-residential floor area at the Ashby BART station site. As discussed in Section 3, *Environmental Setting*, cumulative land use development near this station site would add 279 residential units, a 222-room hotel, and other commercial space, while demolishing four existing commercial buildings. This represents a 23 percent increase in residential units beyond the proposed project, plus associated commercial space. Cumulative development including the proposed project would generate vehicle trips that increase traffic noise. However, as discussed in Impact N-2, the proposed project would not measurably increase traffic noise near the Ashby BART station site. Based on the scale of nearby projects, the cumulative increase in traffic noise could be measurable but would still be less than 1 dBA  $L_{eq}$ , which would not exceed the FTA's criteria.

At the North Berkeley BART station site, the proposed project would allow for the future construction of up to 1,200 residential units and 25,000 square feet of non-residential floor area. Nearby cumulative land use development, located on San Pablo Avenue and University Avenue, would add a total of 138 residential units. This represents a 12 percent increase beyond maximum residential development under the proposed project. As discussed in Impact N-2, the proposed project would increase traffic noise on Delaware Street by an estimated 0.6 dBA  $L_{eq}$  (rounded to 1 dBA  $L_{eq}$ ) but would not measurably affect traffic noise on Sacramento Street. Due to the location of other cumulative projects, they would not substantially increase traffic on Delaware Street. Therefore, cumulative development would not result in an increase in traffic noise that exceeds the FTA's criterion of 1 dBA  $L_{eq}$ . The impact from increased traffic noise would not be cumulatively considerable.

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## 4.9 Population and Housing

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This section describes the existing population, housing, and employment characteristics of Berkeley and evaluates the potential impacts related to population and housing that could result from approval and implementation of the proposed zoning project.

### 4.9.1 Setting

#### a. Current Population and Housing

Table 4.9-1 provides the most recent estimates of population and housing for Berkeley as a whole. Berkeley has an estimated population of 122,580 and 47,718 households, with an average household size of 2.26 people (California Department of Finance 2020).

**Table 4.9-1 Current Population and Housing Stock**

|                        | City of Berkeley            |
|------------------------|-----------------------------|
| Population             | 122,580 <sup>1</sup>        |
| Households             | 47,718 <sup>1</sup>         |
| Owner-occupied         | 20,471 (42.9%) <sup>2</sup> |
| Renter-occupied        | 27,247 (57.1%) <sup>2</sup> |
| Average Household Size | 2.26 <sup>1</sup>           |
| Housing Units          | 51,523 <sup>1</sup>         |
| Vacant Housing Units   | 3,813 (7.4%) <sup>1</sup>   |

<sup>1</sup> Source: California Department of Finance 2020a, E-5 City/County Population and Housing Estimates

<sup>2</sup> Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

#### Household Composition

Small households (one to two persons per household) typically occupy units with zero to two bedrooms; family households (three to four persons per household) typically occupy units with three to four bedrooms. Large households (five or more persons per household) typically occupy units with four or more bedrooms. The number of units in relation to the household size may reflect preference and economics. Many small households obtain larger units and some large households live in small units, for economic reasons. As shown in Table 4.9-1, the average household size in Berkeley was an estimated 2.26 persons in 2020.

#### b. Population, Housing, and Employment Projections

Table 4.9-2 shows population, housing, and employment projections for Berkeley based on the latest growth forecasts provided by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). According to these projections, without the proposed project, Berkeley's population is anticipated to grow 15 percent by the year 2040. ABAG and MTC project relatively small employment growth (4 percent) in Berkeley between 2020 and 2040.

**Table 4.9-2 Population, Housing, and Employment Projections for Berkeley**

|            | 2020                 | 2040                 | 2020-2040 Growth<br>(Percent Increase) |
|------------|----------------------|----------------------|--|
| Population | 122,580 <sup>1</sup> | 140,935 <sup>2</sup> | 18,355 (15%)                           |
| Households | 47,718 <sup>1</sup>  | 55,370 <sup>2</sup>  | 7,652 (16%)                            |
| Employment | 116,435 <sup>2</sup> | 121,670 <sup>2</sup> | 5,235 (4%)                             |

<sup>1</sup> Source: California Department of Finance 2020b

<sup>2</sup> ABAG and MTC 2017

### c. Regulatory Setting

#### California Housing Law

California Housing Element law (Government Code Sections 65580 to 65589.8) requires that local jurisdictions identify the housing needs of their community, the barriers or constraints to providing that housing, and actions proposed to address these concerns over an eight-year planning period. In addition, Housing Element law requires each city and county to accommodate its “fair share” of the region’s projected housing need over the Element planning period. Cities and counties must demonstrate that adequate sites are available to accommodate this need, and that the jurisdiction allows for development of a variety of housing types. This housing need requirement is known as the Regional Housing Needs Allocation (RHNA) and apportions to each jurisdiction its portion of the Bay Area’s projected need (City of Berkeley 2015).

#### California Density Bonus Law

The Density Bonus Law, originally adopted in 1979, is codified in Government Code Section 65915. This law sets requirements for the provision of density bonuses for housing developments in cities and counties. If an applicant requests a density bonus for a project, the local jurisdiction is required to grant it provided that the project meets certain standards and provides sufficient housing for very low, lower, or moderate income households; senior citizens; transitional foster youth; lower income students; and other classes of residents (California Legislative Information 2020). The Density Bonus Law states that qualifying projects are entitled to a specific density bonus percentage (an increase over the maximum allowable gross residential density) dependent on meeting criteria for the percentage of low income units, very low income units, senior housing units, lower income student housing units, and other criteria. However, a project is ineligible for a density bonus if the site has rental units that are subject to a recorded covenant, ordinance, or law that restricts rent to affordable levels; subject to rent control; or occupied by lower or very low income households, unless affordable units are replaced.

#### California Housing Affordability Act

This State law, originally enacted in 1982 and last amended in 2017, prevents localities from disapproving proposed developments that comply with “all applicable, objective general plan, zoning, and subdivision standards and criteria,” unless they find that the development would have an unavoidable impact on public health or safety that can only be mitigated by rejecting the project or reducing its size (Hernandez and Golub 2017). Compliance with objective standards and criteria is defined as “substantial evidence that would allow a reasonable person to conclude” that a project complies. The Housing Affordability Act also prevents localities from disapproving or reducing the size of developments that have a

minimum amount of affordable housing (either 20 percent of units for lower-income households or 100 percent of units for moderate-income households), except under specific circumstances. Mixed-use developments with at least two-thirds of their square footage devoted to residential use also qualify for this protection.

### **Senate Bill 35**

In 2017, California enacted Senate Bill (SB) 35 to streamline the approval of affordable housing projects. This law applies in localities that are not meeting their RHNA goals for construction of above-moderate income housing units or units for households below 80 percent of the area median income (AMI) (San Francisco Planning Department 2020a). Applicable localities are required to streamline the approval of eligible housing projects by providing a ministerial approval process. To qualify for streamlining, a project must meet all of a range of criteria related to affordability, including but not limited to the number of units, residential zoning, floor area dedicated to residential uses, environmental constraints, demolition of residential units, historic buildings, and consistency with objective zoning standards (San Francisco Planning Department 2020b). CEQA review is not required for eligible projects because they are subject to a ministerial approval process.

### **Housing Crisis Act**

SB 330, the Housing Crisis Act, was enacted in 2019 to tighten the Housing Affordability Act's protections for proposed developments. This act limits the ability of jurisdictions to change development standards and zoning applicable to the project once a preliminary application is submitted (Maclean et al. 2019). In addition, the Housing Crisis Act prohibits jurisdictions (with some exceptions) from enacting development policies, standards or conditions that would change current zoning and general plan designations of land where housing is an allowable use to "lessen the intensity of housing," such as reducing height, density or floor area ratio, requiring new or increased open space, lot size, setbacks or frontage, or limiting maximum lot coverage. It also bans jurisdictions from placing a moratorium or similar restrictions on housing development, from imposing subjective design standards established after January 1, 2020, and limiting or capping the number of land use approvals or permits that will be issued in the jurisdiction, unless the jurisdiction is predominantly agricultural.

SB 330 also regulates demolition of existing housing. It prohibits urbanized jurisdictions from approving a housing development that requires demolition of residential units unless the project creates at least as many units as would be demolished (California Legislative Information 2019). Local jurisdiction also are prohibited from approving a project that would demolish occupied or vacant "protected units," unless the project meets several criteria (e.g., replacing all protected units, providing relocation benefits, and giving a right of first refusal to displaced residents for comparable units in the new development). Protected units are defined as subject to a covenant, ordinance, or law that restricts rent to levels affordable to affordable to persons and families of lower or very low income; subject to rent control; or occupied by low or very low income households; among other factors. These requirements for demolition do not supersede local demolition controls that are more protective of lower income households.

### **California Assembly Bill 2923**

AB 2923, enacted in 2018, requires the adoption of transit-oriented development zoning standards establishing minimum local zoning requirements for height, density, parking, and

floor area ratio for BART-owned properties within ½-mile of station entrances in Alameda, Contra Costa and San Francisco counties. If local standards are not adopted, State/BART standards will apply.

Pursuant to AB 2923, zoning standards for the Ashby and North Berkeley BART stations must allow the following development intensity:

- Density of 75 units per acre (or higher)
- Height of 7 stories (or higher)
- Floor Area Ratio (FAR) of 4.2 (or higher)

In addition, the following parking standards apply:

- No minimum vehicle parking space requirement
- A maximum of 0.5 vehicle parking spaces per residential unit and 1.6 vehicle parking spaces per 1,000 square feet of office space;
- A minimum of one bicycle parking space per unit; and
- Shared or unbundled vehicle parking must be permitted.

### **Association of Bay Area Governments**

ABAG is the regional planning agency for the San Francisco Bay Area, which is composed of the nine Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma and contains 101 cities. ABAG produces growth forecasts in four-year cycles so that other regional agencies, including the MTC and the BAAQMD, can use the forecasts to make funding and regulatory decisions.

The ABAG projections are the basis for the Regional Transportation Plan (RTP), regional Ozone Attainment Plan, the BAAQMD's Clean Air Plan, and the EBMUD's Urban Water Management Plan. In this way, ABAG projections have practical consequences that shape growth and environmental quality. General plans, zoning regulations, and growth management programs of local jurisdictions inform the ABAG projections. The projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the region. ABAG calculates the RHNA for individual jurisdictions within Alameda County, including Berkeley.

#### *Plan Bay Area*

Plan Bay Area 2040 was adopted on July 26, 2017. Plan Bay Area 2040 is a limited and focused update of the region's previous integrated Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Plan Bay Area, adopted in 2013. Plan Bay Area 2040 builds upon the growth pattern and strategies developed in the original Plan Bay Area but with updated planning assumptions that incorporate key economic, demographic and financial trends from the last four years (ABAG and MTC 2017).

In 2008, MTC and ABAG initiated a regional effort (FOCUS) to link local planned development with regional land use and transportation planning objectives. Through this initiative, local governments identified Priority Development Areas (PDAs). The PDAs form the implementing framework for Plan Bay Area. The PDAs are areas along transportation corridors which are served by public transit that allow for opportunities for development of transit-oriented development, infill development within existing communities that are

expected to take in most of the future development. Overall, over two-thirds of all regional growth by 2040 is allocated within PDAs. The PDAs throughout the Bay Area are expected to accommodate 78 percent (or over 509,000 units) of new housing and 62 percent (or 690,000) of new jobs. Designated PDAs in Berkeley include: University Avenue, San Pablo Avenue, Telegraph Avenue (which was later amended to include the Southside area), Adeline Street, South Shattuck Avenue and the Downtown.

### **City of Berkeley 2015-2023 Housing Element**

The City of Berkeley Housing Element serves as the City's framework for housing goals, policies, and detailed programs for meeting existing and future housing needs and for increasing affordable housing opportunities. The current 2015-2023 Housing Element addresses the planning period of January 31, 2015 to January 31, 2023 as required by the State Housing Element Law. The Housing Element guides decisions to facilitate the development, rehabilitation, and availability of housing in Berkeley. The Housing Element includes the following guidelines, among others:

- **Housing Affordability.** Increase the number of housing units affordable to Berkeley residents with lower income levels; aggressively seek funding for and maximize the number of permanently affordable units and encourage housing for a range of incomes.
- **Rent Stabilization and Rental Housing Conservation.** Protect tenants from large rent increases, arbitrary evictions, hardship from relocation, and the loss of their homes and preserve existing rental housing.
- **Low-Income Homebuyers.** Support efforts that provide opportunities for successful home ownership for residents and workers in the City of Berkeley.
- **Maintenance of Existing Housing.** Maintain and preserve the existing supply of housing in the City including safety and other improvements.
- **Transit-Oriented New Construction.** Encourage construction of new medium and high-density housing on major transit corridors and in proximity to transit stations.
- **Homelessness and Crisis Prevention.** Support programs and actions that prevent homelessness and other housing crises by making appropriate services available.
- **Family, Senior and Disabled Housing.** Support and encourage projects that include units affordable and suitable for households with children and large families, support housing programs that increase the ability of senior households to remain in their homes or neighborhoods, and encourage provision of an adequate supply of suitable housing to meet the needs of people with disabilities.
- **Adequate Sites.** Encourage use of publicly owned or controlled sites for affordable housing and/or mixed-use residential projects with a substantial portion of affordable units, encourage adequate housing production, and maintain sufficient land zoned for high and medium-density residential development to allow sufficient new construction to meet Berkeley's fair share of regional housing needs.

### **City of Berkeley Municipal Code**

In addition to the goals stated in the City's Housing Element, the City of Berkeley has a history of programs and initiatives to protect existing affordable housing and create new supplies of affordable housing, some of which are codified in the City's Municipal Code and described below.

- **Rent Stabilization and Eviction for Good Cause Program.** In 1980, Berkeley residents passed the Rent Stabilization and Eviction for Good Cause Ordinance (BMC Chapter 13.76). The Ordinance is one of the strongest rent stabilization laws in the state and regulates residential rents for most rental units in Berkeley and provides tenants in 26,000 units with increased protection against unwarranted evictions helping to maintain affordable housing and preserve community diversity.
- **City of Berkeley Ellis Act Implementation Ordinance.** The Ellis Implementation Ordinance establishes the process for withdrawing residential rental property from the rental housing market (BMC Chapter 13.77).
- **Condo Conversion Limits.** Section 21.28.040 of the City's Municipal Code implements the Condominium Conversion Ordinance that restricts property owners from converting rental units to condominiums. Condominium conversion removes multifamily rental housing from the market and can decrease the number of units available to rental households with lower incomes. Accordingly, Berkeley's Ordinance limits condominium conversions to 100 units per year and charges a fee which is deposited into the City's Housing Trust Fund to offset the impact of reducing the rental housing stock..
- **Demolition Controls.** The City's Demolition and Dwelling Unit Controls (BMC Chapter 23C.08) limits the ability of property owners to demolish or eliminate existing housing units and requires one-to-one replacement of removed units in order to protect the affordable housing supply and existing tenants.
- **Density Bonus.** The State Density Bonus Law, originally adopted by California in 1979, allows new residential development to be built at a higher density than is allowed under local zoning if the project includes units affordable for low-income households. Berkeley's Municipal Code enforces this law and calculates a projects density bonus based on a project's number of below-market rate units, the income level targeted by these units, and the proposed project size.
- **Inclusionary Housing Ordinance.** The City of Berkeley Inclusionary Housing Ordinance for ownership housing (BMC 23.C.12) requires developers of market rate ownership housing to include affordable ownership units or pay a fee.
- **Affordable Housing Mitigation Fee.** In 2011, the City Council enacted an Affordable Housing Mitigation Fee that requires developers of new market-rate rental projects to pay a fee of \$37,962 per unit.<sup>1</sup> Effective July 1, 2020, this fee is \$39,746 per new unit of rental housing, payable at the issuance of a certificate of occupancy (Berkeley 2020).<sup>2</sup> If the fee is paid in its entirety no later than issuance of the building permit, the fee is \$36,746 per new unit. Developers can reduce this fee by including units affordable to low-income households, and the fee is waived if at least 20 percent of a development's units are affordable. Revenues generated from these fees go to the City's Housing Trust Fund and are used to develop or preserve affordable housing.
- **Commercial Linkage Fee.** The City established an affordable housing fee linkage fee on commercial development in 1993 (BMC Section 22.20.065). The commercial linkage fee is levied on developers of new commercial development. Fees range from \$2.25 to \$4.50 per square foot, depending on building use. Revenues from these fees go to the City's Housing Trust Fund.

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<sup>1</sup> Effective as of July 1, 2018. The City of Berkeley Housing Mitigation Fee is adjusted annually based on the California Construction Cost Index.

<sup>2</sup> Effective as of July 1, 2018. The City of Berkeley Housing Mitigation Fee is adjusted annually based on the California Construction Cost Index.

## Other City of Berkeley Programs/Initiatives

The City also provides a number of programs and initiatives that support the policies and ordinances described above:

- **Eviction Prevention.** The City's Housing Retention Program provides financial assistance to tenants to avoid eviction due to non-payment of rent. Qualifying households can receive one-time grants up to \$5,000 to prevent eviction and maintain permanent housing. The Housing and Community Services Department administers this program and partners with the East Bay Community Law Center to conduct intake for applicants.
- **Family, Senior and Disabled Housing.** Support and encourage projects that include units affordable and suitable for households with children and large families, support housing programs that increase the ability of senior households to remain in their homes or neighborhoods, and encourage provision of an adequate supply of suitable housing to meet the needs of people with disabilities.
- **Senior and Disabled Home Rehabilitation Loan Program.** The Housing and Community Services Department oversees the Senior and Disabled Rehabilitation Loan Program, which enables low-income senior and disabled homeowners to make essential health, safety, and accessibility repairs. This program provides eligible Berkeley homeowners with interest-free, deferred payment loans of up to \$100,000.
- **Housing Trust Fund.** A housing trust fund is a designated source of public funds—generated through various means—that is dedicated to creating affordable housing. The City created its Housing Trust Fund in 1990, and the fund receives revenue from Affordable Housing Mitigation Fees, Commercial Linkage fees, federal Community Development Block Grant funds, and federal HOME funds. Affordable housing developers can apply for loans from the Housing Trust Fund to support their projects, and the Housing and Community Services Department administers the fund.

### 4.9.2 Analysis

#### a. Methodology and Significance Thresholds

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant impact on the environment related to population and housing if it would:

1. 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); or
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

## b. Project Impacts and Mitigation Measures

**Threshold 1:** 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)?

**Impact PH-1** IMPLEMENTATION OF THE PROPOSED PROJECT COULD ALLOW UP TO A COMBINED 2,400 NEW RESIDENTIAL UNITS AND 125,000 SQUARE FEET OF NEW NON-RESIDENTIAL USES ON THE PROJECT SITES, WHICH WOULD RESULT IN AN ADDITIONAL APPROXIMATELY 5,424 RESIDENTS AND 465 JOBS. THIS POPULATION GROWTH WOULD NOT EXCEED PLANNED GROWTH IN BERKELEY AND WOULD OCCUR DESIGNATED TRANSIT-RICH, PRIORITY DEVELOPMENT AREAS. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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The proposed project includes the adoption of new transit-oriented zoning and development standards to allow the development of housing at the Ashby and North Berkeley BART stations. The project sites do not currently include existing housing. Because the proposed project does not involve specific development projects, the project itself would not result in direct physical changes to population or housing. However, effects on population and housing could occur as a result of buildout of the sites under the proposed zoning standards. Future development projects at both project sites could add new units, increasing Berkeley's population. Population growth could result in physical changes related to transportation, air quality, noise, and public services and utilities, as well as other environmental resource areas. These physical impacts are analyzed under their respective environmental topics in this EIR.

As described in Section 2, *Project Description*, development facilitated by the proposed project could include up to 2,400 new housing units and 125,000 square feet of new non-residential space across both project sites. Based on an average rate of 2.26 persons per household (see Table 4.9-4), the addition of 2,400 residential units would generate an increase of approximately 5,424 residents. In addition, as shown in Table 4.9-3, the addition of 125,000 square feet of non-residential space would generate an estimated 465 new jobs across both sites.

**Table 4.9-3 Employment Generation from New Non-residential Space**

| Community Uses                         | Size              | SF per Employee <sup>1</sup> | Number of Employees  |
|--|-------------------|------------------------------|----------------------|
| <b>ASHBY BART<sup>1</sup></b>          |                   |                              |                      |
| Health/Fitness Club                    | 50,000 sf         | 400 sf                       | 125 employees        |
| Small Office Building                  | 10,000 sf         | 300 sf                       | 33 employees         |
| Convenience Market                     | 10,000 sf         | 400 sf                       | 25 employees         |
| Composite Restaurant                   | 10,000 sf         | 140 sf                       | 71 employees         |
| Coffee/Donut Shop                      | 10,000 sf         | 140 sf                       | 71 employees         |
| Daycare                                | 10,000 sf         | 400 sf                       | 25 employees         |
| <b>Total:</b>                          | <b>100,000 sf</b> | <b>1,780 sf</b>              | <b>350 employees</b> |
| <b>North Berkeley BART<sup>1</sup></b> |                   |                              |                      |
| Small Office Building                  | 5,000 sf          | 300 sf                       | 17 employees         |
| Convenience Market                     | 5,000 sf          | 400 sf                       | 13 employees         |
| Composite Restaurant                   | 5,000 sf          | 140 sf                       | 36 employees         |
| Coffee/Donut Shop                      | 5,000 sf          | 140 sf                       | 36 employees         |
| Daycare                                | 5,000 sf          | 140 sf                       | 36 employees         |
| <b>Total:</b>                          | <b>25,000 sf</b>  | <b>1,380 sf</b>              | <b>115 employees</b> |

<sup>1</sup> Source: City of San Jose 2020

sf: square feet

The breakdown of non-residential space is based on Table 4.11-2 in Section 4.11, *Transportation*.

As shown in Table 4.9-4, based on ABAG and MTC projections, Berkeley is forecast to grow by 140,935 residents and 121,670 jobs. The amount of population growth anticipated from development allowed under the proposed project would account for approximately 24 percent of the projected increase in population growth in Berkeley from 2016 to 2040 and represents approximately 3.8 percent of the total Berkeley population projected in 2040. The job growth anticipated from development allowed under proposed project would be roughly 1.4 percent of the projected increase in job growth in Berkeley from 2016 to 2040 and represents than one percent of the total 2040 jobs projected in Berkeley. Overall, population and job growth generated by the proposed project would be within regional growth projections for Berkeley.

**Table 4.9-4 Growth Projections through 2040**

|  | Population | Employment |
|--|------------|------------|
| Project-related growth <sup>1</sup>              | 5,424      | 465        |
| City of Berkeley Total Projected <sup>2</sup>    | 140,935    | 121,670    |
| Project Growth Relative to total City Population | 3.8%       | <1.0%      |

<sup>1</sup> Based on the average of 2.26 persons per household (see Table 4.9-1) and employment estimations (see Table 4.9-3)

<sup>2</sup> See Table 4.9-2

In addition, as discussed in Section 4.7, *Land Use and Planning*, the City's General Plan Land Use and Housing Elements and the City's zoning regulations encourage and prioritize higher density housing and employment in the City's commercial corridors and around BART stations. Therefore, the proposed project would not result in growth exceeding

regional projections, and the growth that would occur under the proposed project would be located in areas where increased residential and commercial density is encouraged.

Therefore, adoption of and development under the proposed project would not result in substantial unanticipated or unplanned population growth, either directly or indirectly. Therefore, impacts would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 2:** Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

**Impact PH-2**      **THERE IS NO EXISTING HOUSING WITHIN EITHER OF THE PROJECT SITES. IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT DISPLACE EXISTING HOUSING UNITS OR PEOPLE AND WOULD INCREASE THE CITY'S HOUSING STOCK. NO IMPACT WOULD OCCUR.**

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There are no existing housing units, residential structures, or areas used for residential purposes within the project sites. As described in Section 2, *Project Description*, the project sites are currently developed with BART station buildings, surface parking lots, and associated infrastructure. Therefore, the project would not involve displacement of existing residents or housing units that would necessitate the construction of replacement housing elsewhere. Moreover, the proposed project would involve zoning changes that incentivize high-density and transit-oriented development, including development of new housing. The proposed project's policies and actions, coupled with existing regulations, would promote the creation of affordable housing and infill development within the project sites. Therefore, there would be no impact.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

As discussed in Section 3, *Environmental Setting*, the topic of population and housing has cumulative implications on the entire Bay Area region, not just on the City of Berkeley. Therefore, this cumulative impact analysis is based on Plan Bay Area 2040, the Bay Area's most recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Based on the forecasts in Plan Bay Area 2040, in 2040 Berkeley is estimated to have a population of 140,935 and 55,370 housing units. Currently, Berkeley has an estimated population of 122,580 and 47,718 households (see Table 4.9-2 in Section 4.9, *Population and Housing*).

As shown above in Table 4.9-4, the population generated under the project would account for about four percent of the City's total population projected in 2040, and job growth generated under the project would account for approximately one percent of the City's total job growth projected in 2040.

This level of population growth would not be a substantial portion of projected growth and total population for Berkeley through the year 2040. Furthermore, population growth under the project would be consistent with ABAG's vision for the project sites, which are part of a

designated Priority Development Area (PDA) to encourage growth in transit-accessible corridors. Designated PDAs are areas where ABAG intends to direct regional growth in population and housing. Therefore, the project would not considerably contribute to a significant impact associated with unplanned population growth.

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## 4.10 Public Services and Recreation

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This section evaluates the potential environmental impacts from the implementation of the proposed project with respect to the following public services: fire protection services, police protection services, parks and recreational facilities, and schools. Other public facilities such as water, wastewater and solid waste are addressed in Section 4.13, *Utilities and Service Systems*.

### 4.10.1 Setting

#### a. Fire Protection

The Berkeley Fire Department (BFD) provides fire protection and emergency medical services to the project sites, as well as for the entire city of Berkeley. This service area represents 11 square miles and approximately 120,000 residents. The BFD operates seven fire stations including seven engine companies, two truck companies and four ambulances (City of Berkeley 2020b). The City of Berkeley Adopted Biennial Budget for Fiscal Years 2020 and 2021 provides for 153 full time equivalent employees for the BFD.

The City's goal for staffing is reviewed each budget cycle and considers historical and current year information related to fire and emergency services. In 2019, the BFD responded to 9,948 medical calls and 5,572 other calls for service (Brannigan 2020). The City of Berkeley General Plan includes a goal of four minutes for BFD's response time. According to the BFD, the City is required to respond to emergency medical services (EMS) calls in 10 minutes 90 percent of the time.

Primary service to the Ashby BART station site would be provided by Station 5, which is located at 2680 Shattuck Avenue. Station 5 houses one engine company, one truck company, and a reserve engine (City of Berkeley 2020b). Primary service to the North Berkeley BART station site would be provided by Station 6, which is located at 999 Cedar Street. Station 6 houses one engine company and a reserve engine (City of Berkeley 2020). Both the Adeline Street and San Pablo Avenue corridors are important transportation routes to the Alta Bates Summit Medical Center in South Berkeley and other hospitals in Oakland. Figure 4.10-1 shows the locations of fire stations in the vicinity of the project sites.

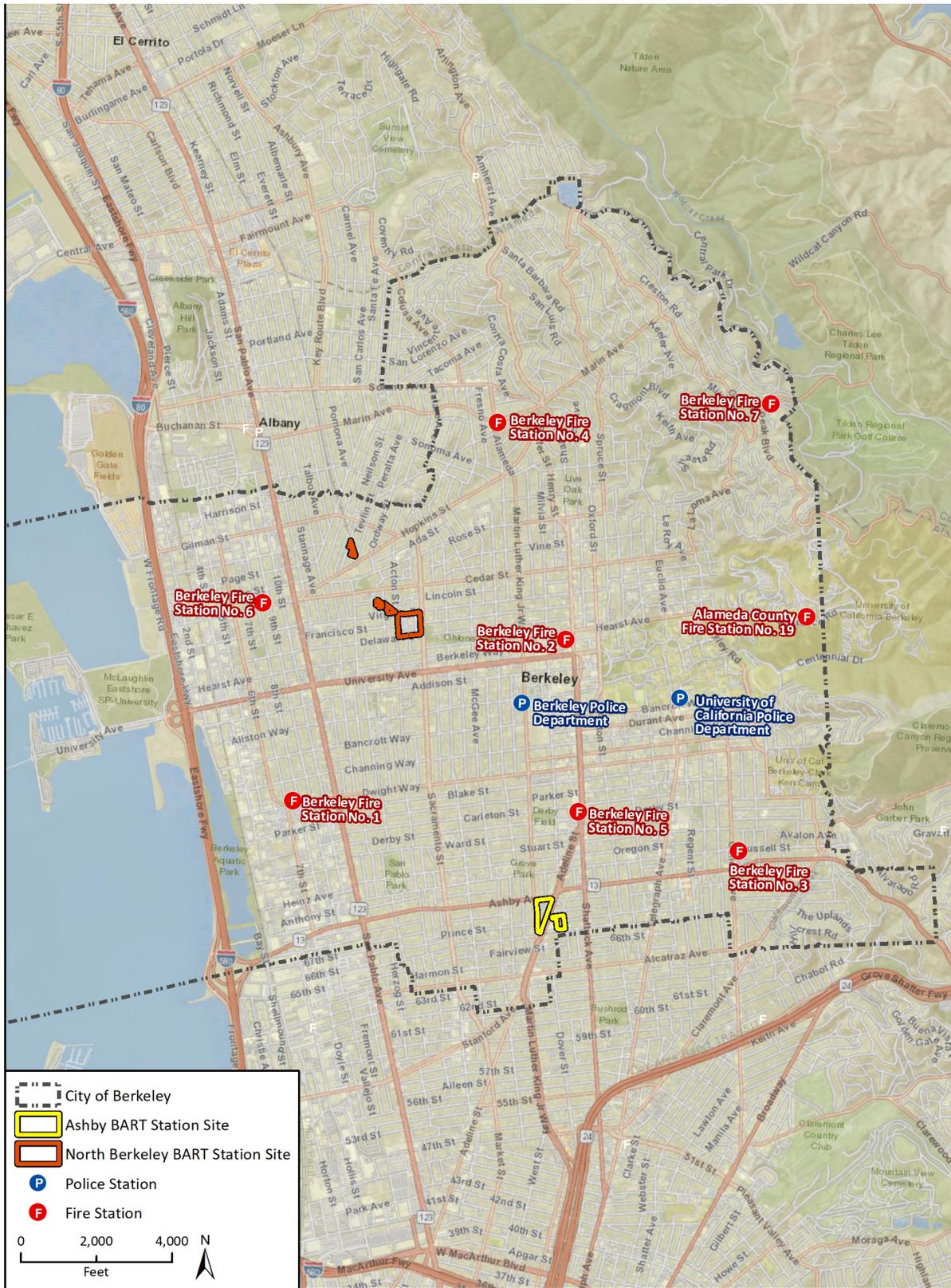
#### Fire Protection Regulatory Setting

The Disaster Preparedness and Safety Element and the Transportation Element of the City's General Plan contain the following policies and actions related to fire protection services (City of Berkeley 2001b):

**Policy S-1 Response Planning.** Ensure that the City's emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources. (Also see Transportation Policy T-28.)

**Action G.** Conduct coordinated planning and training between local and regional police, fire, and public health agencies in preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with regional agency communication technologies.

Figure 4.10-1 Police and Fire Station Locations Map



FigX Police and Fire Stations

**Policy S-22 Fire Fighting Infrastructure.** Reduce fire hazard risks in existing developed areas.

**Action A.** Develop proposals to make developed areas more accessible to emergency vehicles and reliable for evacuation. Consider restricting on-street parking, increasing parking fines in hazardous areas, and/or undergrounding overhead utilities. Require that all private access roads be maintained by a responsible party to ensure safe and expedient passage by the Fire Department at any time, and require approval of all locking devices by the Fire Department. Ensure that all public pathways are maintained to provide safe and accessible pedestrian evacuation routes from the hill areas.

**Action B.** Evaluate existing access to water supplies for fire suppression. Identify, prioritize, and implement capital improvements and acquire equipment to improve the supply and reliability of water for fire suppression. Continue to improve the water supply for firefighting to assure peak load water supply capabilities. Continue to work with EBMUD to coordinate water supply improvements. Develop aboveground, (transportable) water delivery systems.

**Action C.** Provide properly staffed and equipped fire stations and engine companies. Monitor response time from initial call to arrival and pursue a response time goal of four minutes from the nearest station to all parts of the city. Construct a new hill area fire station that has wildland firefighting equipment and ability.

**Policy S-23 Property Maintenance.** Reduce fire hazard risks in existing developed areas by ensuring that private property is maintained to minimize vulnerability to fire hazards.

**Action A.** Continue and expand existing vegetation management programs.

**Action B.** Property owners shall be responsible for maintaining their structures at a reasonable degree of fire and life safety to standards identified in adopted codes and ordinances.

**Action C.** Promote smoke detector installation in existing structures. Require the installation of smoke detectors as a condition of granting a permit for any work on existing residential and commercial buildings and as a condition for the transfer of property.

**Action D.** Promote fire extinguisher installation in existing structures, particularly in kitchens, garages, and workshops.

**Action E.** Require bracing of water heaters and gas appliances and the anchoring of houses to foundations to reduce fire ignitions following earthquakes.

**Policy S-24 Mutual Aid.** Continue to fulfill legal obligations and support mutual aid efforts to coordinate fire suppression within Alameda and Contra Costa Counties, Oakland, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.

**Action A.** Work with inter-agency partners and residents in vulnerable areas to investigate and implement actions to improve fire safety, using organized outreach activities and councils such as the Hills Emergency Forum and the Diablo Fire Safe Council.

**Action B.** Establish close coordination with the California Department of Forestry to minimize the risk of wildland fire in the hill areas.

**Policy S-25 Fire Safety Education.** Use Fire Department personnel to plan and conduct effective fire safety and prevention programs.

**Action A.** Provide fire safety presentations and programs to local schools, community groups, and neighborhoods.

**Action B.** Provide fire safety classes for high-occupancy institutional land uses, and commercial and industrial occupancies.

**Action C.** Develop and implement a program to improve public awareness and disseminate appropriate warnings during times of high fire danger.

**Policy T-28 Emergency Access.** Provide for emergency access to all parts of the city and safe evacuation routes. (Also see Disaster Preparedness and Safety Policy S-22.)

**Action A.** Do not install new full diverters or speed humps on streets identified on the Emergency Access and Evacuation Network map unless it is determined by the Fire and Police Departments that the installation will not significantly reduce emergency access or evacuation speeds. The Fire Department should be able to access all Berkeley locations within four minutes (see Disaster Preparedness and Safety Element). All other proposed traffic calming devices or obstructions to the free flow of traffic on these streets should be reviewed by the Fire and Police Departments to ensure that the proposed change will not significantly increase emergency response times or hinder effective evacuation of adjacent neighborhoods.

**Action B.** Maintain and improve pedestrian pathways throughout the city that are dedicated for public use and provide an alternative to the streets in case of an emergency evacuation.

**Action C.** Maintain and make available to the public up-to-date maps of all emergency access and evacuation routes.

**Action D.** Where necessary, consider parking restrictions to ensure adequate access for emergency vehicle access and evacuation in hill area neighborhoods with narrow streets.

**Action E.** Prioritize evacuation routes for undergrounding of overhead utilities.

The City's Emergency Access and Evacuation Network map (City of Berkeley 2011) identifies routes around the projects sites as emergency access and evaluation routes including Ashby Avenue, Adeline Street, and MLK Jr. Way in the vicinity of the Ashby BART station and Cedar Street and Sacramento Street in the vicinity of the North Berkeley BART station.

## **b. Police Protection**

The Berkeley Police Department (BPD) provides police protection services to the project sites. Police headquarters are located at 2100 Martin Luther King Jr. Way, approximately 1.1 miles west of the North Berkeley BART site and 1.3 miles north of the Ashby BART site. Figure 4.10-1 shows the locations of police stations. The BPD consists of 270 employees including 157 sworn officers. This allows for a ratio of 1.3 sworn officers per 1,000 residents (Chief Jennifer Louis 2020). The City's goal for staffing is reviewed each budget cycle and

considers historical and current year information related to police services. City population increases are not weighed in the BPD's staffing needs.

The BPD currently provides regular patrols to 16 beats within Berkeley. Beat 16 services the North Berkeley BART site and Beats 8 and 9 serve the Ashby BART site (City of Berkeley 2020d). Additionally, the Police Department has four Area Coordinators, each assigned to specific areas of the city. An Area Coordinator is a police officer assigned to collaborate with other City departments and services, and to work with the community to solve long-term policing problems. Area Coordinators research special projects, attend community and Neighborhood Watch meetings, and regularly exchange information with beat patrol officers. Officers from Areas 2 and 3 represent the project sites (City of Berkeley 2018b).

Additional policing of the project sites is undertaken by the Bay Area Rapid Transit (BART) Police Department (PD). The BART PD serves as the primary law enforcement authority for the BART District, which includes 107 miles of trackway, 45 stations, and 47,000 parking stalls. The system spans Alameda, Contra Costa, San Francisco, and San Mateo Counties. In order to best serve BART customers and employees, the BART PD has adopted a Zone Geographical Policing Structure. There are six zones, each one commanded by a Zone Lieutenant with a team of Patrol Sergeants, Police Officers and Community Service Officers who are all responsible and accountable for providing 24/7 service to their areas within the BART District. BART PD's goal for emergency response time is five minutes; average emergency response times in 2017 were between 6.25 and 6.5 minutes (BART n.d.). Both the Ashby and the North Berkeley BART stations reside in Zone 1 (BART 2020).

## Police Protection Regulatory Setting

### *Berkeley General Plan*

The Disaster Preparedness and Safety Element, the Transportation Element and the Economic Development & Employment Element of the City's General Plan provide the following policies and actions related to police protection services (City of Berkeley 2001b):

**Policy S-1 Response Planning.** Ensure that the City's emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources. (Also see Transportation Policy T-28.)

**Action G.** Conduct coordinated planning and training between local and regional police, fire, and public health agencies in preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with regional agency communication technologies.

**Policy T-28 Emergency Access.** Provide for emergency access to all parts of the city and safe evacuation routes. (Also see Disaster Preparedness and Safety Policy S-22.)

**Action A.** Do not install new full diverters or speed humps on streets identified on the Emergency Access and Evacuation Network map unless it is determined by the Fire and Police Departments that the installation will not significantly reduce emergency access or evacuation speeds. The Fire Department should be able to access all Berkeley locations within four minutes (see Disaster Preparedness and Safety Element). All other proposed traffic calming devices or obstructions to the free flow of traffic on these streets should be reviewed by the Fire and Police Departments to ensure that the proposed change will not significantly increase emergency response times or hinder effective evacuation of adjacent neighborhoods.

**Policy ED-4 Neighborhood and Avenue Commercial Districts.** Provide programs and services to assist neighborhood and avenue commercial districts. (Also see Land Use Policies LU-26 and LU-27.)

**Action A.** City efforts in neighborhood and avenue commercial zones should:

3. Maintain adequate levels of police presence.

#### *Berkeley Municipal Code*

Chapter 2.64 of the Berkeley Municipal Code authorizes the creation of the police department and defines its duties (City of Berkeley 1995). Additional police regulations have been issued to further describe the required conduct and responsibilities of the police department (City of Berkeley 2018c).

#### **c. Public Schools**

The Berkeley Unified School District (BUSD) operates 20 schools, including 11 public elementary schools (grades K-5), 3 middle schools (grades 6-8), one high school (grades 9-12), and an alternative high school (grades 9-12). In addition, the District has three preschool facilities and one Adult School serving several thousand students each year (City of Berkeley (BUSD 2018a). The District's overall enrollment for the 2019-2020 school year was 9,844 (Ed-Data.org 2021).

BUSD is divided into three elementary school zones: Central, Northwest, and Southeast. Two of the middle schools are zoned, while one is a magnet school. Homes near the project sites fall within both the Northwest and Southeast zones for elementary school. The elementary schools closest to the North Berkeley BART Station are Jefferson Elementary School and Berkeley Arts Magnet. The nearest elementary schools to the Ashby BART Station are Malcom X Elementary and Leconte Elementary. However, students living near the project sites do not necessarily attend the school closest to their home. Parents of students entering the District fill out an enrollment form and list their preferences for schools. Parents may request any school in the district, but first priority will be given to students living within a school's attendance zone. The project sites are zoned to Willard Middle School, but Berkeley residents can also choose to be assigned through random lottery to Longfellow Magnet Middle School (BUSD 2018b).

#### **Schools Regulatory Setting**

##### *State*

##### **CALIFORNIA SENATE BILL 50**

Senate Bill 50 (SB50), which revised the existing limitation on developer fees for school facilities, was enacted as urgency legislation which became effective on November 4, 1998 as a result of the California voters approving a bond measure (Proposition 1A). SB50 established a 1998 base amount of allowable developer fees (Level One fee) for residential construction (subject to adjustment) and prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess or in addition to those provided in the statute.

## Local

### BERKELEY UNIFIED SCHOOL DISTRICT – SCHOOL FACILITIES FEE

Per SB 50 (described above, the Berkeley Board of Education adopted a School Facility Fee for new housing and commercial development in order to help the Berkeley Unified School District (BUSD) meet the costs of expanding their facilities to accommodate increased enrollment caused by new development. These fees are directed towards maintaining adequate service levels, which would ensure that impact to schools that could result from development projects in the project sites would be offset by development fees and, in accordance with State law, reduce potential impacts to a less-than-significant level.<sup>1</sup>

### BERKELEY GENERAL PLAN

The Land Use Element of the City's General Plan has the following policies and actions related to schools (City of Berkeley 2001d):

**Policy LU-13 Basic Goods and Services.** Ensure that neighborhoods are well served by commercial districts and community services and facilities, such as parks, schools, child-care facilities, and religious institutions.

**Action B.** Maximize joint City/Unified School District use of and planning for facilities such as recreation, libraries, and cultural centers.

### d. Parks and Recreation

The City of Berkeley's Parks, Recreation and Waterfront Department administers recreation centers and maintains the parks, waterfront, and urban forest within the city limits. In this department, the Parks Division maintains 52 parks; 11 miles of turf medians, and 161 triangles., (City of Berkeley 2020c). According to the General Plan, there are 230 acres of parkland within city limits, which is a ratio of approximately two park acres per 1,000 residents. In addition to the public open space managed by the City's Recreation Division, several other parks managed by other agencies are within or near the City, including the Bay Trail, the 1,854-acre McLaughlin Eastshore State Park, the East Bay Regional Park District's 2,079-acre Tilden Regional Park, and the 208-acre Claremont Canyon Regional Preserve. Including these additional parklands, Berkeley's park acres-to-persons ratio increases to approximately 12 acres per 1,000 residents. Since the time of the General Plan, additional park space has been added for a total of 252 acres of parkland within the city limits.

There are two parks within walking distance of the North Berkeley BART station site. Ohlone Park is located across Sacramento Street and covers 9.8 acres. It includes a multi-purpose turf field, four children's play areas, and an enclosed off-leash dog walk area. Cedar-Rose Park is located approximately 0.2 miles northwest of the main station site (see Figure 2-4 in Section 2, *Project Description*) and hosts a multi-purpose turf field and amphitheater on approximately 5 acres. The Ohlone Greenway also runs adjacent to the North Berkeley BART station site. The Ohlone Greenway is an urban trail that begins at the east end of Ohlone Park (east of the North Berkeley station site) and runs past the main station site, along the boundary of the auxiliary lots, and for five miles to El Cerrito.

The Ashby BART station site is less served by parks and open spaces in comparison to the North Berkeley site. The largest park, Grove Street Park, is located one block north of the

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<sup>1</sup> Adopted by the Board of Education on February 8, 2017. Fees are \$3.48 per square foot for residential development of more than 500 square feet and \$0.56 per square foot for new commercial and industrial development.

site, is approximately 3 acres, and includes amenities such as three tennis courts, a recreation building, and a gym. Greg Brown Park is located approximately 0.2 miles south of the site and covers a 0.58-acre site along Harmon Street. There are a handful of smaller parks and green spaces within walking distance of both sites (City of Berkeley 2020).

### **Parks and Recreation Regulatory Setting**

The Open Space and Recreation Element of the Berkeley General Plan cites a goal in the City's 1977 Master Plan of providing 2 acres of parkland per 1,000 people. This element also has the following policies related to parks and recreation (City of Berkeley 2001b):

**Policy OS-2 Maintenance, Repair, and Enhancements.** Within the context of open space resource allocations, give highest priority to maintaining and improving the City's existing network of open space and recreation facilities.

**Policy OS-4 Working with Other Agencies.** Work with the Berkeley Unified School District, the University of California, the East Bay Municipal Utility District, and the East Bay Regional Park District to improve, preserve, maintain, and renovate their open space and recreation facilities.

**Policy OS-6 New Open Space and Recreational Resources.** Create new open space and recreational resources throughout Berkeley.

**Policy OS-7 Serving Disadvantaged Populations.** Within the context of open space resource allocations for new or expanded facilities, give high priority to providing additional facilities for populations that are disadvantaged or underserved.

**Policy OS-8 Community Gardens.** Encourage and support community gardens as important open space resources that build communities and provide a local food source.

**Policy OS-14 Regional Open Space.** Coordinate with regional open space agencies such as the East Bay Regional Park District, neighboring cities, and private sector and nonprofit institutions to maintain, improve, and expand the region's open space network.

The Land Use Element of the City's General Plan has the following policies and actions related to parks and recreation (City of Berkeley 2001d):

**Policy LU-13 Basic Goods and Services.** Ensure that neighborhoods are well served by commercial districts and community services and facilities, such as parks, schools, child-care facilities, and religious institutions.

**Action B.** Maximize joint City/Unified School District use of and planning for facilities such as recreation, libraries, and cultural centers.

In 1986, City of Berkeley voters passed the Berkeley Public Parks and Open Space Preservation Ordinance ("Measure L") which requires the Berkeley City Council to preserve and maintain existing public parks and open space according to the following regulations:

1. That wherever public parks and open space currently exist in Berkeley, such use shall continue and be funded at least to allow the maintenance of the present condition and services.
2. That all undedicated or unimproved open space owned or controlled by the City of Berkeley (including land held by the City in trust) shall be retained and funded by the Berkeley City Council to enable public recreational use of those lands.

3. That those census tracts containing less than the Master Plan guideline of two acres of parks and open space per 1,000 population shall be singled out as having a high priority for funding the acquisition, development and maintenance of parks and recreational facilities.

#### 4.10.2 Impact Analysis

##### **a. Methodology and Significance Thresholds**

The following criteria are based on Appendix G of the *CEQA Guidelines*. Impacts would be significant if the proposed project would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for any of the following public services:
  - a) Fire protection
  - b) Police protection
  - c) Schools
  - d) Parks
  - e) Other public facilities;
2. 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; or
3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impacts related to thresholds 1(a), 1(b), 1(c), 1(d), 2 and 3 are analyzed below. Impacts related to other public facilities (Threshold 1(e)) such as water, wastewater and landfills are addressed in Section 4.13, *Utilities and Service Systems*.

## b. Project Impacts and Mitigation Measures

**Threshold 1a:** Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for fire protection?

**IMPACT PS-1 FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD INTRODUCE NEW RESIDENTIAL AND NON-RESIDENTIAL USES ON THE PROJECT SITES WHICH MAY INCREASE THE DEMAND FOR FIRE PROTECTION SERVICES. HOWEVER, THE PROPOSED ZONING PROJECT WOULD NOT RESULT IN THE NEED FOR A NEW OR EXPANDED FIRE STATION. THEREFORE, THE PROPOSED PROJECT WOULD HAVE A LESS THAN SIGNIFICANT IMPACT RELATED TO FIRE PROTECTION FACILITIES.**

Implementation of the proposed project would add up to an estimated 2,400 residential units and combined 125,000 square feet of commercial space between the two project sites. As described in Section 4.9, *Population and Housing*, this buildout would generate approximately 5,424 residents and 415 employees. Both sites are within the existing service area for the Berkeley Fire Department (BFD). The increase in residents and employees associated with the project would increase demand for Berkeley fire protection and emergency medical services. However, the continued implementation of policies and actions in the Berkeley General Plan would improve the ability of fire protection facilities to serve this future development and allow fire protection services to maintain response time goals. Policy S-22 in the City's Disaster Preparedness and Safety Element calls for the City to provide adequately staffed and equipped Fire Stations and to pursue a response time goal of four minutes from the nearest station to all parts of Berkeley.

Further, future development under the proposed project would be required to comply with basic building designs and standards for residential buildings as mandated by the Berkeley Fire Code, under BMC Section 19.48. Compliance with designs and standards and other fire safety requirements would reduce the demand for fire protection services and thereby reduce the need for new fire stations. Future development under the proposed project would be required to comply with abatement of fire-related hazards and pre-fire management prescriptions as outlined under the California Health and Safety Code and the California Fire Plan. A list of typical fire-related requirements included in these codes and that would apply to typical residential projects allowed by the proposed project are as follows:

- a. Adequate marking of exterior building openings
- b. Openings and fire escape stairs and balconies
- c. Internal access, including via hallways and doorways
- d. Manual and automatic fire alarm systems
- e. Fire Fighter Air Replenishment Systems
- f. Internal building sprinkler systems
- g. New fire hydrants
- h. External fire protection (setbacks, fire-resistant materials, etc.)

New residential and non-residential projects allowed by the proposed project would be reviewed for compliance with these requirements and compliance with other building and safety regulations several times during different phases of project development. During the

entitlement and pre-application phase, new residential and non-residential projects that require Use Permits are subject to an Interdepartmental Roundtable Review. As a part of this review, representatives from several City departments, including the Building and Safety Division, the Transportation Division, and the Fire Department, review the entitlement plan set and provide comments regarding Fire and Building Code requirements that will apply to the project. If the plans present a potential access or safety issue, this review offers an early opportunity to identify the problem and discuss solutions. For example, the Fire Department can suggest that an additional stairway be included in a residential building to provide additional egress. During the building permit process, projects are reviewed again by several City departments, including the Fire Department, to ensure compliance with all applicable code regulations. If a project does not comply with code requirements related to fire safety and access, the applicant will be issued a correction letter, which must be addressed before the building permit is approved. During the construction process, projects are subject to regular inspections to ensure that buildings are being constructed in accordance with the approved plans. Finally, after construction is complete, the projects are subject to regular inspections to confirm continued structural adequacy and safety.

In November 2020, the City of Berkeley passed Measure FF, which mandates that the City adopt an ordinance enacting a tax on construction and improvements within the City. Measure FF is estimated to generate \$8.5 million annually, which would be used to implement a state-of-the-art 911 dispatch system to ensure rapid assistance to emergency medical calls, increase ambulance and paramedic capacity, to better meet the needs of all residents, and strengthen wildfire, earthquake and other disaster prevention and preparedness with new, expanded emergency warning systems, fire fuel reduction and evacuation planning. These funds will allow the Fire Department to address increased call volumes and emergency medical service needs that result from city-wide increases in residential density, including the anticipated increase allowed under the proposed project.

Due to compliance with Fire Code requirements and other City efforts to ensure adequate fire protection services, with the increased demand for fire protection services associated with the proposed project response time goals would continue to be met. Therefore, the project would not result in the need for new or expanded fire stations and impacts related to fire protection facilities under the proposed project would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 1b:** Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for police protection?

**IMPACT PS-2 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD FACILITATE DEVELOPMENT OF NEW RESIDENTIAL AND NON-RESIDENTIAL USES TO THE PROJECT SITES, GENERATING ADDITIONAL NEED FOR THE CITY OF BERKELEY POLICE DEPARTMENT'S PROTECTION SERVICES. HOWEVER, THE PROPOSED ZONING PROJECT WOULD NOT RESULT IN THE NEED FOR A NEW OR EXPANDED POLICE STATION. THEREFORE, THE PROPOSED PROJECT WOULD HAVE A LESS THAN SIGNIFICANT IMPACT RELATED TO POLICE PROTECTION SERVICES.**

Implementation of the proposed project is projected to increase the population served by the Berkeley Police Department. As described in Section 4.9, *Population and Housing*, project buildout would generate approximately 5,424 residents and 415 employees. The project site is within the BPD's service area and is currently serviced by the BPD. The proposed project would not create excessive demand for police services or introduce development to areas outside of the Police Department's normal service area that would necessitate new police protection facilities. Moreover, as described in Section 4.9, *Population and Housing*, the project would induce population growth within the range of the forecasts for the City. The proposed project would thus not create the need for new or expanded police protection facilities and impacts would be less than significant.

Therefore, the impact related to police protection facilities would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 1c:** Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios or other performance objectives for schools?

**IMPACT PS-3 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD GENERATE AN ESTIMATED 230 STUDENTS TO EACH PROJECT SITE AND A TOTAL OF 460 OVERALL. HOWEVER, WITH PAYMENT OF STATE-MANDATED SCHOOL IMPACT FEES, IMPACTS RELATED TO PUBLIC SCHOOL OPERATING CAPACITY WOULD BE LESS THAN SIGNIFICANT.**

Implementation of the proposed project would introduce an estimated total of 2,400 residential units with 1,200 additional residential units at each site, which would house additional children served by BUSD schools. In the study prepared for BUSD's adopted School Facilities Fee on new residential and commercial/industrial development, the District used a blended student generation rate of 0.191 for all housing types (BUSD 2016). Based on this generation rate, development under the proposed project would add an estimated total of 460 new students over time (through 2030). These students would be distributed throughout the schools that serve the City depending on their grade level and on their location.

Depending on which school the new students attend, the increase in students could create capacity issues for these schools or exacerbate existing capacity issues. Therefore, the proposed project could potentially create the need for additional school capacity or possible expansion of an existing school, the construction of which could cause environmental impacts.

However, pursuant to Senate Bill 50, applicants for future development projects would be required to pay school impact fees established to offset potential impacts from new development at the project sites on school facilities. Therefore, although adoption and development under the proposed project could indirectly increase resident populations and potential student enrollment in Berkeley, payment of the fees mandated under SB 50 is the mitigation prescribed by statute, and payment of such fees is "...deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to California Government Code (CGC) Section 65994(h), impacts relating to school capacity would be less than significant.

### Mitigation Measures

The applicable State-mandated school impact fees would be collected at the time of building permit issuance. No mitigation beyond this requirement is needed.

- Threshold 1d:** Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios or other performance objectives for parks?
- Threshold 2:** Would the proposed 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?
- Threshold 3:** Would the proposed project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

**IMPACT PS-4      IMPLEMENTATION OF THE PROPOSED PROJECT WOULD ADD AN ESTIMATED COMBINED 2,400 RESIDENTIAL UNITS AND AN ESTIMATED 5,424 RESIDENTS TO THE PROJECT SITES, WHICH WOULD INCREASE USE OF PARKS. HOWEVER, THE CITY WOULD CONTINUE TO MEET PARKLAND ACREAGE RATIO GOALS AND THE PROJECT SITES ARE SERVED BY EXISTING AND FUTURE PROPOSED PARKS AND RECREATIONAL FACILITIES AND WOULD NOT REQUIRE THE CONSTRUCTION OR EXPANSION OF SUCH FACILITIES. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The proposed project would not directly alter parks or recreational facilities. Although the Ohlone Greenway trail is adjacent to the North Berkeley BART station site, the proposed project is assumed not to involve development of the auxiliary parking lots (as shown in Figure 2-3 in Section 2, *Project Description*) and would not impact the Greenway. However, the proposed project would increase demand for parks by facilitating residential growth on both project sites. It is estimated that new development on the project sites would include an additional 2,400 residential units and 125,000 square feet of non-residential space by the year 2030. As discussed in Section 4.10, *Population and Housing*, this buildout would

generate an estimated 5,424 new residents and 465 new employees within the project sites. The amount of population growth anticipated under the proposed project would represent approximately 3.8 percent of the total citywide population and less than one percent of the employment projected for 2040.

As described in the Parks and Recreation Regulatory Setting section above, the Open Space and Recreation Element of the Berkeley General Plan cites a goal in the City's 1977 Master Plan of providing two acres of parkland per 1,000 people. Currently, approximately 252 acres of parkland are located within the city limits. The City's population is approximately 122,580 residents (California Department of Finance [DOF] 2020); therefore, the City provides a ratio of approximately 2.1 acres per 1,000 residents. By increasing the citywide population by 5,424 new residents, the project would reduce the ratio of parkland within the city limits to parkland ratio to approximately 2.0 acres per 1,000 residents, still meeting the City's General Plan goal. In addition to the public open space managed by the City's Parks Divisions, the City contains parts of the Bay Trail and the Eastshore State Park, and Tilden Regional Park and Claremont Canyon Regional Preserve are adjacent to the city. When considering parkland adjacent to the City, the ratio of parkland per resident would be approximately 12 acres per 1,000 residents, which is substantially higher than the City's goal.

For future residents on the North Berkeley BART station site, the site is within walking distance to Ohlone Park and Cedar-Rose Park. Ohlone Park is currently planned for \$2,300,000 in investment to renovate existing features. Therefore, future residents are well-served by existing park facilities.

There are fewer parks within 0.5 mile of the Ashby BART station site than the North Berkeley station site; therefore, the Ashby BART station site is less well served by existing parks than the North Berkeley BART Station. However, planned expansions of parks and recreational space would increase access for new residents of developments within the Ashby BART station site. Chapter 7, Public Space, of the Adeline Corridor Specific Plan (ACSP) includes an overarching goal to provide public spaces with opportunities for recreation. To meet increased demand for parkland in the ACSP area, which includes the Ashby BART station site, the ACSP encourages passive and active public open space and recreation and identifies the creation of a diverse range of public recreational spaces as a priority. Community priorities for parkland under ACSP include, but are not limited to, community gardens, a dog park, a skate park, tot lots and playgrounds, small-scale recreational courts, plazas, and pocket parks. The ACSP also includes a long-term right-of-way redesign concept which includes opportunities to locate recreational space in a linear public space along Adeline Street north of Ashby Avenue. The ACSP also identifies opportunities for creating new public spaces during the future redevelopment of the BART station site and the adjacent stretch of Adeline Street, as well as the existing underutilized plaza space in front of the Berkeley Design Center at the intersection of Adeline and Fairview Streets (approximately 300 feet south of the Ashby BART station site). Lastly, as described in Section 4.11, *Transportation*, the project would also be subject to the Joint Vision and Priorities (JVP) document, which identifies several priorities related to improving walking and bicycling conditions within and around the site. In accordance with the JVP, future development under the project would expand the availability of green space for the neighborhood.

Therefore, although population increases associated with the proposed project would reduce the ratio of parkland to citywide population, the City would still have approximately two acres of parks per 1,000 residents. Further, the project sites are located in areas served by parks and recreational opportunities and planned improvements and expansions of such

opportunities are planned. Although the exact development at each site is unknown at this time, future residential and non-residential development on the sites would be required to provide public and private recreational space that could serve future residents. As described in Table 2-1 in Section 2, *Project Description*, future development would be required to provide a minimum of 40 square feet of private usable open space per dwelling unit and 35 square feet per dwelling unit of new public space.

As a result, the proposed project would not result in substantial overuse of existing parks which may cause physical deterioration of these facilities. Further, the proposed project would not require the construction or expansion of facilities which may have an adverse physical effect on the environment. Therefore, the overall environmental impacts related to parks and recreational spaces would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

Planned and pending projects in the project area, as described in Section 3, *Environmental Setting*, would increase demand for the following public services provided by the City: police and fire protection services, schools, and parks and recreational facilities.

#### **Fire Protection**

The proposed project in combination with other planned and pending development in the City could increase population such that there is an increase in reported incidents, leading to longer response times unless the Fire Department increases staffing. As described above under Impact PS-1, with continued implementation of General Plan policies, Fire Code requirements, and with additional funding sources under Measure FF, it is not anticipated that a new fire station is needed to serve cumulative development in the City. Therefore, the cumulative impacts related to fire protection facilities would be less than significant, and the proposed project's contribution to these impacts would not be cumulatively considerable.

#### **Police Protection**

The proposed project in combination with other planned and pending development in the City could increase population such that there is an increase in reported incidents, leading to longer response times unless the Police Department increases staffing. Should additional staffing be needed to serve the areas around the project sites accounting for future cumulative development, staffing is reviewed each budget cycle and considers historical and current year information related to police services. Overall, although additional staffing is may be needed, it is not anticipated that additional police department facilities would be needed to serve cumulative growth in the project areas. Therefore, the cumulative impacts related to police facilities would be less than significant, and the proposed project's contribution to these impacts would not be cumulatively considerable.

#### **Schools**

Cumulative development would increase the number of children attending BUSD schools. However, as stated in Impact PS-3, compliance with Senate Bill 50 would require applicants for future development in Berkeley to pay school impact fees established to offset potential

impacts from new development. Therefore, pursuant to CGC Section 65994(h), the cumulative impact relating to school capacity would be less than significant, and the proposed project's contribution to this impact would not be cumulatively considerable.

### **Parks and Recreation Facilities**

Cumulative projects also would increase demand for park and recreational facilities. Because existing parkland in and near Berkeley is adequate to serve demand, it is not anticipated that population growth from cumulative development would result in substantial deterioration of existing park facilities. As described in the *Impact Analysis* section above, the project would increase the population of Berkeley thereby reducing the ratio of parkland within the city limits to parkland ratio to approximately 1.8 acres per 1,000 residents, which is below the City's goal of two acres of parkland per 1,000 people. Nonetheless, when considering parkland adjacent to the City such as the Eastshore State Park, Claremont Canyon Regional Park, and Tilden Regional Park, the ratio of parkland per resident would be substantially higher, approximately 12 acres per 1,000 residents, which is well above the City's goal. There are planned improvements to parks and recreational facilities near both project sites and future development on the sites would involve public and private open space for future residents. Therefore, cumulative development would not result in a significant impact related to parks, and the proposed project would not make a considerable contribution to a cumulative impact.

## 4.11 Transportation

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This section presents the existing transportation and circulation conditions and analyzes potential project-level and cumulative impacts on transportation and circulation with the proposed project. Supporting technical information is included in Appendix G, which includes the Transportation Analysis Methodology Memorandum and the Congestion Management Program analysis.

### 4.11.1 Setting

The transportation study area includes all aspects of the transportation network within approximately 0.5 miles around the project sites. The transportation study area for the Ashby BART station site is generally bounded by Telegraph Avenue to the east, Sacramento Street to the west, 59<sup>th</sup> Street to the south, and Parker Street to the north. The transportation study area for the North Berkeley BART station site is generally bounded by Martin Luther King Jr. Way to the east, San Pablo Avenue (State Route 123) to the west, Bancroft Way to the south, and Hopkins Street to the north. The transportation study area consists of travel corridors and facilities such as transit routes and stations, bicycle routes and amenities, pedestrian sidewalks and crossings, and the overall vehicular roadway network that residents, employees, and visitors would use in traveling to and from the project sites.

#### a. Existing Street Network

The street network at the project sites is defined by several primary roadways that serve regional and local trips.

#### Regional Roadways

Regional access to Ashby and North Berkeley BART stations is provided through several freeways and state highways, including Interstate 80/580 (I-80/580), Interstate 980 (I-980), State Route 24 (SR 24), and State Routes 13 (Ashby Avenue) and 123 (San Pablo Avenue).

#### Major Streets/Arterials<sup>1</sup>

##### *Ashby BART Station Site*

**Adeline Street** is a northeast-southwest major street with four to six automobile lanes and a center median. On-street parking is provided on both sides of the street either as parallel parking or as angled parking with a raised buffer between the parking and the adjacent through automobile lanes. A combination of metered, time limited, and unrestricted parking options are available along the corridor. A Class II bicycle lane is provided on Adeline Street from Ashby Avenue to Fairview Street and a cycletrack (Class IV facility) is provided on Adeline Street from Ashby Avenue to Stuart Street. AC Transit Line F runs along Adeline Street. The speed limit on Adeline Street is 25 miles per hour (mph). The City of Berkeley

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<sup>1</sup> City of Berkeley General Plan, Figure 10, August 2002.

Vision Zero Plan (City of Berkeley 2020) and 2020 Pedestrian Plan (City of Berkeley 2021) identifies Adeline Street as a High-Injury Street.<sup>2</sup>

**Shattuck Avenue** is a north-south four lane major street that connects with Adeline Street. Most blocks of Shattuck Avenue provide angled parking on both sides of the street with a raised buffer between the parking and the adjacent through automobile lanes. South of Adeline Street, Shattuck Avenue is a collector street with two lanes and on-street parallel parking. AC Transit Line 18 runs along Shattuck Avenue. The speed limit on Shattuck Avenue is 25 mph. The City of Berkeley Vision Zero Plan identifies Shattuck Avenue as a High-Injury Street.

**Martin Luther King (MLK), Jr. Way** is a north-south major street with two lanes in each direction. MLK Jr. Way is adjacent to Adeline Street in the vicinity of the Ashby BART station and is concurrent with Adeline Street between Fairview and 63rd Streets before separating to the south of the station at the border with the City of Oakland. On-street parking is provided along most of the street. AC Transit Line 12 runs along MLK Jr. Way. The roadway's speed limit is 25 mph. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies MLK Jr. Way as a High-Injury Street.

**Ashby Avenue (State Route 13)** is an east-west major street with two to four lanes in each direction. Ashby Avenue is a Caltrans facility designated as a Scenic Route and connects I-580 in the west with SR-24 in the east. On-street parking is provided near the intersection with Adeline Street. However, during the peak commute hours, on-street parking prohibitions on the north side of the street in the morning and the south side in the evening provide an additional automobile lane. AC Transit Line 800 runs along Ashby Avenue. The speed limit is 25 mph. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies Ashby Avenue as a High-Injury Street.

**Dwight Way** is an eastbound two-lane one-way major street north of the Ashby station. Dwight Way provides on-street parking on both sides of the street. AC Transit Line 36 runs along Dwight Way. The speed limit is 25 mph. The City of Berkeley Vision Zero Plan identifies Dwight Way as a High-Injury Street from Sacramento Street to Telegraph Avenue and the 2020 Pedestrian Plan identifies Dwight Way as a High-Injury Street from Martin Luther King Jr. Way to Piedmont Avenue.

#### *North Berkeley BART Station Site*

**Sacramento Street** is a north-south major street with two lanes in each direction with a raised center median. On-street parking is available along most of the street on both sides of the roadway. AC Transit Lines 52, 88, 688, and J run along Sacramento Street. The speed limit is 30 mph from Rose Street to the southern city limits. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies Sacramento Street as a High-Injury Street.

**San Pablo Avenue (State Route 123)** is a north-south arterial with two travel lanes in both directions and a raised center median. It is a designated state route that runs parallel to I-580. On street parking is available on both sides of the roadway. Bicycle facilities are shared

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<sup>2</sup> High-Injury Streets were identified by the City as follows: "An ArcGIS analysis was conducted to identify Berkeley's High Injury Streets. Fatal and Injury (Severe) collision types were included and weighted by severity. These collisions were georeferenced to Berkeley's street network and each street received a cumulative score based on the number and severity of collisions that took place. Street lengths were normalized to ensure that the high-injury analysis captured streets with higher densities of collisions. Then, streets that were more than 1.2 standard deviations away from the normalized mean were identified as a High Injury Street." City of Berkeley 2020 Pedestrian Plan, January 2021, page C-24, [https://www.cityofberkeley.info/uploadedFiles/Public\\_Works/Level\\_3\\_-\\_Transportation/Berkeley%202020%20Pedestrian%20Plan\\_Draft\\_2020-10.pdf](https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_Transportation/Berkeley%202020%20Pedestrian%20Plan_Draft_2020-10.pdf) Accessed 9/1/2021.

with vehicles along San Pablo Avenue. AC Transit Lines 72/72M/72R, 800, 802, and G run along San Pablo Avenue. The speed limit is 30 mph throughout the City of Berkeley. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies San Pablo Avenue as a High-Injury Street.

**University Avenue** is an east-west arterial with two travel lanes in both directions and a raised center median. It is designated as a scenic route. On-street parking is available on both sides of the roadway. AC Transit Lines 51B, 800, and FS run along University Avenue. The speed limit is 25 mph, except from the Eastshore Highway to Fifth street, where the speed limit is 35 mph. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies University Avenue as a High-Injury Street.

## Collectors and Local Access

### *Ashby BART Station Site*

**Alcatraz Avenue** is an east-west collector with one travel lane in each direction. On-street parking is provided on both sides of the street. A separated bicycle facility is provided on Alcatraz Avenue east of Adeline Street. AC Transit Line 688 runs along Alcatraz Avenue. The speed limit is 25 mph. Alcatraz Avenue intersects with Adeline Street south of the Ashby station. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies Alcatraz Avenue as a High-Injury Street from Sacramento Street to Adeline Street.

**Woolsey Street** is an east-west collector with one travel lane in each direction. On-street parking is available along both sides of the street. Bicycle facilities are shared with the roadway on Woolsey Street east of Shattuck Avenue. The speed limit is 25 mph.

### *North Berkeley BART Station Site*

**Cedar Street** is an east-west collector street north of the North Berkeley BART station with one travel lane in each direction. On-street parking is provided along most of the roadway on both sides of the street. AC Transit Line 52 runs along Cedar Street west of Sacramento Street. The speed limit is 25 mph. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies Cedar Street as a High-Injury Street.

**Virginia Street** is an east-west local street north of the North Berkeley BART station with one travel lane in each direction. On-street parking is provided along most of the roadway on both sides of the street. Virginia Street is a designated Bike Boulevard and provides shared facilities with vehicles. The speed limit is 25 mph.

**Delaware Street** is an east-west collector with one travel lane in each direction. On-street parking is generally available on both sides of the roadway. Between Chestnut Street and Sacramento Street, parking is time-limited except for residents. A separate bicycle facility is provided west of Sacramento Street. The posted speed limit is 25 mph.

**Hearst Street** is an east-west collector street north of the North Berkeley station. On-street parking is generally available on both sides of the roadway. Between Franklin Street and Sacramento Street, parking is time-limited except for residents. The posted speed limit is 25 mph. The City of Berkeley Vision Zero Plan and 2020 Pedestrian Plan identifies Hearst Street as a High-Injury Street east of Sacramento Street.

## b. Existing Transit Access and Circulation

Transit service providers in the vicinity include the Bay Area Rapid Transit (BART) which provides regional rail service, Alameda-Contra Costa Transit District (AC Transit) which provides local and Transbay bus service with connections to the Transbay Terminal in San Francisco, and various shuttle services. Figure 4.11-1 and Figure 4.11-2 show the existing transit services serving the project sites. The transit service information presented below generally summarizes conditions that existed at the time of the Notice of Preparation for this EIR and after service was modified in response to the COVID-19 pandemic.

### **BART**

The Bay Area Rapid Transit service, or BART, provides regional commuter rail service between San Francisco/South Bay and the East Bay (Antioch, Richmond, Dublin/Pleasanton, and Berryessa /North San Jose), as well as between San Francisco and San Mateo County (SFO Airport and Millbrae). Within Berkeley, BART operates underground along Martin Luther King Jr. Way, Adeline Street, and Shattuck Avenue before turning west underneath Hearst Avenue. The Ashby BART and North Berkeley BART stations are served by the Richmond-Berryessa/North San José train from 5:00 AM to midnight on weekdays, from 6:00 AM to midnight on Saturdays, and from 8:00 AM to 9:00 PM on Sundays<sup>3</sup>. The Ashby and North Berkeley BART stations are served by about 16 trains per hour during the weekday peak commute periods.

According to 2019 weekday ridership data provided by BART, the peak hour of station usage (total entries and exits) occurred between 8 and 9 AM and coincided with the peak hour of station entries for both stations. The peak hour of station exits occurred between 5 and 6 PM at North Berkeley BART and between 6 and 7 PM at Ashby BART. On average in 2019, there were around 5,100 station entries at Ashby and 4,150 station entries at North Berkeley over the course of a single day. At Ashby, approximately 22 percent (1,140 riders) entered during the weekday AM peak hour and 18 percent (860 riders) exited during the weekday PM peak hour. At North Berkeley, approximately 22 percent (920 riders) entered during the weekday AM peak hour and 18 percent (770 riders) exited during the weekday PM peak hour.

### **AC Transit**

AC Transit is the primary bus service provider in 13 cities and adjacent unincorporated areas in Alameda and Contra Costa Counties, with Transbay service to destinations in San Francisco, San Mateo, and Santa Clara Counties.

AC Transit service in the project area is described in Table 4.11-1. There are six lines operating in or near the Ashby BART station site, including two local lines (12 and 18), one transbay route (F), one all-nighter route (line 800), and one school route (688). There are six lines operating in or near the North Berkeley BART station site, including two local lines (51B and 52), one transbay route (J), one all-nighter (800), and two school routes (604 and 688).

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<sup>3</sup> BART station schedules reflect service as of August 2, 2021.

**Figure 4.11-1 Existing Transit Service – Ashby BART Station**

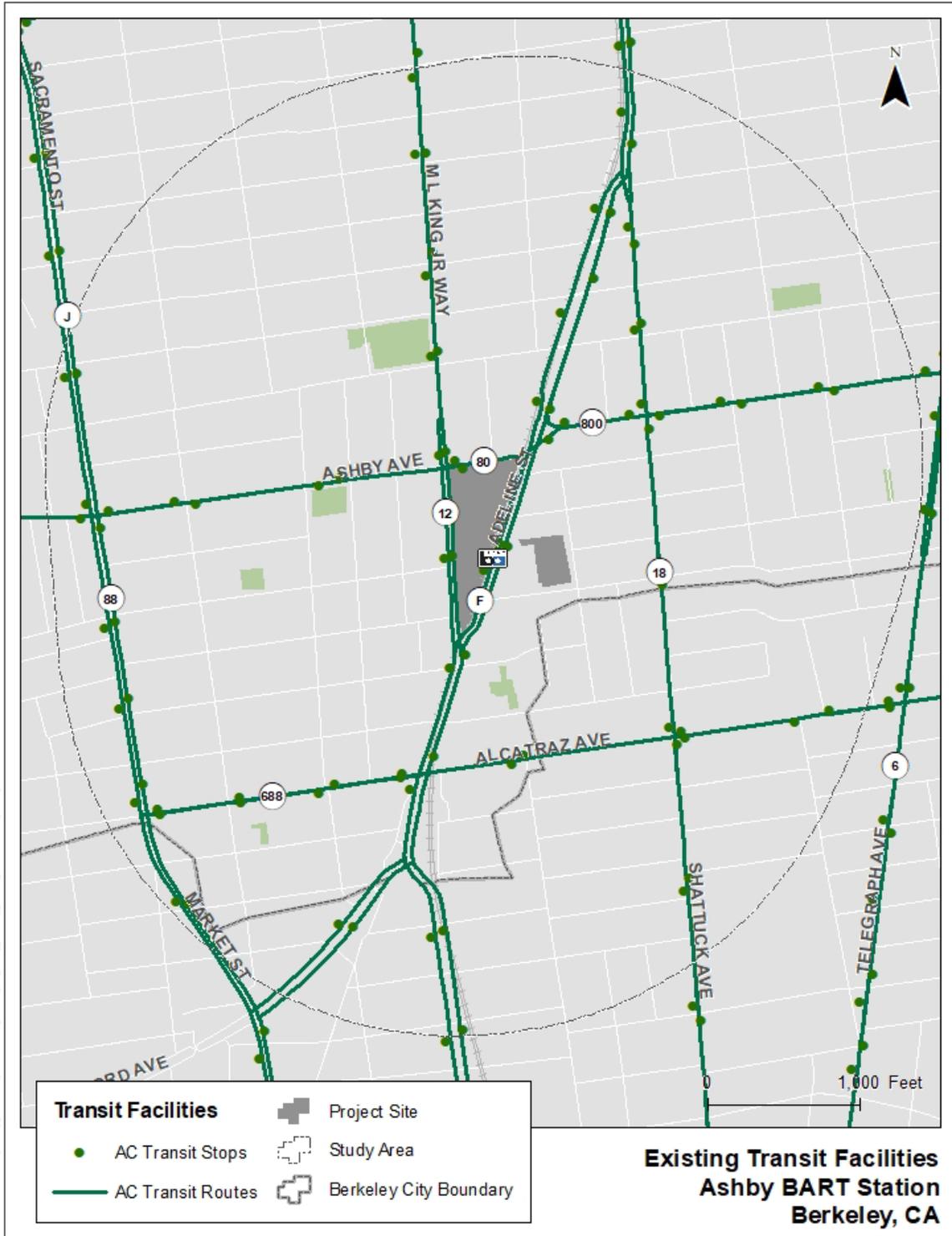
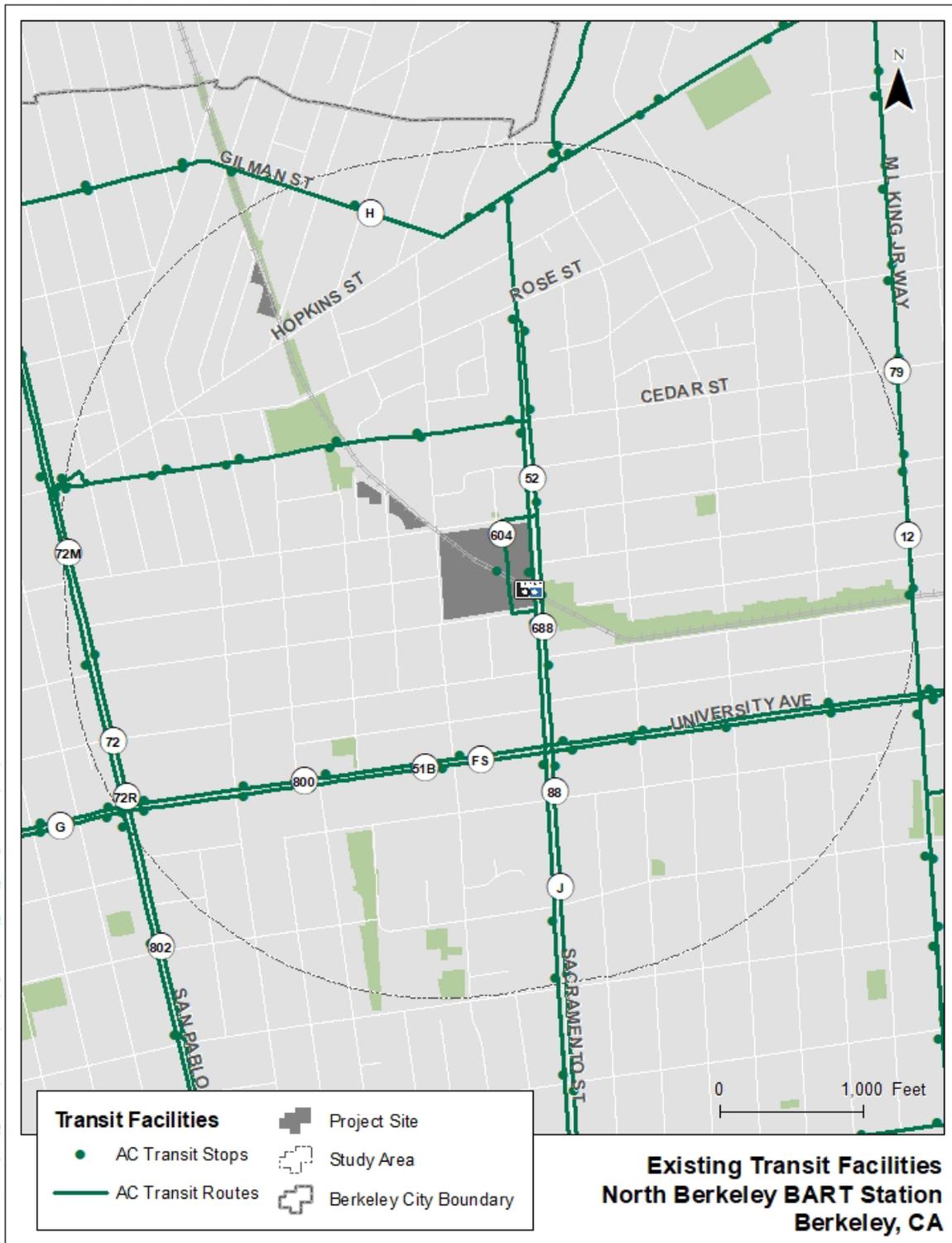


Figure 4.11-2 Existing Transit Service – North Berkeley BART Station



K:\3142487 - Berkeley Ashby - N Berkeley BART Zoning\GIS\MapX\_NorthBerkeley\_Erasing\_Trasit\_210507.mxd - gandy - 1:232 P.M. 5/10/2017



Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

**Table 4.11-1 AC Transit Service in Ashby BART and North Berkeley BART Study Areas**

| Route #                            | Service Description   | Stops Serving Plan Area   | Hour of Service  | Frequency |          |
|------------------------------------|---|---|--|-----------|----------|
|                                    |   |   |  | Peak      | Off Peak |
| <b>Ashby BART Station</b>          |   |   |  |           |          |
| 12                                 | Northwest Berkeley to Oakland Jack London Sq. via Gilman St., Monterey Av., MLK Jr. Way, 55th St., Temescal District, Pleasant Valley Av., Piedmont Av. Grand Av., and Broadway                                       | MLK Jr. Way at Ashby BART, and Adeline St. at Alcatraz Av.  | Monday- Sunday: 6:00 AM to midnight                          | 20 min    | 30 min   |
| 18                                 | University Village, Albany, to Lake Merritt BART via Solano Av., Shattuck Av., MLK Jr. Way, downtown Oakland.   | Shattuck Av. at Dwight Way, Parker St. Derby St., Stuart St., Russell St, and Ashby Av.                                     | Weekdays: 5:15 AM to 12:50 AM; Weekends: 6:00 AM to 12:50 AM | 15 min    | 20 min   |
| 80                                 | El Cerrito BART Station to Claremont Hotel via Central Av., Pierce St., University Village, 6th St., 7th St., and Ashby Av.   | Ashby Av. at MLK Jr. Way, Adeline St., and Shattuck Av.   | Monday- Sunday: 6:00 AM to 10:35 PM                          | 20 min    | 20 min   |
| 688 <sup>1</sup>                   | Supplementary Route - Grand Av. & MacArthur Blvd., Oakland, to Monterey Av. & Hopkins Av. via MacArthur Blvd., Park Blvd., Mountain Blvd., Broadway Terrace, Broadway, College Av., Alcatraz Av., and Sacramento St.  | Alcatraz Av. at Adeline St.   | Weekdays: 6:45 AM to 7:30 AM and 3:45 PM to 4:30 PM          | -         | -        |
| 800 <sup>2</sup>                   | All Nighter Route - Richmond BART to San Francisco, via San Pablo Av., University Av., Telegraph Av. and downtown Oakland   | Shattuck Ave at Dwight Way, Parker St., and Derby St., Adeline St. at Ward St. and Oregon St., and Ashby Av. at Adeline St. | Weekdays: 12:15 AM to 6:30 AM; Weekends: 11:40 PM to 8:20 AM | 30 min    | 60 min   |
| F                                  | Transbay Route - UC Campus to San Francisco via Shattuck Av., Adeline St. 40th St., and Emeryville  | Shattuck Ave at Dwight Way and Parker St., Adeline St. at Oregon St., Ashby Av., Ashby BART, and Alcatraz Av.               | Weekdays: 5:10 AM to 1:30 AM; Weekends: 5:00 AM to 12:45 AM  | 30 min    | 30 min   |
| <b>North Berkeley BART Station</b> |   |   |  |           |          |
| 51B                                | Rockridge BART to Berkeley Amtrak and Berkeley Marina, via College Av., Bancroft Way / Durant Av., Shattuck St., Downtown Berkeley, and University Av.  | University Av. at Sacramento St. and Acton St.  | Monday-Sunday: 5:00 AM to 12:15 AM                           | 15 min    | 15 min   |
| 52                                 | University Village to UC Berkeley Campus, via University Village, Cedar St., Sacramento St., and University Av., looping the UC campus via Hearst Av., Gayley St., Bancroft Way, and Shattuck Av. (Downtown Berkeley) | Cedar St. and Sacramento St; Sacramento St. and Delaware St. (North Berkeley BART), and University Av.                      | Monday-Sunday: 8:15 AM to 8:30 PM                            | 20 min    | 20 min   |

| Route #          | Service Description  | Stops Serving Plan Area   | Hour of Service  | Frequency |          |
|------------------|--|---|--|-----------|----------|
|                  |  |   |  | Peak      | Off Peak |
| 604              | North Berkeley BART to Oakland Hebrew Day School, Head Royce High School and Bentley School via University Av., Southside Berkeley, College Av. and Ashby Av.  | North Berkeley BART; Sacramento St. and University Av.  | Monday, Tuesday, Thursday, and Friday: 8:05 AM to 8:45 AM and 3:30 PM to 4:15 PM | -         | -        |
| 688 <sup>1</sup> | Supplementary Route - Grand Av. & MacArthur Blvd., Oakland, to Monterey Av. & Hopkins Av. via MacArthur Blvd., Park Blvd., Mountain Blvd., Broadway Terrace, Broadway, College Av., Alcatraz Av., and Sacramento St. | Alcatraz Av. at Adeline St.   | Weekdays: 6:45 AM to 7:30 AM and 3:45 PM to 4:30 PM                              | -         | -        |
| 800              | All Nighter Route - Richmond BART to San Francisco, via San Pablo Av., University Av., Telegraph Av. and downtown Oakland.   | Shattuck Av. at Dwight Way, Parker St., and Derby St., Adeline St. at Ward St. and Oregon St., and Ashby Av. at Adeline St. | Weekdays: 12:15 AM to 6:30 AM; Weekends: 11:40 PM to 8:20 AM                     | 30 min    | 60 min   |
| J                | Transbay Route - Richmond BART to San Francisco, via Sacramento St. and University Av., Berkeley to Salesforce Transit Center, San Francisco via Sacramento St., Ashby Av. and Christie St.                          | Sacramento St. and University Av.   | Weekdays: 7:00 AM to 9:00 AM and 5:00 PM to 7:00 PM                              | 60 min    | 60 min   |

Note: Service routes and times listed are reflective of pre-COVID19 pandemic conditions.

<sup>1</sup> Transit information reflects conditions from March 31, 2020

<sup>2</sup> Transit information reflects conditions from August 9, 2020

Source: Kittelson & Associates, Inc., based on AC Transit website, accessed February 16, 2021.

## Shuttle Services

### Ashby BART Station Site

The following shuttle services operate in or near the Ashby BART station site:

- The Alta Bates Summit Medical Center Herrick Campus, located on Dwight Way west of Shattuck Avenue, operates a free shuttle for medical center staff, patients, and visitors between the Herrick Campus, Milvia parking lot, and the Ashby BART Station on weekdays from 9:00 AM to 2:00 AM.
- The West Berkeley Shuttle is a free shuttle funded by employers in West Berkeley and is open to the general public. The shuttle operates between the Ashby BART station and select locations in West Berkeley on weekdays from 5:30 AM to 10:00 AM and from 3:00 PM to 7:20 PM.
- UC Berkeley operates the free Night Safety South Line between UC Berkeley and select locations south of the campus from 7:30 PM to 3:00 AM. Nearest stop to the Ashby BART station is on Dwight Way at Fulton Street. The service is open to the general public.

### *North Berkeley BART Station Site*

The following shuttle services operate in or near the North Berkeley BART station site:

- The Golden Gate Fields Shuttle operates from the North Berkeley BART station to Golden Gate Fields. The shuttle operates every 30 minutes between 10:40AM to 1:50PM and 2:30PM to 5:00PM on weekdays, and every 20 minutes from 10:40AM to 5:50PM on the weekends.

### **c. Existing Pedestrian Conditions**

The following sections describe existing pedestrian conditions at the Ashby and North Berkeley BART stations. The presence and quality of existing pedestrian facilities, including sidewalks, crosswalks, curb ramps, and pedestrian signals, is described along with a discussion of general impediments to people walking.

#### *Ashby BART Station Site*

All streets in the project area provide sidewalks on both sides of all streets and ADA-compliant curb ramps at marked crosswalks. Sidewalks in the vicinity of the Ashby BART station are generally continuous, in good condition, and do not present obstacles to pedestrians of all abilities. Some sidewalk segments along Adeline Street are separated from vehicle travel lanes by a local drive aisle and parking lane, such as the segment between Alcatraz Avenue and MLK Jr. Way.

There are several marked crosswalks on Adeline Street and MLK Jr. Way to connect pedestrians to the Ashby BART station. Striped crosswalks and pedestrian countdown heads are located at three signalized intersections: MLK Jr. Way and Ashby Avenue, Adeline Street and Ashby Avenue, and MLK Jr. Way and Adeline Street. Striped crosswalks at unsignalized intersections are located along Adeline Street at Woolsey Street and Essex Street and along MLK Jr. Way at the Ashby station driveway. There are two rectangular rapid flash beacons (RRFBs) at crosswalks adjacent the BART station: one on MLK Jr. Way at Prince Street and one on Adeline Street at Ed Roberts Campus.

According to BART's station profile studies, in 2015, approximately 59 percent of home origin passengers accessed the station on foot and 62 percent of passengers with a non-home origin walked to the station. This walk mode share results in approximately 3,060 daily station entries on foot, including about 820 during the AM peak hour and 650 during the PM peak hour. There are approximately 3,000 daily station exits on foot, including about 130 during the AM peak hour and 530 during the PM peak hour.

According to the 2020 Pedestrian Plan, several of the top 20 highest intersections for weekly estimated pedestrian demand are located within the study area, including:

- Adeline Street and Woolsey Street (ranked #5)
- Adeline Street and Essex Street (ranked #6)
- Woolsey Street and MLK Jr. Way (ranked #7)
- Emerson Street and Adeline Street (ranked #8)
- Prince Street and MLK Jr. Way (ranked #10)

General impediments to people walking within the Ashby BART station site study area include:

- Vehicle volumes and speeds along MLK Jr. Way, Ashby Avenue, and Adeline Street

- Long crossing distances of up to 150 feet across Adeline Street
- Lack of marked crosswalks at several intersections and across some sides of intersections:
  - Ashby Avenue and Otis Street
  - MLK Jr. Way and BART station entrance, north side of MLK Jr. Way
  - MLK Jr. Way and Prince Street, south side of MLK Jr. Way
  - MLK Jr. Way and Woolsey Street
  - Adeline Street and Woolsey Street, north side of Adeline Street
  - Adeline Street and Essex Street, north side of Adeline Street
  - Adeline Street and Emerson Street
- Channelized and uncontrolled right-turn lanes at the following locations:
  - Adeline Street and Ashby Avenue, eastbound and westbound
  - Adeline Street and MLK Jr. Way, southbound

The BART station is surrounded by the following high injury streets, including three of the ten priority high injury streets, identified in the 2020 Pedestrian Plan:

- Adeline Street, from Shattuck Avenue to Southern City Limits
  - High Priority Segment: Ashby Avenue to Southern City Limits
- MLK Jr. Way, from Berryman to Southern City Limits
  - High Priority Segment: Dwight Way to Adeline Street
- Ashby Avenue, from Bay Street to Eastern City Limits
  - High Priority Segment: San Pablo Avenue to Shattuck Avenue
- Alcatraz Avenue, from Sacramento Street to Adeline Street
- Shattuck Avenue from Rose Street to Southern City Limits

#### *North Berkeley BART Station Site*

All streets in the project area provide sidewalks on both sides and ADA-compliant curb ramps are provided at all marked crosswalks. Sidewalks in the vicinity of the North Berkeley BART station are generally continuous and in good condition.

There are several marked crosswalks on the streets surrounding the North Berkeley BART station. High visibility crosswalks and pedestrian countdown heads are located at the signalized intersection of Sacramento Street and Delaware Street. High visibility crosswalks are also provided across Sacramento Street at the unsignalized intersection with Virginia Street and high visibility markings, advance yield markings, and pedestrian crossing signs are provided at Sacramento Street and Francisco Street. Marked crossings are also provided at the unsignalized intersections of Virginia Street and Acton Street, Delaware Street and Acton Street, across Delaware at the BART station driveway, and across Virginia Street at the BART station driveway/Short Street. The Ohlone Greenway connects at the northeast corner and southwest corner of the North Berkeley BART station.

According to BART's station profile studies, in 2015, approximately 46 percent of home-origin passengers accessed the station on foot and 57 percent of passengers with a non-home origin walked to the station. This walk mode share results in approximately 2,040 daily station entries on foot, including about 520 during the AM peak hour and 500 during the PM peak hour. There are approximately 2,050 daily station exits on foot, including about 75 during the AM peak hour and 375 during the PM peak hour.

According to the 2020 Pedestrian Plan, several of the top 20 highest intersections for weekly estimated pedestrian demand are located within the study area, including:

- Sacramento Street and Delaware Street (ranked #12)
- Short Street and Delaware Street (ranked #13)
- Delaware Street and Acton Street (ranked #14)
- Sacramento Street and Francisco Street (ranked #16)
- Francisco Street and Acton Street (ranked #17)
- Virginia Street and Sacramento Street (ranked #18)
- Short Street and Virginia Street (ranked #19)
- Acton Street and Virginia Street (ranked #20)

General impediments to people walking within the North Berkeley BART station site study area include:

- Vehicle volumes and speeds along Sacramento Street
- Long crossing distances of up to 100 feet across Sacramento Street
- Lack of marked crosswalks at several intersections and across some sides of intersections<sup>4</sup>:
  - Virginia Street and West Drive BART station entrance
  - Virginia Street and East Drive BART station entrance, east side of Virginia Street
  - Delaware Street and East Drive BART station entrance
  - Delaware Street and West Drive BART station entrance, west side of Delaware Street
  - Sacramento Street and Francisco Street, south side of Sacramento Street

The BART station is surrounded by the following high injury streets identified in the 2020 Pedestrian Plan:

- Sacramento Street, from Hopkins Street to Southern City Limits
- Cedar Street, from Eastern Frontage Road to Shattuck Avenue
- University Avenue, from West Frontage Road to Oxford Street
- Hearst Avenue, from Sacramento Street to Arch Street
- California Street, from Hearst Avenue to Dwight Way

#### **d. Existing Bicycle Conditions**

Based on the *City of Berkeley Bicycle Plan* (City of Berkeley 2017), bicycle facilities are classified into several types, including:

- Class I Multi-Use Paths – provide a completely separated, exclusive right-of-way for bicycling, walking, and other non-motorized uses.
- Class II Bicycle Lanes – are striped, preferential lanes for one-way bicycle travel on roadways. Some Class II bicycle lanes include striped buffers that add a few feet of separation between the bicycle lane and traffic lane or parking aisle.
- Class III Bicycle Routes – are signed bicycle routes where riders share a travel lane with motorists. Bicycle boulevards (Class 3E) are a special type of Class 3 bicycle route

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<sup>4</sup> City of Berkeley Sacramento Complete Streets program will include improvements to pedestrian marked crossings.

where the shared travel way has low motor vehicle volumes and low speed that prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding signage, and traffic control adjustments.

- Class IV Cycletrack – is an on-street bicycle lane that is physically separated from motor vehicle traffic by a vertical element or barrier, such as a curb, bollards, or parking aisle.

#### *Ashby BART Station Site*

Figure 4.11-3 shows the existing bicycle network in the Ashby BART station area. Existing bicycle facilities in the area include:

- Class II Bicycle Lanes along California Street from Russell Street to 62<sup>nd</sup> Street and Adeline Street from Ashby Avenue to Fairview Street.
- Class III Bicycle Routes along Woolsey Street from Shattuck Avenue to Regent Street and Deakin Street from Ashby Avenue to the southern city limits.
  - Class IIIE Bicycle Boulevards also include bicycle boulevards along Milvia Street and King Street.
- Class IV facilities along Adeline Street from Ashby Avenue to Shattuck Street/Ward Street

There are 58 bicycle lockers and 148 bicycle racks available at the Ashby BART station. A self-serve bicycle station with 128 spaces is located just outside of the main entrance on the west side of the station. Bay Wheels bike share program has 23 bikes and docks available at the station, located outside the south entrance adjacent to Adeline Street (Bay Wheels 2021).

According to BART's station profile studies, in 2015, approximately 11 percent of home-origin passengers accessed the station by bike and 13 percent of non-home origin passengers biked to the station. This bike mode share results in approximately 600 daily station entries by bike, including about 160 during the AM peak hour and 130 during the PM peak hour. There are approximately 600 daily station exits on bike, including about 30 during the AM peak hour and 100 during the PM peak hour.

General impediments to people biking within the Ashby BART station site study area include:

- Vehicle volumes and speeds along MLK Jr. Way, Ashby Avenue, and Adeline Street
- Lack of protected or separated facilities
- Presence of the following high stress<sup>5</sup> street segments and intersections/crossings identified in the Bicycle Plan:
  - Adeline Street and MLK Jr. Way (“Level of Stress” or LTS 4)
  - Adeline Street and Ashby Avenue (LTS 4)
  - Adeline Street and Russell Street (LTS 4)
  - MLK Jr. Way and Russell Street (LTS 3)

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<sup>5</sup> Traffic stress is the perceived sense of danger associated with riding in or adjacent to vehicle traffic. Studies have shown that traffic stress is one of the greatest deterrents to bicycling. The less stressful (and more comfortable) a bicycle facility is, the greater its appeal to a larger segment of the population. The Berkeley Bicycle Plan uses available data – such as number of travel lanes, presence of vehicle parking, presence and type of bicycle facility, number of turn lanes at intersections, and vehicle speeds – to classify street segments and intersections into one of four level of traffic stress scores that can be used as a proxy to represent the top travel tolerance of different types of people riding bicycles are willing to use. LTS 1 is assigned to roads and intersections that would be suitable for all people to ride and LTS 4 represents facilities that only the strong and fearless riders would tolerate. LTS 3 and LTS 4 segments are considered high stress facilities.

- Shattuck Avenue and Russell Street (LTS 3)
- Adeline Street, from MLK Jr. Way to Ashby Avenue (LTS 3)

As documented in the City of Berkeley Vision Zero Action Plan, the Ashby BART station is surrounded by the following Vision Zero High Injury Streets:

- Adeline Street, from Shattuck Avenue to Southern City Limits
- MLK Jr. Way, from Rose Street to Southern City Limits
- Ashby Avenue, from 7th Street to College Avenue
- Alcatraz Avenue, from Sacramento Street to Adeline Street
- Shattuck Avenue-Sutter Street, from Marin Avenue to Southern City Limits
- Milvia Street, from University Avenue to Adeline Street

#### *North Berkeley BART Station Site*

Figure 4.11-4 shows the existing bicycle network in the North Berkeley BART station area. Existing bicycle facilities in the area include:

- Class I Multi-Use Path along the Ohlone Greenway and West Street.
- Class II Bicycle Lanes along Delaware Street, Hearst Street (west of Shattuck Avenue), and California Street.
- Class III Bicycle Routes along Acton Street from Hopkins Street to Delaware Street and Chestnut Street from Delaware Street to University Avenue.
  - Class IIIE Bicycle Boulevards along Virginia Street and California Street.
- Class IV Cycletrack along Hearst Street east of Shattuck Avenue

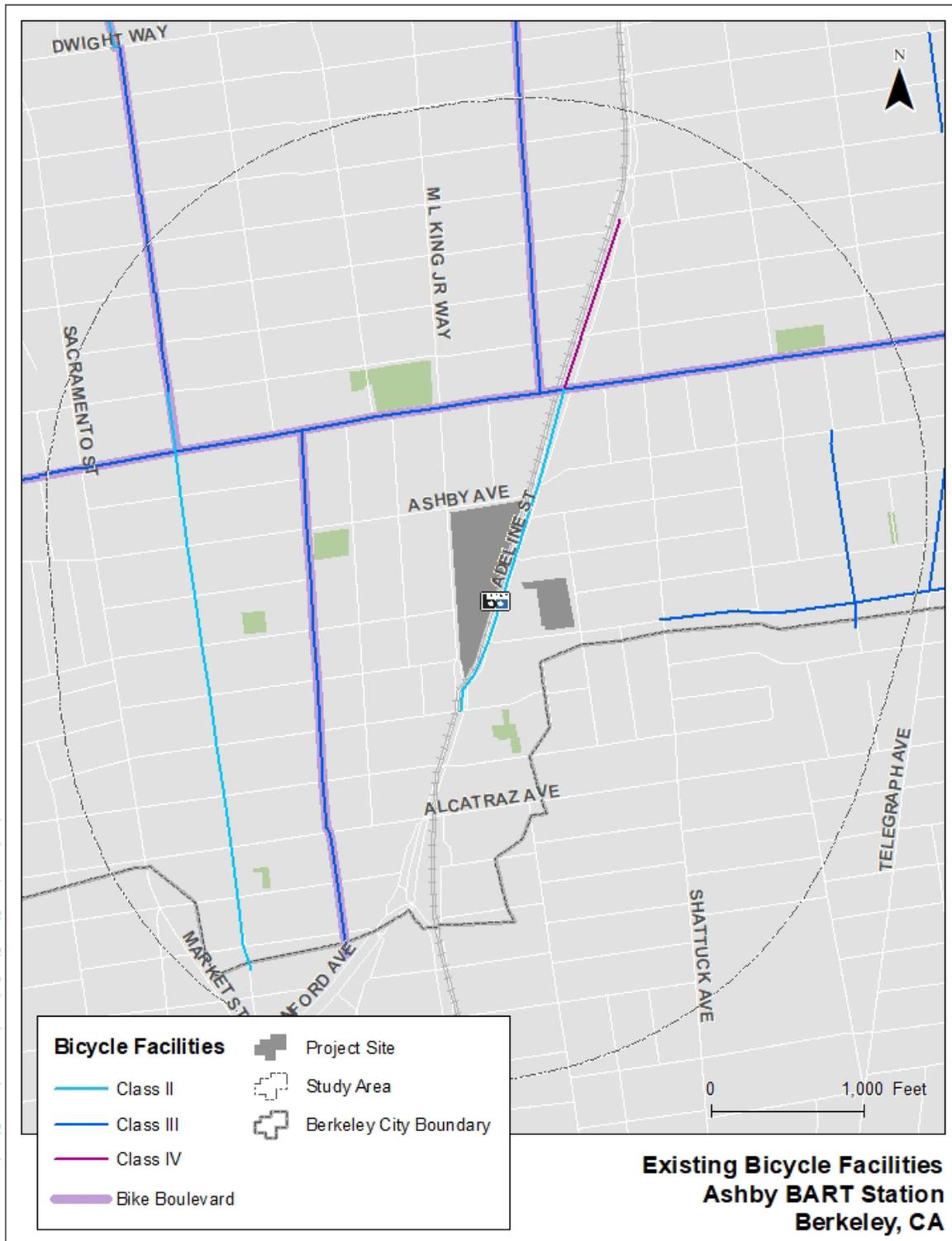
There are currently 96 bicycle lockers and 230 bicycle parking spaces provided in racks at the North Berkeley BART station. As part of the North Berkeley Bicycle and Pedestrian Access Project that will be complete in 2022, BART will be adding 122 secure bicycle parking spaces, with some of them large enough to accommodate cargo bikes. Bay Wheels bike share program has up to 27 bikes and docks available at the station, located outside the east entrance.

According to BART's station profile studies, in 2015, approximately 12 percent of home-origin passengers accessed the station by bike and 14 percent of non-home origin passengers biked to the station. This bike mode share results in approximately 520 daily station entries by bike, including about 130 during the AM peak hour and 130 during the PM peak hour. There are approximately 550 daily station exits on bike, including about 20 during the AM peak hour and 100 during the PM peak hour.

General impediments to people biking within the North Berkeley BART station site study area include:

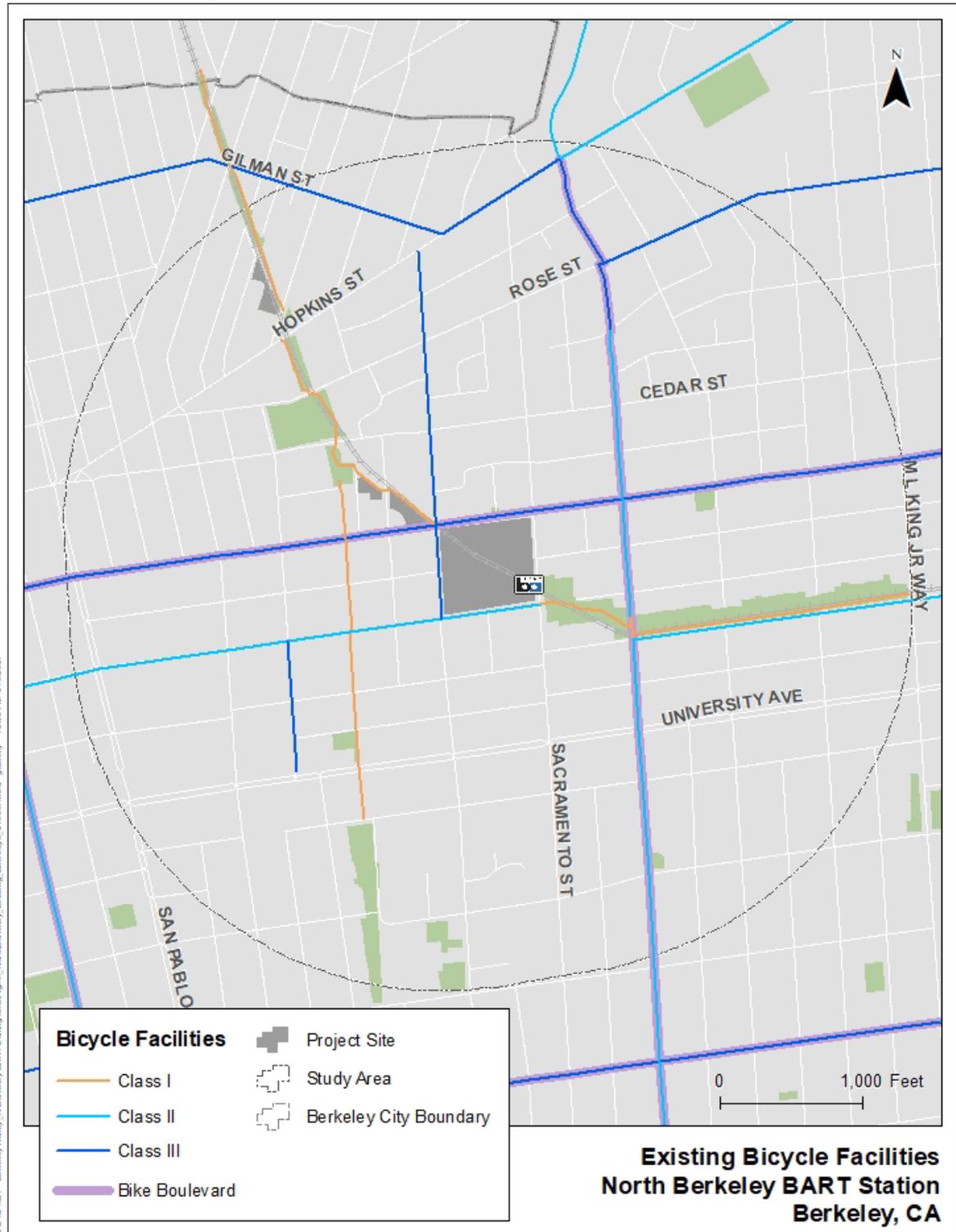
- Vehicle volumes and speeds along Sacramento Street
- Lack of protected or separated facilities
- Presence of the following high stress street segments and intersections/crossings identified in the Bicycle Plan:
  - Sacramento Street and Virginia Street (LTS 4)
  - Delaware Street, from 9th Street to Sacramento Street (LTS 3)

Figure 4.11-3 Existing Bicycle Facilities – Ashby BART Station Site



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Figure 4.11-4 Existing Bicycle Facilities – North Berkeley BART Station Site



Additionally, as documented in the City of Berkeley Vision Zero Action Plan, the BART station is surrounded by the following Vision Zero High Injury Streets:

- Sacramento Street, from Hopkins Street to Alcatraz Avenue
- Cedar Street, from 6th Street to Shattuck Avenue
- University Avenue, from West Frontage Road to Shattuck Avenue
- Hearst Avenue, from Sacramento Street to Euclid Avenue
- California Street, from University Avenue to Dwight Way

#### **e. Emergency Access Conditions**

##### **Ashby BART Station Site**

Berkeley Fire Station No. 5 is 0.6 miles north of the Ashby BART station site. Alta Bates Medical Center has two campuses within a mile of the BART station: one campus 0.9 miles north of the BART station on Dwight Way and another campus 0.9 miles east on Ashby Avenue.

Emergency vehicle access to the site is currently provided by station entrances on MLK Jr. Way. All streets providing direct access to the site are wide enough to provide adequate access for emergency vehicles.

##### **North Berkeley BART Station Site**

There are two fire stations in the vicinity of the North Berkeley BART station site. Berkeley Fire Station No. 6 is approximately 0.8 miles west of the BART station on Cedar Street and Berkeley Fire Station No. 2 is approximately 0.9 miles east of the BART station on Berkeley Way. Alta Bates Medical Center is approximately 1.5 miles southeast of the North Berkeley BART station, located on Dwight Way.

Emergency vehicle access to the project site is currently provided by station entrances on Virginia Street, Acton Street, and Delaware Street. All streets providing direct access to the site are wide enough to provide adequate access for emergency vehicles.

### **4.11.2 Regulatory Setting**

This section summarizes applicable local and municipal plans and regulations that apply to the proposed project. This information provides a context for the impact discussion related to the proposed project's consistency with applicable policies, plans, laws, and regulations.

#### **a. State**

This section summarizes applicable State laws and policies guiding transportation planning in Berkeley.

##### **California Senate Bill 743**

On September 27, 2013, California Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process that changed the way transportation impact analyses are conducted as part of CEQA compliance. These changes included elimination of automobile delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA.

Previous rules treated automobile delay and congestion as an environmental impact. SB 743 requires the CEQA Guidelines to prescribe an analysis that better accounts for transit and reducing greenhouse gas emissions. In November 2017, Office of Planning and Research (OPR) released the final update to CEQA Guidelines consistent with SB 743, which recommends using vehicle miles traveled (VMT) as the most appropriate metric of transportation impact to align local environmental review under CEQA with California's long-term greenhouse gas emissions reduction goals. The Guidelines require all jurisdictions in California to use VMT-based thresholds of significance as of July 2020.

Senate Bill 743 amended CEQA by adding California Public Resources Code (PRC) section 21099 regarding the analysis of parking impacts for certain urban infill projects in transit priority areas.<sup>6</sup> PRC section 21099(d), effective January 1, 2014, provides that "... parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." Accordingly, parking is no longer considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three criteria established in the statute.

### **California Department of Transportation**

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS). Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the SHS would need to be approved by Caltrans. Caltrans' facilities within the study area include State Route 13 (Ashby Avenue).

On May 20, 2020, Caltrans adopted the Transportation Impact Study Guide (TISG) to provide updated guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants based on changes to Caltrans' review process for transportation analysis of land use projects and plans under the updated CEQA Guidelines. This guidance is not binding and is intended to be used as a reference and informational document. It may be updated based on need or in response to updates of the OPR's Technical Advisory. The TISG replaces the Caltrans 2002 Guide for the Preparation of Traffic Impact Studies and does not apply to transportation projects on the SHS. The TISG does not prescribe VMT calculation methodologies, metrics, or significance criteria but provides guidance based primarily on the OPR Technical Advisory.

### **California Assembly Bill 2923**

AB 2923, enacted in 2018, requires the adoption of transit-oriented development zoning standards establishing specific local zoning requirements for height, density, parking, and floor area ratio for BART-owned properties within ½-mile of station entrances in Alameda, Contra Costa and San Francisco counties. If local standards are not adopted State/BART standards will apply.

Pursuant to AB 2923, zoning standards for the Ashby and North Berkley BART stations must allow the following development intensity:

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<sup>6</sup> A "transit priority area" is defined as an area within 0.5 mile of an existing or planned major transit stop. A "major transit stop" is defined in California Public Resources Code section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

- Density of 75 units per acre (or higher)
- Height of 7 stories (or higher)
- Floor Area Ratio (FAR) of 4.2 (or higher)

In addition, the following parking standards apply:

- No minimum vehicle parking space requirement
- A maximum of 0.5 vehicle parking spaces per residential unit and 1.6 vehicle parking spaces per 1,000 square feet of office space;
- A minimum of one secure bicycle parking space per unit; and
- Shared or unbundled vehicle parking must be permitted.

## **b. Regional**

This section summarizes applicable regional plans and programs guiding transportation planning in Berkeley.

### **Plan Bay Area 2040**

Plan Bay Area is the Bay Area's Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). Plan Bay Area recommends reducing drive alone and auto mode share and reducing VMT per capita and per employee by promoting transit-oriented development, transit improvements, and active transportation modes such as walking and bicycling. These strategies seek to improve mobility in the region and reduce regional and statewide GHG emissions.

### **Alameda County Transportation Commission**

The Alameda County Transportation Commission (Alameda CTC) coordinates transportation planning efforts throughout Alameda County and programs federal, state, regional, and local funding for project planning and implementation. Through its Congestion Management Program (CMP), Alameda CTC oversees and monitors the operations and performance of roadways in the CMP network, which consist of freeways and major arterials that provide connectivity in the County. Long range planning is outlined in the Alameda Countywide Transportation Plan (CWTP), and includes the following goals for transportation systems:

- Accessible, affordable, and equitable for people of all ages, incomes, abilities, and geographies.
- Safe, healthy, and sustainable multimodal facilities to reduce reliance on single-occupancy vehicles and minimize impacts of pollutants and greenhouse gas emissions.
- High quality and modern infrastructure.
- Economic vitality to support the growth of local communities through sustainable transit-oriented development.

The Alameda County Congestion Management Program (CMP) describes the strategies to assess, monitor and improve the performance of the county's multimodal transportation system, address congestion and ultimately protect the environment with strategies to help reduce greenhouse gas emissions. The CMP is updated every two years and sets guidelines on level of service standards, multimodal performance, travel demand management, land use analysis, and capital improvements.

### **c. Bay Area Rapid Transit (BART)**

BART provides regional access throughout the Bay Area. Within the development areas, BART provides access to residents, businesses, and visitors. This section summarizes applicable BART policies and guidelines that guide site design and development at the stations.

#### **BART Station Access Policy**

BART adopted the BART Station Access Policy in June 2016. This policy is designed to support the broader livability goals of the Bay Area, reinforce sustainable communities, and enable riders to get to and from stations safely, comfortably, affordably, and cost-effectively. It includes an Access Hierarchy and a Station Access Investment Framework, both of which prioritize the active modes (walking, then biking) over high-occupancy vehicle (HOV) modes (buses, shuttles) over single-occupancy vehicle (SOV) modes (driving/parking, drop-offs).

#### **BART Station Access Performance Targets**

Following the Access Policy adoption, the BART Board adopted performance targets in December 2016 to help evaluate how BART is doing in implementing the Station Access Policy. A key Performance Measure is the home-based access mode share target, which seeks to increase active access (access by walking and bicycling) from 44% to 52% by 2025.

#### **BART Transit Oriented Development Policy**

BART adopted the BART Transit Oriented Development (TOD) Policy in June 2016 and the policy was most recently amended in April 2020. This policy provides goals to support complete communities, advance regional plans to reduce greenhouse gas emissions, increase ridership where and when BART has capacity, capture value for BART and other public services, provide sustainable transportation choices and provide affordable housing.

#### **BART Transit Oriented Development Performance Targets**

Following the Transit Oriented Development (TOD) Policy adoption, the BART Board adopted TOD performance targets in December 2016 to help evaluate how BART is doing in implementing the TOD Policy. Key performance measures include producing 20,000 homes – 35% of which would be affordable – by 2040.

#### **BART Multimodal Access Design Guidelines (MADG)**

BART's Multimodal Access Design Guidelines published in August 2017, recommends standards for planning for pedestrian, bicycle, transit, and vehicle access within BART's station areas. The MADG applies to the area from the station faregate to the edge of BART's property and applies to connecting intersection. The MADG focuses on design elements that create a safe and comfortable experience for station area users, prioritizing human activity.

#### **BART Station Experience Design Guidelines (SEDG)**

The Station Experience Design Guidelines is intended to articulate BART's aspirations for improving customers' experience of riding BART. The document provides direction on expectations for essential functions and elements that must be maintained when stations are modified or new elements are introduced.

## **BART Transit-Oriented Development (TOD) Guidelines**

BART developed guidelines for planning and development around BART stations in May 2017. These guidelines refer to several policies and principles, including BART's Transit-Oriented Development (TOD) Policy. They are intended to clearly articulate BART's process for development and expectations for station area planning to achieve the TOD targets and implement the TOD policy.

## **BART Transportation Demand Management (TDM) Program**

In September 2018, AB 2923 was enacted and mandates that BART use Transportation Demand Management (TDM) requirements to minimize traffic generated from developments on its property. In August 2020, the BART Board adopted TDM requirements to reduce drive-alone trips from TOD projects in favor of walking, bicycling, transit, and/or carpooling/vanpooling. In March 2021 BART released a TDM requirements for TOD on BART property and provides a TDM Program Toolkit for implementation of requirements (BART 2021). As mandated by this program, any future development must include aggressive and innovative Transportation Demand Management strategies to reduce the vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions by residents, visitors, and employees by 20 percent.

### **d. City of Berkeley**

This section summarizes applicable City of Berkeley plans and policies guiding transportation planning in the city.

#### **City of Berkeley General Plan**

The Transportation Element of the Berkeley General Plan (2001) contains the following policies and actions applicable to the proposed project:

**Policy T-4: Transit First Policy.** Give priority to alternative transportation and transit over single-occupant vehicles on Transit Routes identified on the Transit Network map.

**Policy T-10: Trip Reduction.** To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips.

**Policy T-12: Education and Enforcement.** Support, and when possible require, education and enforcement programs to encourage carpooling and alternatives to single-occupant automobile use, reduce speeding, and increase pedestrian, bicyclist, and automobile safety.

**Policy T-14: Private Employers.** Encourage private employers to reduce the demand for automobile travel through transportation demand management programs.

**Policy T-16: Access by Proximity.** Improve access by increasing proximity of residents to services, goods, and employment centers.

**Policy T-17: Transportation Planning.** Involve local residents, businesses, and institutions in all stages of transportation planning (Also see Citizen Participation Policies CP-1 through CP-5 and CP-8 through CP-10).

**Policy T-18: Transportation Impact Analysis and Vehicle Miles Traveled<sup>7,8</sup>.** When considering transportation impacts under the California Environmental Quality Act, the City shall consider how a plan or project affects all modes of transportation, including transit riders, bicyclists, pedestrians, and motorists, to determine the transportation impacts of a plan or project. Plans and projects shall be designed to deliver significant benefits to travel by pedestrians, bicycle, or transit, and/or reduced impacts on air quality, greenhouse gas emissions, and safety. For the purposes of CEQA, Vehicle Miles Traveled (VMT) shall be the metric used to analyze the transportation impacts of a plan or project.

**Policy T-19: Air Quality Impacts.** Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile. (Also see Environmental Management Policies EM-18 through EM-22.)

**Policy T-24: Ashby Avenue.** Take actions necessary to reduce congestion, improve pedestrian and bicycle crossings, and improve the quality of life for residents on Ashby Avenue.

**Policy T-29: Infrastructure Improvements.** Facilitate mobility and the flow of traffic on major and collector streets (shown on the Vehicular Circulation Network map at the end of the Element), reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.

**Policy T-31: Residential Parking.** Regulate use of on-street parking in residential areas to minimize parking impacts on neighborhoods (Also see Land Use Policy LU-10).

**Policy T-32: Shared Parking.** Encourage Berkeley businesses and institutions to establish shared parking agreements, which would make the most efficient use of existing and new parking areas. (Also see Economic Development and Employment Policy ED-6.)

**Policy T-33: Disabled Parking and Passenger Zones.** Ensure adequate disabled parking and passenger drop-off zones.

**Policy T-39: High-Tech Parking.** To make the most efficient use of available land, encourage consideration of high-tech computerized parking (e.g., lifts and or "robotics") when replacing existing public parking or when providing off-street parking for multi-family residential projects.

**Policy T-41: Structured Parking.** Encourage consolidation of surface parking lots into structured parking facilities and redevelopment of surface lots with residential or commercial development where allowed by zoning.

**Policy T-43: Bicycle Network.** Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle-parking facilities to promote cycling.

**Policy T-49: Disabled Access.** Improve pedestrian access for the entire disabled community.

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<sup>7</sup> City of Berkeley Guidelines for Development of Traffic Impact Reports, 2014.

[https://www.cityofberkeley.info/uploadedFiles/Public\\_Works/Level\\_3\\_-\\_General/TIRGuidelines\\_v.1\\_09-16-2005.pdf](https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_General/TIRGuidelines_v.1_09-16-2005.pdf).

<sup>8</sup> Amendment to Policy T-18: Level of Service can be found in the City of Berkeley VMT Criteria and Thresholds, June 29, 2020. file:///C:/Users/gcarsky/Downloads/2020-11-17%20Item%2018%20General%20Plan%20Amendment%20%20Vehicle%20Miles.pdf

**Policy T-50: Sidewalks.** Maintain and improve sidewalks in residential and commercial pedestrian areas throughout Berkeley and in the vicinity of public transportation facilities so that they are safe, accessible, clean, attractive, and appropriately lighted.

**Policy T-51: Pedestrian Priority.** When addressing competing demands for sidewalk space, the needs of the pedestrian shall be the highest priority.

**Policy T-52: Pedestrian Safety and Accessibility.** Provide safe and convenient pedestrian crossings throughout the city.

### **City of Berkeley Vision Zero Resolution and Vision Zero Action Plan**

The Berkeley City Council adopted a Vision Zero Policy (Resolution 68,371-N.S.) in March 2018, with a goal of eliminating traffic deaths and severe injuries by 2028. This resolution directed a Vision Zero task force to develop a Vision Zero Action Plan, which was subsequently created and approved by City Council in March 2020. The plan contains the following policies relevant to the proposed project:

**Policy 1.1.** Collaboration with City departments, regional and community partners, and mobility providers to achieve Vision Zero Goals.

**Policy 2.1.** Prioritize high-injury streets and the most vulnerable street users.

**Policy 2.2.** Design for vulnerable users of the transportation network, including people of all ages and abilities.

**Policy 2.3.** Deliver Vision Zero traffic safety infrastructure improvements both reactively and proactively.

**Policy 3.1.** Create a culture of traffic safety by promoting awareness through public information programs and campaigns.

### **City of Berkeley Complete Streets Policy**

The Berkeley City Council adopted a Complete Streets Policy (Resolution 65,978-N.S.) in December 2012, to guide future street design and repair activities. “Complete Streets” describes a comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, emergency vehicles, seniors, children, youth, and families.

### **City of Berkeley Bicycle Plan**

The City of Berkeley Bicycle Plan, approved by Berkeley City Council in May 2017, contains the following policies and actions relevant to the proposed Specific Plan:

**Policy PL-1.** Integrate bicycle network and facility needs into all City planning documents and capital improvement projects

**Policy PL-2.** When considering transportation impacts under the California Environmental Quality Act, the City shall consider how a plan or project affects bicyclists per Berkeley General Plan Policy T-18.

**Policy D-1.** Design a Low Stress Bikeway Network suitable for the “Interested but Concerned,” to include people all ages and ability levels riding bicycles in Berkeley.

## City of Berkeley 2020 Pedestrian Plan

The City of Berkeley 2020 Pedestrian Plan, adopted in January 2021, establishes investment priorities for pedestrian infrastructure improvements by focusing its recommendations and goals on equity and safety. The goals of the Pedestrian Plan include increasing safety and comfort for people walking, increasing equity and transportation choices for all, and improving public health and environmental sustainability.

## Adeline Corridor Specific Plan

The Adeline Corridor Specific Plan (ACSP), adopted in December 2020, sets forth a long-range plan for the Adeline Corridor, a neighborhood in South Berkeley that includes the Ashby BART station. The ACSP recognizes that the Ashby BART station has the potential to become a complete neighborhood center with high-density, transit-oriented housing at a range of affordability levels, with space for community-serving retail, office, and attractive public space for commerce, such as the Berkeley Flea Market and the South Berkeley Farmers Market. The ACSP also envisions improvements to bicycle and pedestrian access, transit connections, and shared mobility technologies that make it easier to access the station without driving.

One goal of the ACSP is to provide safe, equitable transportation options that meet the mobility needs of all residents, regardless of age, means, and abilities, and that further the attainment of the City's greenhouse gas emission reduction goals. The transportation objectives are to:

- Improve street and intersection design to accommodate all modes of transportation
- Construct pedestrian improvements that improve intersection crossing safety
- Provide universal access to improve mobility and safety for persons with disabilities
- Improve transit and transit connections in coordination with BART and AC Transit
- Create new bicycle facilities that are integrated with the citywide bicycle network

The ACSP does not include specific development standards for the Ashby BART station but defers to zoning studies of the proposed project, consistent with specific development and design objectives established for the Ashby BART subarea in the ACSP.

### 4.11.3 Project Trip Generation Estimates

As described in Section 2, *Project Description*, the proposed project involves the adoption of new AB 2923-compliant transit-oriented zoning and development standards, and associated General Plan amendments, for the Ashby and North Berkeley BART station sites. The proposed project does not identify or define a specific development project, but rather consists of land use and policy changes that would guide future development at the sites.

This project would allow for development on the BART station parking lots, thereby removing parking currently used by BART riders. The ultimate decision on BART rider replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART's ongoing access planning efforts.<sup>9</sup> Therefore, for the purposes of CEQA, this analysis assumes no BART rider replacement parking spaces on either BART

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<sup>9</sup> BART is currently conducting the Berkeley-El Cerrito Corridor Access Plan that will determine a BART rider replacement parking range. The future developers of the Ashby and North Berkeley station sites will fund a station-specific access plan that will determine parking replacement numbers. More information about the corridor planning efforts can be found here: [www.bart.gov/beccap](http://www.bart.gov/beccap).

station site; however, it is assumed that 79 spaces in the auxiliary parking lots at the North Berkeley BART station site would remain.

This section describes various characteristics of the proposed project that affect transportation and circulation.

**a. Land Use Program**

As described in Section 2, *Project Description*, the proposed R-BMU district would allow residential and non-residential uses. The future tenants of the potential future non-residential space are uncertain at this time. For purposes of CEQA, in order to provide a reasonable estimate of the travel demand potential associated with the non-residential uses, and to analyze a maximum development program under the TOD zoning to allow for flexibility in selection of future tenants, this EIR’s project trip generation estimates analyze following land use program.

**Table 4.11-2 Proposed Project Land Use Program**

| Land Use (ITE Land Use Code) | Size                       |                                  |
|------------------------------|----------------------------|----------------------------------|
|                              | Ashby BART Station Site    | North Berkeley BART Station Site |
| <b>Residential (220)</b>     | <b>1,200 units</b>         | <b>1,200 units</b>               |
| <b>Non-Residential</b>       | <b>100,000 square feet</b> | <b>25,000 square feet</b>        |
| Health/Fitness Club (492)    | 50,000 square feet         | –                                |
| Small Office Building (712)  | 10,000 square feet         | 5,000 square feet                |
| Convenience Market (851)     | 10,000 square feet         | 5,000 square feet                |
| Composite Restaurant (932)   | 10,000 square feet         | 5,000 square feet                |
| Bagel/Coffee Shop (939)      | 10,000 square feet         | 5,000 square feet                |
| Daycare (565)                | 10,000 square feet         | 5,000 square feet                |

<sup>1</sup> The 50,000 square foot Health/Fitness Club (ITE Code 492) represents the potential Ashby Recreation and Community Housing project of the Bay Area Outreach and Recreation Program and the East Bay Supportive Housing Collaborative. Source: Kittelson & Associates, Inc. 2021; ITE Manual, 10th Edition.

Note: “–” indicates value not applicable.

As shown in the above table, the transportation analysis evaluates the following land use program:

- **Ashby BART Station Site.** The proposed project would allow for development of an estimated up to 1,200 residential dwelling units and up to 100,000 square feet of non-residential space. The proposed project would be required to provide a minimum of one bicycle parking space per unit. The proposed project could allow for a maximum of 0.5 vehicle parking spaces per residential unit and 1.5 vehicle parking spaces per 1,000 square feet of office space. For the purposes of CEQA, this analysis assumes no BART rider replacement parking spaces.<sup>10</sup>
- **North Berkeley BART Station Site.** The proposed project would allow for development of an estimated up to 1,200 residential dwelling units and up to 25,000 square feet of non-residential space. Development under the proposed R-BMU zoning standards would be required to provide a minimum of one bicycle parking space per unit. The proposed project could provide a maximum of 0.5 vehicle parking spaces per residential

<sup>10</sup> The ultimate decision on replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART’s ongoing access planning efforts.

unit and 1.5 vehicle parking spaces per 1,000 square feet of office space. For the purposes of CEQA, this analysis assumes no BART rider replacement parking spaces on either BART station site, though 79 vehicle parking spaces on the auxiliary lots would remain.<sup>11</sup>

## b. Project Travel Demand

Travel demand refers to the process of estimating the number of trips a project would add to the surrounding transportation network. The trip generation estimates were developed using the vehicle trip rates provided in the Institute of Transportation Engineer's (ITE) Trip Generation Manual (10<sup>th</sup> Edition) for the proposed land uses. Adjustments to the ITE trip generation rates were applied using methods consistent with the City of Berkeley's Transportation Impact Report Guidelines (TIR Guidelines). The TIR Guidelines identifies potential trip generation adjustment factors to apply to the ITE trip generation to calculate the number of person trips generated by the project for each mode. Adjustment factors include trip credits for existing uses on the project site, internal trip capture to account for surrounding land use mix, and mode share adjustments to account for available transportation options. These adjustment factors and their application are described in this section. Travel demand estimates are provided in Appendix G.

### Person Trip Generation Estimates

Project person-trips were developed based on the maximum potential development scenario for each site and assumed the allocation of non-residential community uses described in Section 2, *Project Description*. Consistent with the TIR Guidelines, trip generation adjustment factors were applied to the ITE trip generation to convert ITE vehicle-trips to person-trips.

#### *Trip Credits for Existing Uses*

As previously noted, this analysis assumes no BART rider replacement parking spaces on either BART station site.<sup>12</sup> However, 79 vehicle parking spaces in the auxiliary parking lots at the North Berkeley BART station site would remain. Trip credits are typically applied to account for existing land uses that would be replaced by a proposed development. However, for purposes of a more conservative transportation analysis from a travel demand standpoint, trip credits are not applied to account for displacement of vehicles traveling to and from the existing surface parking lot. Because the proposed project would not replace the active land use (e.g., BART station), it is assumed that some of these existing trips would remain and are considered as background trips on the surrounding street network.

According to BART's station profile studies, in 2015, approximately 18 percent of home-based passengers accessed the Ashby BART station by car (drive and park) and four percent of non-home-based passengers drove and parked at the Ashby BART station. Applying this mode share to the 2019 ridership data, this auto mode share results in approximately 690 daily station entries by car, including about 180 during the AM peak hour and 150 during the PM peak hour. This drive and park mode share results in approximately 640 daily station exits by car, including about 30 during the AM peak hour and 110 during the PM peak hour. Approximately 10 percent of home-based passengers were dropped off/picked up and 18 percent of passengers with a non-home origin were dropped off/picked

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<sup>11</sup> The ultimate decision on replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART's ongoing access planning efforts.

<sup>12</sup> The ultimate decision on replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART's ongoing access planning efforts.

up, resulting in approximately 640 passenger drop-offs on a daily basis, including about 170 during the AM peak hour and 140 during the PM peak hour. This mode share results in approximately 600 passenger pick-ups on a daily basis, including about 30 during the AM peak hour and 100 during the PM peak hour.

According to BART's station profile studies, in 2015, approximately 25 percent of home-based passengers accessed the North Berkeley BART station by car (drive and park) and six percent of non-home-based passengers drove and parked at the North Berkeley BART station. Applying this mode share to the 2019 ridership data, this auto mode share results in approximately 820 daily station entries by car, including about 210 during the AM peak hour and 200 during the PM peak hour. This drive and park mode share results in approximately 840 daily station exits by car, including about 30 during the AM peak hour and 150 during the PM peak hour. Approximately 16 percent of home-based passengers were dropped off/picked up and 20 percent of non-home-based passengers were dropped off/picked up, resulting in approximately 710 passenger drop-offs on a daily basis, including about 180 during the AM peak hour and 170 during the PM peak hour. This mode share results in approximately 710 passenger drop-offs on a daily basis, including about 30 during the AM peak hour and 130 during the PM peak hour.

#### *Land Use Mix and Internal Trip Capture*

Internal trip capture is the portion of trips generated by a mixed-use development that both begin and end within the development. These "internal" trips account for a portion of the total development's trip generation without using the external transportation network. As a result, mixed-use development creates less demand on the external transportation network than single-use developments generating the same number of trips.

Given that the proposed project would allow for a mix of different integrated, complementary, and interacting land uses such as residential, retail, restaurant, and daycare uses, the proposed project is anticipated to result in some level of internal trip capture. Therefore, appropriate refinements to the standard travel demand analysis approach were made to account for the project size and land use mix, which would be expected to have more than the typical proportion of project trips internal to the site than would be assumed using ITE rates. To better estimate the trip-making patterns of the potential future development at the project sites, a modified trip generation model specific to each project site was developed. The internal trip capture rates were determined using ITE's Improved Estimation of Internal Trip Capture for Mixed-Use Development and Alternative Approaches to Estimating Internal Traffic Capture of Mixed-Use Projects (ITE Journal 2010 and 2011). The methodology accounts for trips internal to future developments that would still occur but would remain internal to the project site and would occur by walking, bicycling, and linked trips.

Internalization is dependent on the quantity and mix of uses as well as the levels of activity they generate at various times of day. As a result, the internalization percentage is different for each scenario and time period. The Ashby and North Berkeley developments are estimated to result in an internal trip capture rate of 9 percent and 7 percent, respectively during the weekday AM peak hour. During the weekday PM peak hour, the Ashby and North Berkeley developments are estimated to result in an internal trip capture rate of 23 percent and 15 percent, respectively.

*Transportation Options and Mode Share*

Given the proximity of the project sites to a variety of land uses within walking distance<sup>13</sup>, multiple high frequency transit routes, casual carpool, dedicated bicycle facilities, and the availability of rideshare service, a modal split adjustment was applied to the external person trip generation estimates to account for carpool, transit, walk, bike, and taxi/transportation network company (e.g., Uber, Lyft) trips. Mode share was estimated based on data available from the United States Census for the project’s census tracts.<sup>14,15</sup> Due to data limitations, residential mode split was used for residential and non-residential uses and applied to all analysis time periods. Table 4.11-3 summarizes mode share applied to external trips and Table 4.11.4 summarizes estimated project-generated external person trips by mode.

**Table 4.11-3 Mode Share for External Trips**

| Mode         | Mode Share for External Trips |                                  |
|--------------|-------------------------------|----------------------------------|
|              | Ashby BART Station Site       | North Berkeley BART Station Site |
| Auto         | 37.7%                         | 36.4%                            |
| Transit      | 34.7%                         | 33.7%                            |
| Walk         | 7.7%                          | 7.9%                             |
| Bike         | 12.0%                         | 10.3%                            |
| Other        | 7.9%                          | 11.7%                            |
| <b>Total</b> | <b>100.0%</b>                 | <b>100.0%</b>                    |

Note: Means of Transportation to Work by Place of Work census data was used for the mode share for the project census tract. Data was dropped if place of work was out of state. The mode “working from home” was dropped from the analysis, as no external trips are expected to be made via this mode share. “Other” trips include carpool, taxi, and motorcycle.

Source: Kittelson & Associates, Inc. 2021; US Census ACS Five-Year Estimates (2014-2018)

<sup>13</sup> The Ashby site has a WalkScore of 96 “Walker’s Paradise” and the North Berkeley site has a WalkScore of 86 “Very Walkable”. WalkScore.com. Accessed October 23, 2020.

<sup>14</sup> US Census American Community Survey (ACS) Five-Year Estimates (2014-2018), the current dataset, were referenced for this analysis. The Ashby BART Station is located within Census Tract 4239.01 and the North Berkeley BART Station is located within Census Tract 4222.

<sup>15</sup> In Census Tract 4239.01 (Ashby BART), 62% of residents work within Alameda County and 38% of residents work outside Alameda County. In Census Tract 4222 (North Berkeley BART), 59% of residents work within Alameda County and 40% of residents work outside of Alameda County.

**Table 4.11.4 Project Travel Demand - External Person Trips**

| Mode  | Weekday AM Peak Hour |              |              | Weekday PM Peak Hour |            |              |
|---|----------------------|--------------|--------------|----------------------|------------|--------------|
|   | In                   | Out          | Total        | In                   | Out        | Total        |
| <b>Ashby BART Station Site</b>                    |                      |              |              |                      |            |              |
| Auto <sup>1</sup>                                 | 452                  | 553          | 1,005        | 368                  | 294        | 662          |
| Transit   | 416                  | 509          | 925          | 339                  | 270        | 609          |
| Walk  | 92                   | 113          | 205          | 75                   | 60         | 135          |
| Bike  | 144                  | 176          | 320          | 117                  | 94         | 211          |
| Other   | 95                   | 116          | 211          | 77                   | 62         | 139          |
| <b>Project External Person-Trips<sup>1</sup></b>  | <b>1,199</b>         | <b>1,467</b> | <b>2,666</b> | <b>976</b>           | <b>780</b> | <b>1,756</b> |
| <b>Project External Vehicle-Trips<sup>2</sup></b> | <b>367</b>           | <b>450</b>   | <b>817</b>   | <b>299</b>           | <b>239</b> | <b>538</b>   |
| <b>North Berkeley BART Station Site</b>           |                      |              |              |                      |            |              |
| Auto <sup>1</sup>                                 | 242                  | 351          | 593          | 256                  | 188        | 444          |
| Transit   | 224                  | 325          | 549          | 237                  | 174        | 411          |
| Walk  | 52                   | 77           | 129          | 55                   | 41         | 96           |
| Bike  | 68                   | 100          | 168          | 72                   | 54         | 126          |
| Other   | 78                   | 113          | 191          | 82                   | 61         | 143          |
| <b>Project External Person-Trips<sup>1</sup></b>  | <b>664</b>           | <b>966</b>   | <b>1,630</b> | <b>702</b>           | <b>518</b> | <b>1,220</b> |
| <b>Project External Vehicle-Trips<sup>2</sup></b> | <b>189</b>           | <b>274</b>   | <b>463</b>   | <b>200</b>           | <b>147</b> | <b>347</b>   |

<sup>1</sup> The project person auto-trip estimates shown in this table are not directly comparable to the ITE Vehicle-Trip Generation estimates shown. Project person-trip estimates are calculated by factoring ITE vehicle-trips by a multiple of 1.18 to convert vehicle-trips to person-trips (this factor is consistent with the factor applied in the West Berkeley Circulation Master Plan) and then converts back to trips by mode using mode share adjustment rates derived from US Census.

<sup>2</sup> Project external vehicle-trips are calculated as auto person-trips divided by the average vehicle occupancy (AVO). The AVO for Ashby BART station site (census tract 4239.01) is 1.22. The AVO for North Berkeley BART station site (census tract 4222) is 1.27.

Notes: "Other" mode includes carpooling. Total external trips may not add up to totals in Table 4 due to rounding. The project travel demand includes trips generated by the proposed project's land use program and does not include people traveling to and from the BART stations and other land uses.

Source: Kittelson & Associates, Inc. 2021

As shown in Table 4.11-3, approximately 38 percent of project-generated external trips to/from the Ashby BART Station development would be auto trips, 35 percent would be transit trips, 12 percent would be bike trips, and 8 percent would be walk trips with the remaining trips taken by other modes (including taxi/transportation network company and motorcycle). Approximately 36 percent of project-generated external trips to/from the North Berkeley BART Station development would be auto trips, 34 percent would be transit trips, 10 percent would be bike trips, and 8 percent would be walk trips with the remaining trips taken by other modes (including taxi/transportation network company and motorcycle).

As shown in Table 4.11.4, the development at the Ashby BART station site would generate approximately 2,666 external person trips during the AM peak hour, including 1,005 auto person-trips (equivalent to 817 vehicle trips)<sup>16</sup>, 925 transit trips, 320 bike trips, 205 walk

<sup>16</sup> Vehicle trips are calculated as the number of auto person trips divided by the average number of people per vehicle (or average vehicle occupancy). The average vehicle occupancy (AVO) data is obtained from American Community Survey Five-Year Estimates for the appropriate census tract. The AVO for Ashby BART station site (census tract 4239.01) is 1.22. The AVO for North Berkeley BART station site (census tract 4222) is 1.27.

trips, and 211 trips by other modes. During the weekday PM peak hour, the development would generate approximately 1,756 external person trips, including 662 auto person-trips (equivalent to 538 vehicle trips), 609 transit trips, 211 bike trips, 135 walk trips, and 139 trips by other modes.

As shown in Table 4.11.4, the development at the North Berkeley BART station site would generate approximately 1,630 external person trips during the AM peak hour, including 593 auto person-trips (equivalent to 463 vehicle trips), 549 transit trips, 168 bike trips, 129 walk trips, and 191 trips by other modes. During the weekday PM peak hour, the development would generate approximately 1,220 external person trips, including 444 auto person-trips (equivalent to 347 vehicle trips), 411 transit trips, 126 bike trips, 96 walk trips, and 143 trips by other modes.

The trip generation estimates can be considered conservative in that they do not account for the TDM plan that the development would be required to implement or the supply of vehicle parking spaces consistent with the City of Berkeley and BART's adopted policies that would be provided by the proposed project.

#### *Trip Distribution and Assignment*

Trip distribution refers to the estimated number of trips people would take to (inbound) and from (outbound) the project and another place. Trip assignment refers to the location or assignment of project trips to different site access points, streets, and project transit trips to specific transit routes.

External trips generated by the proposed project were distributed to common destinations and assigned to local streets based on a review of travel patterns within the study area obtained from station access survey data, intersection turning movement counts, trip distribution patterns utilized for recently approved development projects in the area, and the Alameda Countywide Model. The trip distribution and assignment is documented in Appendix G in the CMP Analysis.

### 4.11.4 Impact Analysis

#### **a. Methodology and Significance Thresholds**

Consistent with Appendix G of the State CEQA Guidelines, impacts would be significant if the proposed project would:

1. Conflict with an applicable plan, ordinance, or policy, including the congestion management program, addressing all components of the circulation system;
2. Exceed an applicable VMT threshold of significance;
3. Substantially increase hazards due to a design feature or incompatible uses; or
4. Result in inadequate emergency access.

The following summarizes the methodology and describes any quantitative thresholds of significance for determining transportation impacts.

#### **Conflicts with Applicable Plans, Ordinances, or Policies**

The methodology qualitatively addresses the potential for the project to conflict with an applicable plan, ordinance, or policy addressing the transportation and circulation network.

The analysis identifies applicable plans, ordinances, and policies and describes how the proposed project would be consistent.

### **Vehicle Miles Traveled (VMT) Analysis**

The City of Berkeley uses the following quantitative thresholds of significance to determine whether the project would generate substantial additional VMT:

- For residential projects, if it exceeds the regional household VMT per capita minus 15 percent
- For office projects, if it exceeds the regional VMT per employee minus 15 percent
- For retail projects, if it exceeds the regional VMT per retail employee minus 15 percent
- For mixed-use projects, evaluate each land use independently, per the thresholds of significance described above

The City of Berkeley uses several screening criterion to identify types and locations of land use projects that would not exceed these quantitative thresholds of significance. Consistent with OPR's guidance, land use projects that meet at least one of the following screening criterion are presumed to cause a less-than-significant VMT impact and would not require VMT analysis under CEQA.

- Transit Priority Area
- Low-Income Housing
- Small Projects
- Locally Serving Public Facility
- Project in Low VMT Areas

### **Potentially Hazardous Conditions**

For purposes of CEQA, hazards refer to engineering aspects of a project (e.g., vehicle speed, vehicle turning movements, complex designs, substantial distance between street crossings, insufficient sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. A traffic hazard is defined as a structure, object, or vegetation that obstructs, hinders or impairs reasonable and safe view by drivers of other vehicles, pedestrians, or bicyclists, and restricts the ability of the driver to stop the vehicle without danger of collision. This analysis focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from non-engineering aspects or the transportation system as a whole.

Therefore, the methodology qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving, or public transit operations. The methodology accounts for the amount, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to the presence of people walking, bicycling, or driving.

### **Emergency Access**

The methodology qualitatively addresses the potential for the project to cause inadequate emergency access. The methodology accounts for the ability of facilities on or near the project site to accommodate emergency service operators and any changes to the public right-of-way that would result in changes to turning movements or alter the ability of emergency service operators to access streets and buildings in the project study area.

## Cumulative Conditions

The cumulative conditions assess the long-term impacts of the proposed project in combination with cumulative projects. The cumulative conditions analysis for transportation topics uses a list-based approach. The discussion of cumulative transportation impacts assesses the degree to which the proposed project would affect the transportation network in conjunction with overall citywide growth and other cumulative projects. The cumulative conditions include the planned and pending projects listed in Section 3, *Environmental Setting*, as well as the transportation projects listed below.

The geographic context for the analysis of cumulative transportation impacts generally includes the sidewalks and roadways adjacent to the project site, and the local roadway and transit network within 0.5 mile of the project site.

### *Ashby BART Station Site*

- **Ashby BART Bicycle Connector.** A bikeway through BART's western parking lot at Ashby station, connecting Prince and Woolsey Streets, which will be completed by Winter 2023.
- **Shattuck Avenue and Martin Luther King Jr. Way Transit Priority Streets – Bus Stop Upgrades.** Provide more passenger waiting area by widening sidewalks at three intersections (six bus stops): Shattuck Avenue and Ashby Avenue, Shattuck Avenue and Woolsey Street, and MLK Jr. Way and Prince Street. Project components include widening the sidewalk, installing a shelter including seating and a transit map, and providing night lighting for the waiting area. Relocation of stops to the far side of intersections will be evaluated for feasibility.
- **Vision Zero High Injury Street Corridor Projects**
  - **Adeline Street and Russell Street Pedestrian and Bicycle Crossing.** Install a Pedestrian Hybrid Beacon.
  - **Adeline street and Woolsey Street Pedestrian and Bicycle Crossing.** Install a Pedestrian Hybrid Beacon.
  - **Fulton Street Bike Boulevard.** Install Bicycle Boulevard pavement markings, purple wayfinding signs, and traffic calming on Fulton Street from Prince Street to Dwight Way.
  - **Martin Luther King Jr. Way and Parker Street Quick Build Pedestrian Crossing.** Install median refuge island, Rectangular Rapid Flashing Beacons, warning signs, advance yield lines, and solar-powered streetlights at Martin Luther King Jr. Way and Parker Street.
  - **Martin Luther King Jr. Way and Carleton Street Quick Build Pedestrian Crossing.** Install median refuge island, warning signs, advance yield lines, red curb, and solar-powered streetlights at Martin Luther King Jr. Way and Carleton Street.
  - **Martin Luther King Jr. Way and Derby Street Quick Build Pedestrian Crossing.** Install crosswalk striping and hardened centerline at Martin Luther King Jr. Way and Derby Street.
  - **Martin Luther King Jr. Way and Ward Street Quick Build Pedestrian Crossing.** Install red curb, quick-build corner bulbouts, and solar-powered streetlights at Martin Luther King Jr. Way and Ward Street.
  - **Martin Luther King Jr. Way and Stuart Street Quick Build Pedestrian Crossing.** Install median refuge islands, Rectangular Rapid Flashing Beacons, warning signs,

advance yield lines, and solar-powered streetlights at Martin Luther King Jr. Way and Stuart Street.

- **Martin Luther King Jr. Way and Oregon Street Quick Build Pedestrian Crossing.** Install median refuge islands, Rectangular Rapid Flashing Beacons, warning signs, advance yield lines, and solar-powered streetlights at Martin Luther King Jr. Way and Oregon Street.
- **Martin Luther King Jr. Way and Russell Street Quick Build Pedestrian Crossing.** Install red curb, crosswalk striping and hardened centerline at Martin Luther King Jr. Way and Russell Street.
- **Shattuck Avenue and Russell Street Pedestrian and Bicycle Crossing.** Install Rectangular Rapid Flashing Beacons, warning signs, advance yield lines, and corner curb bulbouts at Shattuck Avenue and Russell Street.
- **Shattuck Avenue and Woolsey Street Pedestrian and Bicycle Crossing.** Install Rectangular Rapid Flashing Beacons, warning signs, advance yield lines, and corner curb bulbouts at Shattuck Avenue and Woolsey Street.
- **Woolsey Street and Prince Street Bike Boulevard.** Install bicycle boulevard pavement markings, purple wayfinding signs, and traffic calming on Woolsey Street from Adeline Street to Wheeler Street.
- **Woolsey Street and Prince Street Bike Boulevard.** Install bicycle boulevard pavement markings, purple wayfinding signs, and traffic calming on Wheeler Street from Woolsey Street to Prince Street.
- **Woolsey Street and Prince Street Bike Boulevard.** Install bicycle boulevard pavement markings, purple wayfinding signs, and traffic calming on Prince Street from Wheeler Street to Fulton Street.

#### *North Berkeley BART Station Site*

- **North Berkeley Bicycle and Pedestrian Improvements**
  - Two-way separated cycle tracks:
    - on both north-south West Drive and East Drive (internal BART roads) connecting Acton Street to the station plaza
    - on the north side of Delaware Street between Acton Street and Sacramento Street
  - Raised crosswalks across Franklin Street and Delaware Street (mid-block).
  - ADA compliant curb ramps on Virginia Street
  - Midblock sidewalk extension on Sacramento Street
  - ADA-accessible passenger loading zone on Sacramento Street (southbound).
  - Widen Ohlone Greenway from 10 feet to 18 feet between the Acton Street/Virginia Street intersection and Virginia Gardens
  - Upgrade traffic diverter at Acton Street and Virginia Street
  - Install 122 additional secure bicycle parking spaces
  - Install pedestrian lighting
  - Anticipated completion in 2022

- **Sacramento Complete Streets Projects**
  - **Sacramento Street and Virginia Street Bicycle Boulevard Crossing.** Install corner curb bulbouts, refuge islands, Pedestrian Hybrid Beacon, warning signs, advance yield lines, intersection bicycle markings, and bike box at Sacramento Street and Virginia Street.
  - **Sacramento Street and Delaware Street Pedestrian and Bicycle Crossing.** Install corner curb bulbouts, warning signs, intersection bicycle markings, and red curb at Sacramento Street and Delaware Street.
  - **Sacramento Street and University Avenue Pedestrian Crossing.** Install corner curb bulbouts and red curb at Sacramento Street and University Avenue.
  - **Sacramento Street and Addison Street Pedestrian Crossing.** Install corner curb bulbouts and red curb at Sacramento Street and Addison Street.
  
- **Vision Zero High Injury Street Corridor Projects**
  - **Addison Street Bike Boulevard.** Install bicycle boulevard pavement markings, purple wayfinding signs, and traffic calming on Addison Street from Sacramento Street to Milvia Street.
  - **California Street and Addison Street Traffic Diverter.** Install a traffic diverter at the intersection of California Street and Addison Street.
  - **University Avenue and Sacramento Street Pedestrian Crossing.** Install high-visibility crosswalks and corner curb bulbouts at the bus stop at University Avenue and Sacramento Street.
  - **University Avenue and Grant Street Pedestrian Crossing.** Install Rectangular Rapid Flashing Beacon, high-visibility crosswalks, warning signs, advance yield lines, and corner curb bulbouts at the bus stop at University Avenue and Grant Street.

In addition to the above listed projects, the cumulative conditions analysis also incorporates the effects of several other major projects that are citywide or regional in scope. Projects such as the Train Control Modernization Program and new Fleet of the Future rolling stock that will affect BART service and capacity, have been considered.

## b. Project Impacts and Mitigation Measures

**Threshold 1:** Would the project conflict with an applicable plan, ordinance, or policy, including the congestion management program, addressing all components of the circulation system?

**Impact T-1 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE PLAN, ORDINANCE, OR POLICY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Table 4.11-5 shows project consistency with applicable transportation-related plans, ordinances, and policies.

**Table 4.11-5 Project Compliance with Applicable Transportation-Related Plans, Ordinance, and Policies**

| Plan/Ordinance/Policy  | Project Consistency  |
|--|--|
| <b>Plan Bay Area 2040</b>  | <b>Consistent.</b> The proposed project would be consistent with the Plan Bay Area 2040 goals and performance targets for transportation system effectiveness. Specifically, the proposed project would facilitate development of new mixed-use buildings to include residential, office, commercial, and retail uses, reducing the demand for travel by single occupancy vehicles and increasing non-auto mode share. New development facilitated by the proposed project would be required to implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site.   |
| <b>Alameda County Transportation Commission (CTC) Congestion Management Plan</b> | <b>Consistent.</b> The proposed project would be consistent with the Alameda CTC Congestion Management Plan and would not significantly impact the roadway level of service, transit, bicyclist, or pedestrian facilities in the project study areas. As documented in the Congestion Management Plan analysis of roadway segments provided in Appendix G, the proposed project would less than five percent to the peak hour traffic volume on study roadway segments. Therefore, according to the significance criteria, the proposed project would have a less than significant impact on Congestion Management Program and Metropolitan Transportation System roadways. Additionally, automobile delay cannot be deemed a significant environmental impact under current CEQA guidelines.  |
| <b>BART Multimodal Access Design Guides</b>                                      | <b>Consistent.</b> The proposed project would implement the proposed R-BMU zoning standards and provide frontage improvements and pedestrian access on-site, to the public circulation network, and to transit. Additionally, future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document included in Appendix B.<br><br>As such, new development facilitated by the proposed project would provide station access for all modes. Direct approaches would be provided to allow pedestrian access from all directions. Walkway widths would be designed to accommodate expected pedestrian volumes and pedestrian movements would be prioritized. Bicycle access would be designed to provide a direct connection between the station and existing or proposed bike routes to provide a continuous facility for bicyclists accessing the station and the project sites. Vehicle access and circulation would be designed to minimize potential conflicts with pedestrians, bicycle, and transit access. |
| <b>BART Station Experience Design Guide (SEDG)</b>                               | <b>Consistent.</b> Future development under the project would comply with the proposed R-BMU zoning standards and provide frontage improvements and pedestrian access on-site, to the public circulation network, and to transit. Additionally, future development would seek to achieve vision and priorities outlined in the Joint Vision and Priorities document included in Appendix B.<br><br>As such, the proposed project would be consistent with the guidance and expectations established for the Station Approach zone, which includes the area from extent of BART property to within 10 feet of the station entrance threshold. For example, future development would include priority elements (bike parking and wayfinding) and provide public open space for secondary priorities (temporary art, performances and events) identified in the SEDG.   |
| <b>BART Transportation Demand Management (TDM) Program</b>                       | <b>Consistent.</b> , As mandated by BART’s TDM Program, future development would be required to include aggressive and innovative TDM strategies to reduce demand for parking and single-use automobile trips. As such, future development would implement TDM measures that would increase transportation choices for residents, visitors, and employees, and encourage travel by sustainable modes.<br><br>BART’s TDM Program identifies a goal of a 20 percent VMT reduction for development on BART property. Given the details of the TDM plan of the future development have not been defined, the corresponding vehicle trip reduction and VMT reduction cannot be estimated. The TDM plan would be developed prior to entitlement and approval of future development facilitated under the project and   |

| Plan/Ordinance/Policy   | Project Consistency   |
|---|---|
|   | measures would be selected in an effort to achieve a 20 percent reduction in project-generated VMT. The applicant would be required to commit to monitoring, reporting, and compliance throughout the life of the project to ensure the TDM plan is being implemented correctly, on an ongoing basis.   |
| <b>BART Station Access Policy</b>   | <b>Consistent.</b> The BART Station Access Policy aims to make the user’s journey from BART to the final destination a smooth transition by investing in walking, bicycling, transit, drop-off and pick-up, and taxi, based on the station type.<br><br>zoning standards and provide mixed-use and transit-supportive development for the area surrounding the Ashby and North Berkeley BART stations that would include frontage improvements, on-site pedestrian access, bicycle parking and connections to the public circulation network and to transit.  |
| <b>BART Transit Oriented Development (TOD) Policy</b>   | <b>Consistent.</b> The BART TOD Policy states that developments should advance regional plans to reduce greenhouse gas emissions and provide sustainable transportation choices. Future development under the project would comply with the proposed R-BMU zoning standards and provide transit-supportive development for the area surrounding the Ashby and North Berkeley BART stations. Additionally, future development would seek to achieve vision and priorities outlined in the Joint Vision and Priorities document, to maximize mixed-income housing; BART ridership; and provide access improvements that are likely to increase the share of riders who walk, bike, or take transit to BART. Therefore, the proposed project would comply with the TOD policy. |
| <b>City of Berkeley General Plan</b>  |   |
| <b>Policy T-4: Transit First Policy.</b> Give priority to alternative transportation and transit over single-occupant vehicles on Transit Routes identified on the Transit Network map.   | <b>Consistent.</b> The Joint Vision and Priorities document established as part of the proposed project includes prioritizing access for pedestrians, cyclists, transit riders, and other non-drivers. As such, future development under the project would comply with the Transit First Policy.  |
| <b>Policy T-10: Trip Reduction.</b> To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips.          | <b>Consistent.</b> Future development under the project would be required by BART’s TDM Program to implement TDM measures that would increase transportation choices for residents, visitors, and employees, and encourage travel by sustainable modes.   |
| <b>Policy T-12: Education and Enforcement.</b> Support, and when possible require, education and enforcement programs to encourage carpooling and alternatives to single-occupant automobile use, reduce speeding, and increase pedestrian, bicyclist, and automobile safety. | <b>Consistent.</b> As stated in BART’s TDM Program, future development under the project would be required to implement TDM measures that would increase transportation choices for residents, visitors, and employees, and encourage travel by sustainable modes. The specific TDM measures that would be implemented by future development under the project have not yet been determined. However, the TDM plan may include the following strategies related to education: real-time transportation information displays and new resident/tenant welcome packets.  |

| Plan/Ordinance/Policy   | Project Consistency  |
|---|--|
| <p><b>Policy T-14: Private Employers.</b> Encourage private employers to reduce the demand for automobile travel through transportation demand management programs.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document, and would be required by BART’s TDM Program, to implement a TDM plan intended to increase transportation choices for employees and encourage travel by sustainable modes. As stated in the Joint Vision and Priorities document, future development should include aggressive and innovative Transportation Demand Management strategies to reduce demand for parking and single-use automobile trips.</p>  |
| <p><b>Policy T-16: Access by Proximity.</b> Improve access by increasing proximity of residents to services, goods, and employment centers.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including development of land uses that serve community needs, and complement neighborhood businesses, services, and institutions.</p>   |
| <p><b>Policy T-17: Transportation Planning.</b> Involve local residents, businesses, and institutions in all stages of transportation planning.</p>   | <p><b>Consistent.</b> The City of Berkeley and BART have involved the community in a number of ways to gather feedback on the project sites, including a community advisory process, community-wide meetings and workshops, public hearings, project webpage, and public survey. Community engagement has occurred throughout all phases of the project, from establishing goals and existing conditions, developing site concepts and alternative scenarios, and establishing zoning/joint vision priorities and would continue through adoption. The station planning effort relies on a community process to envision the future of these station areas that builds on previous community input for the Adeline Corridor Specific Plan and North Berkeley BART.</p>   |
| <p><b>Policy T-18: Transportation Impact Analysis and Vehicle Miles Traveled.</b> For the purposes of CEQA, Vehicle Miles Traveled (VMT) shall be the metric used to analyze the transportation impacts of a plan or project.</p> | <p><b>Consistent.</b> Vehicle miles traveled analysis is used to analyze the transportation impacts of the project. The VMT analysis is provided under Impact T-2. As shown, impacts related to VMT would be less than significant.</p>  |
| <p><b>Policy T-19: Air Quality Impacts.</b> Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.</p>             | <p><b>Consistent.</b> Multi-family housing units constructed under the proposed project would be subject to the requirements of the most recent iteration of CALGreen and the City’s associated amendments, which includes provisions for electric vehicle charging infrastructure. For example, as of 2020, BMC Chapter 19.37 requires 20 percent of parking spaces for new multi-family residential developments to be capable of supporting electric vehicle chargers and the remaining 80 percent of parking spaces to have raceways to facilitate future electric vehicle supply equipment.</p>   |
| <p><b>Policy T-24: Ashby Avenue.</b> Take actions necessary to reduce congestion, improve pedestrian and bicycle crossings, and improve the quality of life for residents on Ashby Avenue.</p>                                    | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including the following station access and parking management priorities.</p> <ul style="list-style-type: none"> <li>▪ Infrastructure investment that prioritizes equity, sustainability and cost effectiveness in mobility infrastructure investments</li> <li>▪ Access priorities for pedestrians, cyclists, transit riders, and other non-drivers</li> <li>▪ Provide bicycle connections to and through the site</li> <li>▪ Reconfigure Adeline Street to transform it into a safer space for all modes of transportation</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> |

| Plan/Ordinance/Policy  | Project Consistency  |
|--|--|
| <p><b>Policy T-29: Infrastructure Improvements.</b> Facilitate mobility and the flow of traffic on major and collector streets, reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.</p> | <p><b>Consistent.</b> The proposed project does not include modifications to the existing transportation network. However, future development under the project would seek to achieve the following relevant transportation-related objectives, as stated in the Joint Vision and Priorities document:</p> <ul style="list-style-type: none"> <li>▪ Promote green development as well as location efficiency and sustainable transportation modes</li> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> <li>▪ Create vibrant public and civic open spaces</li> <li>▪ Enhance livability of neighborhoods around stations</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> |
| <p><b>Policy T-31: Residential Parking.</b> Regulate use of on-street parking in residential areas to minimize parking impacts on neighborhoods.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint and Priorities Vision document including parking management to reduce parking demand on local streets through improved on-street parking management and pricing.</p>  |
| <p><b>Policy T-32: Shared Parking.</b> Encourage Berkeley businesses and institutions to establish shared parking agreements, which would make the most efficient use of existing and new parking areas.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including parking management to reduce parking demand on local streets through improved on-street parking management and pricing. Additionally, the future development would comply with the parking maximums and unbundled parking requirements established in the R-BMU zoning standards and implement TDM measures, including shared parking, that would encourage efficient use of existing and new parking areas.</p>   |
| <p><b>Policy T-33: Disabled Parking and Passenger Zones.</b> Ensure adequate disabled parking and passenger drop-off zones.</p>  | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document, including development of Ashby BART in a way that prioritizes the inclusion of residents with disabilities, and building designs with universally accessible units to promote accessibility for seniors and those with disabilities.</p>  |
| <p><b>Policy T-39: High-Tech Parking.</b> To make the most efficient use of available land, encourage consideration of high-tech computerized parking (e.g., lifts and or "robotics") when replacing existing public parking or when providing off-street parking for multi-family residential projects.</p>                                 | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including considering the rapid evolution of mobility trends and technologies and consider the adaptability of the plan to future mobility patterns. As such, future development under the project would consider high-tech parking within the vehicle parking facilities.</p>   |
| <p><b>Policy T-41: Structured Parking.</b> Encourage consolidation of surface parking lots into structured parking facilities and redevelopment of surface lots with residential or commercial development where allowed by zoning.</p>  | <p><b>Consistent.</b> Future development facilitated by the proposed project would comply with the proposed R-BMU zoning standards which require structured parking for new off-street parking.</p>  |

| Plan/Ordinance/Policy  | Project Consistency  |
|--|--|
| <p><b>Policy T-43: Bicycle Network.</b><br/>Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists and provide bicycle-parking facilities to promote cycling.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including the following bicycle network priorities.</p> <ul style="list-style-type: none"> <li>▪ Infrastructure investment that prioritizes equity, sustainability and cost effectiveness in mobility infrastructure investments, such as pedestrian and bike pathways and bike parking.</li> <li>▪ Access priorities for pedestrians, cyclists, transit riders, and other non-drivers</li> <li>▪ Provide bicycle connections to and through the sites</li> <li>▪ Reconfigure Adeline Street to transform it into a safer space for all modes of transportation</li> <li>▪ Improve Ohlone Greenway connection through the North Berkeley station site</li> </ul> <p>The overall mobility strategy for future development seeks to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> |
| <p><b>Policy T-49: Disabled Access.</b><br/>Improve pedestrian access for the entire disabled community.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including the following priorities for disabled access.</p> <ul style="list-style-type: none"> <li>▪ Building designs with universally accessible units</li> <li>▪ Access priorities for pedestrians, cyclists, transit riders, and other non-drivers</li> <li>▪ Infrastructure investment that prioritizes equity, sustainability and cost effectiveness in mobility infrastructure investments, such as ADA facilities</li> </ul> <p>As such, the future development would be designed to accommodate and improve access for people with disabilities.</p>   |
| <p><b>Policy T-50: Sidewalks.</b><br/>Maintain and improve sidewalks in residential and commercial pedestrian areas throughout Berkeley and in the vicinity of public transportation facilities so that they are safe, accessible, clean, attractive, and appropriately lighted.</p> | <p><b>Consistent.</b> Future development facilitated by the proposed project would comply with the proposed R-BMU zoning standards, which require pedestrian access and internal connections as well as publicly accessible walkways, connections to transit, and nighttime illumination.</p>  |
| <p><b>Policy T-51: Pedestrian Priority.</b><br/>When addressing competing demands for sidewalk space, the needs of the pedestrian shall be the highest priority.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would comply with the proposed R-BMU zoning standards, which require pedestrian access and internal connections as well as publicly accessible walkways, connections to transit, and nighttime illumination. Additionally, future development would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document, including access priorities for pedestrians, cyclists, transit riders, and other non-drivers.</p>   |
| <p><b>Policy T-52: Pedestrian Safety and Accessibility.</b> Provide safe and convenient pedestrian crossings throughout the city.</p>  | <p><b>Consistent.</b> Future development facilitated by the proposed project would comply with the R-BMU zoning standards, which require pedestrian access and internal connections as well as publicly accessible walkways, connections to transit, and nighttime illumination. Additionally, future development would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document, including access priorities for pedestrians, cyclists, transit riders, and other non-drivers, provision of safe station access for pedestrians.</p>  |

| Plan/Ordinance/Policy  | Project Consistency  |
|--|--|
| <b>City of Berkeley Vision Zero Resolution and Vision Zero Action Plan</b>   |  |
| <p><b>Policy 1.1:</b> Collaboration with City departments, regional and community partners, and mobility providers to achieve Vision Zero Goals.</p> | <p><b>Consistent.</b> The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development would seek to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p>   |
| <p><b>Policy 2.1:</b> Prioritize high-injury streets and the most vulnerable street users.</p>   | <p><b>Consistent.</b> As discussed in Section 4.1.1.2 Existing Conditions, there are several Vision Zero High Injury Streets surrounding the station sites and within the transportation study area. The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seeks to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> |
| <p><b>Policy 2.2:</b> Design for vulnerable users of the transportation network, including people of all ages and abilities.</p>                     | <p><b>Consistent.</b> The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seek to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> <li>▪ Create vibrant public and civic open spaces</li> <li>▪ Enhance livability of neighborhoods around stations</li> </ul> <p>The overall mobility strategy seeks to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p>   |
| <p><b>Policy 2.3:</b> Deliver Vision Zero traffic safety infrastructure improvements both reactively and proactively.</p>                            | <p><b>Consistent.</b> As discussed in Section 4.1.1.2 Existing Conditions, there are several Vision Zero High Injury Streets surrounding the station sites and within the transportation study area. The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seeks to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> |
| <p><b>Policy 3.1:</b> Create a culture of traffic safety by promoting awareness through public information programs and campaigns.</p>               | <p><b>Not Applicable.</b> The policy is not directly applicable to the proposed project.</p>   |

| Plan/Ordinance/Policy  | Project Consistency   |
|--|---|
| <p><b>City of Berkeley Complete Street Policy</b></p>  | <p><b>Consistent.</b> The City of Berkeley Complete Street Policy describes a comprehensive, integrated transportation network to allow safe and convenient travel across and along streets for all users. The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seeks to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p>  |
| <p><b>City of Berkeley Bicycle Plan</b></p>  |   |
| <p><b>Policy PL-1.</b> Integrate bicycle network and facility needs into all City planning documents and capital improvement projects.</p>   | <p><b>Consistent.</b> Future development facilitated by the proposed project would seek to achieve the vision and priorities outlined in the Joint Vision and Priorities document including access priorities for pedestrians, cyclists, transit riders, and other non-drivers, provision of safe station access for bicyclists.</p> <p>Bicycle network improvements under consideration at the Ashby BART station site include upgrading the existing Class II bike lane along Adeline Street to a Class IV cycletrack and improving bicycle connections through the site. Bicycle network improvements under consideration at the North Berkeley BART station site includes extending the Ohlone Greenway through the site with connections along Acton Street and Delaware Street.</p>   |
| <p><b>Policy PL-2:</b> When considering transportation impacts under the California Environmental Quality Act, the City shall consider how a plan or project affects bicyclists per Berkeley General Plan Policy T-18.</p> | <p><b>Consistent.</b> Impacts of the proposed project on bicyclists are evaluated and discussed under Impact T-3.</p>   |
| <p><b>Policy D-1:</b> Design a Low Stress Bikeway Network suitable for the “Interested but Concerned,” to include people of all ages and ability levels riding bicycles in Berkeley.</p>                                   | <p><b>Consistent.</b> The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seeks to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p>   |
| <p><b>City of Berkeley 2020 Pedestrian Plan</b></p>  | <p><b>Consistent.</b> As discussed in Section 4.1.1.2 Existing Conditions, there are several Pedestrian High Injury Streets surrounding the station sites and within the transportation study area. The proposed project does not include modifications to the existing transportation network. The site planning parameters for future development seeks to achieve the following relevant transportation-related objectives:</p> <ul style="list-style-type: none"> <li>▪ Improve station access for all users and enhance bicycle and pedestrian connections</li> </ul> <p>The overall mobility strategy for future development would seek to create an integrated, connected, and comfortable system of multimodal networks that collectively improve station access.</p> <p>Development at both sites would be required to include pedestrian plazas and public open spaces. Pedestrian crossings would be provided to enhance safety and improve connectivity in the project areas.</p> |

| Plan/Ordinance/Policy                     | Project Consistency   |
|---|---|
| <b>Adeline Corridor Specific Plan</b>     | <b>Consistent.</b> The proposed project is consistent with the Adeline Corridor Specific Plan and would not preclude implementation of recommendations from the ACSP. |
| Source: Kittelson & Associates, Inc. 2021 |   |

As part of the City’s entitlement process, future development under the project would be required to comply with existing regulations, including General Plan policies and Zoning regulations. Future development under the project would be reviewed in accordance with the City’s Public Works Department Transportation Program standards and guidelines, and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications.

Future development under the proposed project would conform with the requirements established in the R-BMU zoning standards and would seek to achieve the goals and objectives outlined in the Joint Vision and Priorities document and would therefore provide adequate transit, bicycle, and pedestrian infrastructure and represent an overall improvement to transit, bicycle, and pedestrian access and circulation. Future development under the project would meet the Zoning Ordinance requirements for vehicle and bicycle parking and implement TDM measures in an effort to reduce project-generated vehicle trips and encourage travel by other modes.

For these reasons, the proposed project would be consistent for CEQA purposes with applicable plans, ordinances, and policies outlined in Section 4.11.2 and Table 4.11-5, and this impact would be less than significant.

### Mitigation Measures

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 2:** Would the project exceed an applicable VMT threshold of significance?

**Impact T-2 THE PROPOSED PROJECT WOULD NOT EXCEED AN APPLICABLE VMT THRESHOLD OF SIGNIFICANCE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

The proposed project would meet the City’s VMT screening criteria for projects within a Transit Priority Area. The proposed project is located within ½-mile walkshed around a major transit stop (Ashby BART and North Berkeley BART stations) and would not have any of the following characteristics:

- **A Floor Area Ratio (FAR) of less than 0.75 for office uses.** In accordance with AB 2923, future development under the project would be required to have a FAR of 4.2 or higher.
- **Include more than 200,000 square feet of office or commercial space.** The proposed project would include 100,000 square feet of commercial space at the Ashby BART station site and 25,000 square feet of commercial space at the North Berkeley BART station site.
- **Include more parking supply than the project’s estimated demand.** Future development under the proposed project would provide a maximum of 0.5 vehicle parking spaces per residential unit and 1.5 vehicle parking spaces per 1,000 square feet of non-residential space. Using parking demand rates provided in the ITE Parking Generation Manual for the most likely land uses encouraged by the proposed project,

the median vehicle parking demand would be 1.31 spaces per residential unit, 9.44 spaces per 1,000 feet of restaurant space, 5.44 spaces per 1,000 spaces of convenience market space, and 2.56 spaces per 1,000 square feet of office space. As such, future development under the project would not include more parking supply than the project's estimated demand.

- **Inconsistent with the City's General Plan, an applicable Specific Plan, or an applicable Sustainable Communities Strategy (as determined by the City, with input from MTC).** As discussed under Impact T-1, the proposed project would be consistent with applicable plans, ordinances, and programs, including the City's General Plan and Plan Bay Area 2040 the Regional Transportation Plan and Sustainable Communities Strategy.
- **Replace affordable residential units with market-rate residential units.** As discussed in Section 2, *Project Description*, the proposed project would facilitate development of surface parking lots and maximize affordable housing for all income levels. Future development under the project would not replace affordable residential units with market-rate residential units.
- **Have project-specific or location-specific information that indicates that the project will generate significant levels of VMT.** Future development under the project would be located at the Ashby and North Berkeley BART stations and within walking distance (approximately 0.5-mile) of several AC Transit lines with service to multiple local and regional destinations where auto commute mode share is less than 40 percent. Additionally, future development under the project would be required to develop and implement a TDM plan with a goal of reducing project-generated vehicle trips by at least 20 percent. Furthermore, future development under the project would provide a maximum of 0.5 vehicle parking spaces per residential unit and 1.5 vehicle parking spaces per 1,000 square feet of office space, further discouraging vehicle ownership and use.

For these reasons, the proposed project is exempt from further VMT analysis and future development under the project is considered to have a less-than-significant impact with respect to VMT.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

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| <b>Threshold 3:</b> Would the project substantially increase hazards due to a design feature or incompatible uses? |
|--|

**Impact T-3 THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO A DESIGN FEATURE OR INCOMPATIBLE USE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

The project involves rezoning the Ashby and North Berkeley station sites and includes a Joint Vision and Priorities document (included in Appendix B) to guide future development. As described in Section 2, *Project Description*, the buildout assumptions for the proposed project are based on a reasonable maximum building envelope and represent a conservative, or maximum adverse effect, scenario for the transportation analysis. The proposed project does not define design-level features of roadways and specific transportation network modifications are not identified.

The proposed project would facilitate the development of the surface parking lots at the stations and would bring more people into the North Berkeley and Ashby BART Station area. This increase in activity would result in an increase in the potential for conflicts between vehicles, bicyclists, and pedestrians.<sup>17</sup> The potential for conflicts increases with an increase in the number of roadway users and this increased potential for conflicts by itself does not represent a traffic hazard. Potential for the proposed project to substantially increase hazards is assessed for each site in this section.

### **Ashby BART Station Site**

As shown in Table 4.11.4, the development at the Ashby BART station site would generate approximately 2,666 external person trips (including 817 vehicle trips) during the AM peak hour and 1,756 external person trips (including 538 vehicle trips) during the weekday PM peak hour. Specific transportation modifications implemented as part of future development would follow the design standards and guidelines included in the R-BMU zoning standards and Joint Vision and Priorities document and would comply with applicable City, Caltrans, and other applicable roadway design and safety guidelines.

As discussed previously, the proposed project does not address BART rider parking and assumes no replacement parking at the Ashby BART station site. There are two surface parking lots at the Ashby BART Station: a main lot adjacent to the BART station and a secondary lot at the Ed Roberts Campus. The main lot currently has 348 parking spaces and the secondary lot has 187 spaces, or 535 parking spaces in total. As discussed in “Project Travel Demand”, p. 4.11-25, approximately 18 percent of home-based passengers accessed the Ashby BART station by car (drive and park) and four percent of non-home-based passengers drove and parked at the Ashby BART station. Applying this mode share to the 2019 ridership data, this auto mode share results in approximately 690 daily station entries by car, including about 180 during the AM peak hour and 150 during the PM peak hour. This drive and park mode share results in approximately 640 daily station exits by car, including about 30 during the AM peak hour and 110 during the PM peak hour.

#### *Walking and Bicycling*

As discussed in “Existing Pedestrian Conditions,” p. 4.11-9, and “Existing Bicycle Conditions,” p. 4.11-11, there are a number of existing challenges for pedestrians and bicyclists in the study area, such as high volumes of vehicle traffic, long crossing distances, unmarked or uncontrolled crossings, and lack of protected bicycle facilities. Additionally, there are several high injury streets within the project study area, including Adeline Street, Ashby Avenue, and MLK Jr. Way, which provide direct access to the site.

In accordance with the proposed R-BMU zoning standards, future development under the project sites would provide pedestrian access and internal connections as well as publicly accessible walkways, connections to transit, and nighttime illumination.

The proposed City-BART Joint Vision and Priorities document (Appendix B) identifies several priorities related to improving walking and bicycling conditions within and around the site. In accordance with the Joint Vision and Priorities document, future development under the project would:

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<sup>17</sup> Conflict points are located where pedestrians, bicyclists, and/or drivers cross, merge, or diverge. Examples of conflict points include vehicles making a turn across a crosswalk, and vehicles merging across a bicycle lane at an intersection approach.

- Develop Ashby BART in a way that prioritizes the inclusion of residents with disabilities, who are likely to benefit from proximity to the Ed Roberts Campus. (Affordable Housing, Ashby Priority B)
- Reconfigure Adeline Street to create a more walkable vibrant place. (Public and Civic Space, Ashby Priority D)
- Expand the availability of green space for the neighborhood. (Public and Civic Space, Ashby Priority E)
- Prioritize site designs with smaller blocks and building footprints instead of larger blocks. (Building Form, Shared Priority E)
- Preference building designs with universally accessible units and elevator redundancy to promote accessibility for seniors and those with disabilities. (Building Form, Shared Priority L)
- Connect new buildings to Adeline Street and Ashby Avenue with direct pedestrian access, minimal setbacks, and active frontages to complement the existing active uses across the street. (Building Form, Ashby Priority B)
- Increase the share of BART customers who access the stations via modes other than the private automobile through access improvements to/from and within the station that offer safe, comfortable, affordable, cost-effective alternatives for all BART customers, particularly those with disabilities and mobility impairments. (Station Access, Shared Priority B)
- Provide safe and secure station access options for people of all ages, abilities, races and ethnicities, genders, and income levels. (Station Access, Shared Priority C)
- Include aggressive and innovative Transportation Demand Management strategies to reduce vehicle miles traveled by 20 percent by complying with BART's TDM program. (Station Access, Shared Priority E)
- Provide high-quality, safe pedestrian and bicycle connections to and through the site, including an off-street protected bicycle facility extending along Adeline Street, at least between Ashby Avenue and the intersection with MLK Way, with the potential to extend further through related Adeline improvement efforts. (Station Access, Ashby Priority A)
- Reconfigure Adeline Street to transform a four-lane arterial into a safer space for all modes of transportation, creating a more walkable, vibrant place. (Station Access, Ashby Priority B)

Because future development would be required to be consistent with the R-BMU zoning standards and would seek to achieve the priorities identified in the Joint Vision and Priorities document cited above, development at the Ashby BART station site would enhance the walking and bicycling network in the study area and prioritize safe movement of people walking and bicycling to and through the site.

#### *Transit and Vehicles*

As discussed in "Existing Transit Conditions," p. 4.11-4, future development would be located on the surface parking lot adjacent the Ashby BART Station and there are a number of transit service and shuttle providers that operate at or near the site. AC Transit lines 12, 18, 80, 688, 800, and F have stops within one-half mile of the site. The Alta Bates Shuttle, West Berkeley Shuttle, and UC Berkeley Night Safety South Line have stops within one-half mile of the site. The Ashby BART station site is currently accessible by vehicle from two two-way driveways on MLK Jr. Way and one outbound right-turn only driveway on Adeline

Street. As discussed in “Existing Street Network”, p. 4.11-1, the streets surrounding the site are identified as high-injury streets in the Vision Zero Action Plan and the Pedestrian Plan.

In accordance with the proposed R-BMU zoning standards, vehicular entries facing the street would be no more than 20 feet wide. In accordance with the City-BART Joint Vision and Priorities document, future development under the project would seek to:

- Ensure that BART entrances are featured prominently and integrated into the overall site plan (Building Form, Shared Priority M)
- Increase the share of BART customers who access the stations via modes other than the private automobile through access improvements to/from and within the station that offer safe, comfortable, affordable, cost-effective alternatives for all BART customers, particularly those with disabilities and mobility impairments. (Station Access, Shared Priority B)
- Provide safe and secure station access options for people of all ages, abilities, races and ethnicities, genders, and income levels. (Station Access, Shared Priority C)
- Include aggressive and innovative Transportation Demand Management strategies to reduce vehicle miles traveled by 20 percent by complying with BART’s TDM program. (Station Access, Shared Priority E)
- Reconfigure Adeline Street to transform a four-lane arterial into a safer space for all modes of transportation, creating a more walkable, vibrant place. (Station Access, Ashby Priority B)

For these reasons, the future development at the Ashby BART station site would not generate activities or implement transportation network modifications that would create potentially hazardous conditions for people driving or taking transit.

#### *Vehicle Parking*

As previously discussed, for purposes of CEQA the proposed project assumes no replacement parking would be provided for BART riders. As a result of the change in the supply of vehicle parking spaces for BART riders, people who currently choose to drive and park at the station may choose to: use another mode (e.g., taxi/transportation network company, transit, bike, or walk); drive and park at another station; drive to their destination; or continue to drive to the station and attempt to find parking on streets or parking lots located near the site. The changes in travel patterns and transportation mode choice for people accessing the station would result in changes in the potential for conflicts between vehicles, bicyclists, and pedestrians. The type and extent of these changes cannot be predicted and as previously discussed, potential for conflicts by itself does not represent a traffic hazard.

#### **North Berkeley BART Station Site**

As shown in Table 4.11.4, the development at the North Berkeley BART station site would generate approximately 1,630 external person trips (including 463 vehicle trips) and 1,220 external person trips (including 347 vehicle trips) during the weekday AM peak hour. Specific transportation modifications implemented as part of future development would follow the design standards and guidelines included in the R-BMU zoning standards and Joint Vision and Priorities document and would comply with applicable City, Caltrans, and other applicable roadway design and safety guidelines.

The proposed project includes zoning and General Plan amendments for the project sites. The ultimate decision on BART rider replacement parking is under BART purview and the number of replacement parking spaces will be determined by BART's ongoing corridor access plan efforts. Therefore, the proposed project does not address BART rider parking and assumes no replacement parking at the North Berkeley BART station site, though assumes that 79 parking spaces at the auxiliary parking lots would remain. There are two separate parking areas at the North Berkeley BART Station: a main lot surrounding the North Berkeley station, and two auxiliary lots northwest of the station. The main lot currently has 646 parking spaces and the secondary lots have 110 spaces, or 756 parking spaces in total. A total of 79 vehicle parking spaces, one auxiliary lot, would remain with the proposed project. As discussed in "Project Travel Demand", p. 4.11-25, approximately 25 percent of home-based passengers accessed the North Berkeley BART station by car (drive and park) and six percent of non-home-based passengers drove and parked at the North Berkeley BART station. Applying this mode share to the 2019 ridership data, this auto mode share results in approximately 820 daily station entries by car, including about 210 during the AM peak hour and 200 during the PM peak hour. This drive and park mode share results in approximately 840 daily station exits by car, including about 30 during the AM peak hour and 150 during the PM peak hour.

### *Walking and Bicycling*

As discussed in "Existing Pedestrian Conditions," p. 4.11-9, and "Existing Bicycle Conditions," p. 4.11-11, there are a number of existing challenges for pedestrians and bicyclists in the study area, such as high volumes of vehicle traffic, long crossing distances, unmarked or uncontrolled crossings, and lack of protected bicycle facilities. Additionally, there are several high injury streets within the project study area, including Sacramento Street, Cedar Street, University Avenue, Hearst Avenue, and California Street.

In accordance with the proposed R-BMU zoning standards, future development under the project would provide pedestrian access and internal connections as well as publicly accessible walkways, connections to transit, and nighttime illumination.

The Joint Vision and Priorities document identifies several priorities related to improving walking and bicycling conditions within and around the site. In accordance with the Joint Vision and Priorities document, future development under the project would:

- Include a protected bikeway that connects the disjointed ends of the Ohlone Greenway to each other and to BART, providing a primary access route and orientation of the development that enables a prioritized pedestrian and bicycle connection from approximately the southeast corner of the site to the northwest corner of the site and across the streets. (Public and Civic Space, North Berkeley Priority A) Consider design of the surrounding streets as a strategy to accommodate public space needs and improve safety for pedestrians and bicycles. (Public and Civic Space, Priority C)
- Prioritize site designs with smaller blocks and building footprints instead of larger blocks. (Building Form, Shared Priority E)
- Preference building designs with universally accessible units and elevator redundancy to promote accessibility for seniors and those with disabilities. (Building Form, Shared Priority L)
- Prioritize active frontages, architectural detailing, public space programming, and car-free activities along the Ohlone Greenway. (Building Form, North Berkeley Priority C)
- Increase the share of BART customers who access the stations via modes other than the private automobile through access improvements to/from and within the station that

offer safe, comfortable, affordable, cost-effective alternatives for all BART customers, particularly those with disabilities and mobility impairments. (Station Access, Shared Priority B)

- Provide safe and secure station access options for people of all ages, abilities, races and ethnicities, genders, and income levels. (Station Access, Shared Priority C)
- Include aggressive and innovative Transportation Demand Management strategies to reduce vehicle miles traveled by 20 percent by complying with BART's TDM program. (Station Access, Shared Priority E)
- Provide clear, accessible, adaptable station access signage and wayfinding to facilitate how people get to/from and through the station area. (Station Access, Shared Priority I)
- Consider the role and design of adjacent streets – including Sacramento Street, Delaware Street, Virginia Street, and Acton Street – in multi-modal access planning for the North Berkeley Station. (Station Access, North Berkeley Priority A)

Because future development would be required to be consistent with the R-BMU zoning standards and would seek to achieve the priorities identified in the Joint Vision and Priorities document, the future development at the North Berkeley BART station site would enhance the walking and bicycling network in the study area and prioritize safe movement of people walking and bicycling to and through the site.

#### *Transit and Vehicles*

As discussed in “Existing Transit Conditions,” p. 4.11-4, the development would be located on the surface parking lot at the North Berkeley BART Station. The North Berkeley BART station site is currently accessible by vehicle from two-way driveways on Virginia Street, Acton Street, and Delaware Street. As discussed in “Existing Street Network”, p. 4.11-1, several streets surrounding the site are identified as high-injury streets in the Vision Zero Action Plan and the Pedestrian Plan.

There are a number of transit service providers that operate at or near the site. AC Transit lines 51B, 52, 604, 688, 800, and J have stops within one-half mile of the site. The Golden Gate Fields Shuttle has a stop on the North Berkeley BART Station site.

In accordance with the proposed R-BMU zoning standards, vehicular entries facing the street would be no more than 20 feet wide. In accordance with the Joint Vision and Priorities document (Appendix B), future development under the project would:

- Ensure that BART entrances are featured prominently and integrated into the overall site plan (Building Form, Shared Priority M)
- Increase the share of BART customers who access the stations via modes other than the private automobile through access improvements to/from and within the station that offer safe, comfortable, affordable, cost-effective alternatives for all BART customers, particularly those with disabilities and mobility impairments. (Station Access, Shared Priority B)
- Provide safe and secure station access options for people of all ages, abilities, races and ethnicities, genders, and income levels. (Station Access, Shared Priority C)
- Include aggressive and innovative Transportation Demand Management strategies to reduce vehicle miles traveled by 20 percent by complying with BART's TDM program. (Station Access, Shared Priority E)

- Buses and shuttles will be located to prioritize people with disabilities, active loading of passengers (over waiting vehicles), services available to the public, and the number of people transferring to BART. Different types of passenger loading zones will be incorporated that consider quick pick-ups and drop-offs, those that need to wait for their passenger, accessible loading areas, as well as the specific needs of ride apps and taxis. (Station Access, Shared Priority H)
- Provide clear, accessible, adaptable station access signage and wayfinding to facilitate how people get to/from and through the station area. (Station Access, Shared Priority I)
- Consider the role and design of adjacent streets – including Sacramento Street, Delaware Street, Virginia Street, and Acton Street – in multi-modal access planning for the North Berkeley Station. (Station Access, North Berkeley Priority A)
- Where parking would be provided, maximize parking for commuters over parking for residential and/or potential community, non-profit, or retail uses. (Station Access, North Berkeley Priority B)

For these reasons, future development at the North Berkeley BART station site would not generate activities or implement transportation network modifications that would create potentially hazardous conditions for people driving or taking transit.

#### *Vehicle Parking*

As previously discussed, for purposes of CEQA the proposed project assumes no replacement parking would be provided for BART riders. As a result of the change in the supply of vehicle parking spaces for BART riders, people who currently choose to drive and park at the station may choose to: use another mode (e.g., taxi/transportation network company, transit, bike, or walk); drive and park at another station; drive to their destination; or continue to drive to the station and attempt to find parking on streets or parking lots located near the site. The changes in travel patterns and transportation mode choice for people accessing the station would result in changes in the potential for conflicts between vehicles, bicyclists, and pedestrians. The type and extent of these changes in potential for conflicts cannot be predicted and as previously discussed, potential for conflicts by itself does not represent a traffic hazard.

#### *Conclusion*

Plans for the development of the Ashby BART Station and North Berkeley BART station sites are required to undergo various levels of City review to ensure that proposed pedestrian and bicycle access, vehicular access, and streetscape modifications follow appropriate and applicable design standards and guidelines, and are constructed consistent with City standards. Similarly, any changes to the street network would be designed to meet City and California Manual of Uniform Traffic Control Devices (MUTCD), Caltrans, and Federal Highway Administration (FHWA) recommendations and standards, as appropriate.

Furthermore, future development under the proposed project would seek to increase the share of BART customers who access the stations via non-auto modes and prioritize access for people walking, biking, and taking transit, thereby minimizing the potential for adverse secondary effects resulting from an on-site vehicle parking shortfall.

For these reasons, future development under the project would not substantially increase hazards due to design features or incompatible use. As discussed above, because the project would not generate activities or implement transportation network changes that

would create potentially hazardous conditions for people walking, bicycling, driving or public transit operations, impacts of the proposed project would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

**Threshold 4:** Would the project result in inadequate emergency access?

**Impact T-4 THE PROPOSED PROJECT WOULD NOT RESULT IN INADEQUATE EMERGENCY ACCESS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Emergency access to the project sites would be similar to existing conditions, as described in “Emergency Access Conditions”, p. 4.11-15. Although there would be a general increase in vehicle, pedestrian, bicycle, and transit trips, as a result of the proposed project, future development on project sites would not inhibit emergency access to the project sites or affect emergency vehicle response from nearby hospitals and fire stations.

In accordance with the proposed R-BMU zoning standards, vehicular entries facing the street would be no more than 20 feet wide and would be designed to accommodate emergency vehicles.

Future development on the project sites would be designed and built according to local Fire District standards and State Building Code standards and building and site plans would be reviewed by City Planning, Engineering and Building Departments as well as the Berkeley Fire Department for compliance with the Zoning and Building Code and Engineering Standards, and the Fire Code further ensuring that emergency access by fire or emergency services personnel would not be impaired. For these reasons, the proposed project would have a less than significant impact on emergency access and circulation.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

**Threshold 5:** Would the project, in combination with past, present, and reasonably foreseeable projects, result in a significant cumulative impact?

**Impact T-5 THE PROPOSED PROJECT, IN COMBINATION WITH PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS, WOULD NOT RESULT IN A SIGNIFICANT CUMULATIVE IMPACT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

Cumulative development projects located within an approximately 0.5-mile radius of the project site are identified in “Cumulative Conditions”, p. 4.11-31. Under cumulative conditions, traffic from people walking, bicycling, and driving on the surrounding street network would increase as a result of the proposed project, other development projects within the study area, and background growth elsewhere in the city and region. This would generally be expected to lead to an increase in the potential for conflicts between people driving and people walking, bicycling, and public transit operations. However, as with the proposed project, other cumulative development projects would be required to comply with

applicable plans, policies, and programs. Future development would be required to undergo various levels of City review to ensure that proposed pedestrian access, vehicular access, and streetscape modifications follow appropriate design guidelines, and are constructed consistent with City standards. Similarly, any changes to the street network would be designed to meet City and California Manual of Uniform Traffic Control Devices (MUTCD), Caltrans, and Federal Highway Administration (FHWA) recommendations and standards, as appropriate.

Additionally, the implementation of cumulative transportation infrastructure projects such as – bus stop upgrades as part of the Shattuck Avenue and MLK Jr. Way Transit Priority Streets project, Vision Zero High Injury Street Corridor Projects, and BART’s Train Control Modernization Program and Fleet of the Future project – would include design features that enhance safety, and promote walking, bicycling, and transit use.

Overall, cumulative land use development and transportation projects would promote accessibility for pedestrians and bicyclists to and from the project sites by conforming to policies and zoning regulations, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking, bicycling, driving, and taking transit. Implementation of the proposed project in combination with past, present, and reasonably foreseeable projects, would not result in activities or transportation network changes that would conflict with applicable plans and policies, result in traffic hazards, or result in inadequate emergency access.

For these reasons, the proposed project, in combination with cumulative projects, would have a less-than-significant cumulative impact.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

## 4.12 Utilities and Service Systems

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This section describes potential impacts from adoption of the proposed project on utilities and service systems, including infrastructure related to water supply, wastewater, solid waste, and energy. Information in this section is based partially on a Water Supply Assessment prepared by the East Bay Municipal Utility District (EBMUD), included as Appendix I.

### 4.12.1 Setting

#### **a. Water Supply**

##### **Water Service**

Water supply to the project sites are provided by the East Bay Municipal Utility District (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.

##### **Demand Management and Water Conservation**

Northern California's water resources, including EBMUD's supplies, have been stressed by periodic drought cycles. Historical multi-year droughts have significantly diminished the supplies of water available to EBMUD's customers. During the early stages of a drought and throughout a drought period, EBMUD imposes drought management programs to reduce customer demands, thereby saving water for the following year in case drought conditions continue. EBMUD has established a goal of reducing water use by 20 percent district-wide.

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. EBMUD's Urban Water Management Plan 2015 (UWMP) (see Enclosure 2), which is required to be updated every five years, concludes that EBMUD has, and will have, adequate water supplies to serve existing and projected demand within the Ultimate Service Boundary during normal and wet years, but that deficits are projected for multi-year droughts. During multi-year droughts, EBMUD may require significant customer water use reductions and may also need to acquire supplemental supplies to meet customer demand. However, potential supplemental water supply projects that could be implemented to meet projected long-term water supplemental need during multi-year drought periods are also in the planning phases. . Supplemental supply will also

be needed to reduce the degree of rationing and to meet the need for water in drought years.

### **Water Distribution**

EBMUD operates and maintains all treatment, storage, pumping, and distribution facilities within its service area and is responsible for all facilities up to the location of the water meter (EBMUD 2015). In the vicinity of the project sites, EBMUD's water distribution system provides potable water but is not presently equipped to distribute non-potable water. The pipeline system includes pipes of varying sizes, ranging from six to 16 inches in diameter. The majority of those pipes are eight inches in diameter, and to a lesser extent, 10 and 12 inches in diameter.

Pressures within the overall system range from 30 pounds per square inch (psi) to 130 psi. The North Berkeley BART station site would be served by the Central Pressure Zone, which has a service elevation range between 0 and 100 feet. The Ashby BART station site is served by the Claremont Pressure Zone. The Claremont Pressure Zone serves customers with service elevations of 100 to 200 feet above mean sea level (msl). This pressure zone has one 8 million gallon water storage reservoir known as Claremont Reservoir and is supplied by gravity from the Aqueduct Pressure Zone through a rate control station.

### **Water Supply Regulatory Setting**

#### *State*

Drinking water quality is regulated by the California Department of Public Health (CDPH), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region (Region 2). The California Code of Regulations, Title 22 (State Drinking Water Standards) is the primary source of State water system standards, including standards for water supply, storage capacity, and water quality. Other relevant statutes and policies include the Porter-Cologne Water Quality Control Act, the Safe Drinking Water Act, and the SWRCB Non-degradation Policy.

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 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 since then, 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.

Senate Bill (SB) 610 (2002) amended the California Water Code to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies, and ensuring that land use decisions for certain types of development projects are fully informed as to whether sufficient water supplies are available to meet project demands. SB 610 requires the preparation of a Water Supply Assessment (WSA) for a project that is subject to CEQA and meets certain requirements, including residential developments of more than 500 dwelling units.

Assembly Bill 1881, the Model Water Efficient Landscape Ordinance (WELO), required cities and counties to adopt landscape water conservation ordinances by January 31, 2010, or to adopt a different ordinance that is at least as effective in conserving water as the ordinance. The City of Berkeley requires all new and renovated irrigated landscape of over 2,500 square feet area to comply with the WELO. The WELO reinforces landscape irrigation and water conservation best practices currently required by EBMUD's Section 31 Regulations.

Executive Order B-29-15 required the State to revise the Model WELO to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, graywater usage, on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf (California Department of Water Resources 2015).

### *Regional and Local*

EBMUD is the regional public water agency serving the City and regulates water efficiency for water service customers. All applicants/proponents for new and expanded water services from EBMUD are required to comply with specifications in the Water Efficiency Requirements checklist provided in the agency's Section 31 Regulations (Appendix I). In order to meet WELO requirements, all landscaping meeting the 2,500-square-foot threshold must comply with the EBMUD's Section 31 Water Service Regulations for Outdoor Water Use. EBMUD will not furnish water service for new or expanded service unless all the applicable water-efficiency measures described in the Water Service Regulations are installed (at the project proponent's expense).

Although the zoning amendment itself does not propose construction of individual projects, residential buildout assumptions, as summarized in Section 2, *Project Description*, would exceed 500 residential units. EBMUD prepared a WSA in accordance with SB 610 for the proposed project, as summarized under the Impact Analysis discussion below and included in Appendix I. Should future projects on the project sites meet the threshold requirements for preparation of a WSA, a project-specific WSA would be prepared by individual project proponents.

In response to Governor's Executive Order B-29-15, issued on April 1, 2015, EBMUD implemented mandatory water restrictions on all customers within its service area, with the goal of reducing water demand by 20 percent. EBMUD's Policy 3.07 ensures that priority for new water service connections during restrictive periods is given to proposed developments within EBMUD's service area that include housing units affordable to lower income households in accordance with California Government Code 65589.7. The policy also states that EBMUD will not deny an application for services to a proposed development that includes affordable housing unless certain conditions are met (e.g., water shortage emergency conditions are in effect).

### **BERKELEY GENERAL PLAN**

The Environmental Management Element of the City's General Plan contains the following policies and actions related to water supply (City of Berkeley 2001c):

**Policy EM-26 Water Conservation.** Ensure that neighborhoods are well served by commercial districts and community services and facilities, such as parks, schools, child-care facilities, and religious institutions.

**Action A.** Encourage drought-tolerant landscaping and low-flow irrigation systems.

**Action B.** Consider participation in the East Bay Municipal Utility District's East Bay-shore Recycled Water Project to make recycled water available for irrigation and other non-potable uses.

## **b. Wastewater**

EBMUD operates the large diameter interceptor sewer and provides municipal wastewater treatment for Berkeley. Sanitary sewage flows from Berkeley to EBMUD's wastewater interceptors, which then directly flows to the agency's Main Wastewater Treatment Plant (MWWTP) in Oakland. Berkeley's network of pipes begin with building connections at the upper laterals (which are privately-owned and maintained) and continue to the lower laterals and the sewer mains (which are City-owned and maintained). The City has approximately 456 miles of sanitary sewer mains, with an estimated over 31,000 lateral connections. The sewer mains vary from 1 to 100 years old and vary in size from 6 to 48 inches in diameter. A 2012 assessment of the City's sanitary sewer system found capacity limitations for wet-weather flow in sewer mains along Cedar Street and on Adeline Street south of Woolsey Street for the service area conditions used in developing the assessment (Berkeley 2012).

The City's sewer system conveys wastewater to EBMUD's interceptor lines which flow to the MWWTP. The MWWTP has a primary treatment capacity of 320 mgd and a secondary treatment capacity of 168 mgd. Storage basins provide plant capacity for a short-term hydraulic peak of 415 mgd. The average annual daily flow into the MWWTP is approximately 60 mgd, representing 36 percent of the plant's secondary treatment capacity. Treated effluent is disinfected, dechlorinated, and discharged through a deepwater outfall one mile off the East Bay shoreline into San Francisco Bay.

In compliance with the July 28, 2014 Consent Decree, the City has implemented a long-term mandated Sanitary Sewer Capital Improvement Program to eliminate Sanitary Sewer Overflows and reduce storm water infiltration and inflow into the sanitary sewer system. Under this program, the City is repairing, replacing, and upgrading its portion of the sanitary sewer system, ultimately to aid EBMUD in eliminating discharges from their Wet Weather Facilities by the end of 2035.

## **Wastewater Regulatory Setting**

### *State*

The "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" adopted by the State Water Resources Control Board (SWRCB) in 2006, requires that every public agency in California with more than one mile of sanitary sewers prepare a Sewer System Management Plan (SSMP) that defines the management, operation and maintenance practices needed to prevent and mitigate the impact of sanitary sewer overflows (SSOs). The City of Berkeley prepared an SSMP in 2009 and updated the document in 2014 (City of Berkeley 2015).

Standards for wastewater treatment plant effluent are established using state and federal water quality regulations. After treatment, wastewater effluent is either disposed of or reused as recycled water. The RWQCBs set the specific requirements for community and individual wastewater treatment and disposal and reuse facilities through the issuance of Waste Discharge Requirements (WDR), required for wastewater treatment facilities under the California Water Code Section 13260.

Salt concentrations (such as chloride, nitrogen, sodium, etc.) in wastewater effluent are regulated based on the Water Quality Control Plan (Basin Plan) for the San Francisco Bay

Basin, which also considers surface water quality (discussed in Section 4.7, *Hydrology and Water Quality*). The RWQCB develops waste discharge requirements based on the Basin Plan, designed to protect beneficial uses of the State waters. The RWQCB Basin Plan contains an anti-degradation policy so that existing quality shall be maintained.

#### *Regional and Local*

The SSMP presents the City's approach to ensuring that its sanitary sewer system has adequate hydraulic capacity through a System Evaluation and Capacity Assurance Plan (SECAP). The City administers several programs and has established various standards to implement the SSMP and support efficient operation of the sewer system.

The City amended its Private Sewer Lateral (PSL) Ordinance (BMC Chapter 17.24), effective November 3, 2014, to comply with requirements mandated by the U.S. Environmental Protection Agency (EPA) and State and Regional Water Boards. The updated Ordinance provides more stringent regulations for the inspection, testing, repair, replacement, and ongoing maintenance of private sewer laterals that connect to sewer mains. This ordinance applies when a property is sold or transferred to a different owner, buildings are constructed or remodeled in excess of \$60,000, when the City finds that the PSL may be a public nuisance, or when a property owner elects to repair or replace their PSL. Property owners are required to eliminate wet-weather infiltration and inflow to private sewer laterals.

#### **BERKELEY GENERAL PLAN**

The Environmental Management Element of the City's General Plan contains the following policies and actions related to wastewater (City of Berkeley 2001c):

**Policy EM-24 Sewers and Storm Sewers.** Protect and improve water quality by improving the citywide sewer system.

**Action A.** Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.

**Action B.** Identify and eliminate illegal roof-leader and other illegal connections to the sewer system.

**Action C.** Establish a program for the identification and remediation of faulty laterals on private property. Consider requiring inspection and repair as a condition of property transfer.

**Action D.** Identify alternative funding sources for essential infrastructure improvements such as grants, public-private partnerships, and special benefit districts.

**Action E.** Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

**Action F.** Coordinate storm sewer improvements with creek restoration projects.

#### **c. Solid Waste**

The City of Berkeley is one of the few cities in Northern California to operate its own refuse, dual stream recycling and green/food waste curbside collection system as well as material recovery/drop-off and buyback facilities. The City provides curbside recycling, green/food

waste, and refuse collection services to the project sites. Solid waste, recyclable, and compostable materials collected by the City and its contracted companies are transported from the Berkeley Transfer Station, located at 1201 Second Street, for sorting or disposal at off-site facilities. The Berkeley Transfer Station currently has a maximum permitted throughput of 560 tons per day (CalRecycle 2019a). One permitted landfill in Alameda County has the capacity to accommodate solid waste generated in Berkeley: the Altamont Landfill. The maximum permitted daily throughput at the Altamont Landfill is 13,938 cubic yards, and the maximum permitted capacity is 124.4 million cubic yards. The remaining capacity for solid waste at this landfill is approximately 65.4 million cubic yards (CalRecycle, Solid Waste Information System (SWIS), 2020a). The City of Berkeley has achieved a solid waste diversion rate of 69 percent of its solid waste from landfills through recycling and/or composting efforts (City of Berkeley 2021).

## **Solid Waste Regulatory Setting**

### *State*

#### **CALIFORNIA'S SHORT-LIVED CLIMATE POLLUTANT REDUCTION STRATEGY (SB 1383)**

Signed into law in September 2016, SB 1383 establishes methane emissions reduction targets for California in a statewide effort to reduce emissions of short-lived climate pollutants. The targets are to reduce organic waste disposal 50 percent by 2020 and 75 percent by 2025. The law also grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. Enforcement of these targets starts January 1, 2022.

#### **CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT**

In 1989, the California State Legislature enacted Assembly Bill (AB) 939, known as the Integrated Waste Management Act. The Act required all cities and counties in California to develop Source Reduction and Recycling Elements that would enable them to divert 50 percent of all solid waste from landfills by the year 2000.

The Legislature later passed Senate Bill (SB) 1016, which amended AB 939 so that the 50 percent diversion requirement is calculated based on a per capita disposal rate that is determined by a jurisdiction's population. Jurisdictions in compliance with the diversion requirement are reviewed by the State every four years, while those not in compliance face review every two years.

#### **MANDATORY COMMERCIAL ORGANICS RECYCLING**

In 2014, AB 1826 required businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across California implement an organic waste recycling program to divert organic waste generated by business, including multi-family residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

### **GLOBAL WARMING SOLUTIONS ACT OF 2006**

In 2006, the Global Warming Solutions Act or AB 32, adopted by the Air Resources Board, included a Mandatory Commercial Recycling Measure. The Mandatory Commercial Recycling Measure focuses on diverting commercial waste as a means to reduce greenhouse gas (GHG) emissions, with a goal of reducing GHG emissions by five metric tons of carbon dioxide equivalents (MT of CO<sub>2</sub>e), consistent with the 2020 targets set by AB 32. CalRecycle adopted this Measure on January 17, 2012.

In 2012, SB 1018 required both businesses that generate 4 cubic yards or more of commercial solid waste per week and multi-family residences with five or more units to arrange for recycling services.

### **CALGREEN BUILDING CODE**

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires the applicant to have a construction and waste demolition and diversion plan, for on-site sorting or construction debris, which is submitted to the City of Berkeley for approval.

### *Regional and Local*

### **COUNTYWIDE INTEGRATED WASTE MANAGEMENT PLAN**

In compliance with AB 939, the Alameda County Waste Management Authority adopted the Countywide Integrated Waste Management Plan (CoIWMP) in 1997 and updated the plan in 2020. The CoIWMP provides a plan for reaching the State-mandated goal of 50 percent waste diversion and the county-mandated goal of 75 percent waste diversion. It also mandates that reduction and disposal facilities in Alameda County that require Solid Waste Facility Permits must conform with the CoIWMP's policies and siting criteria (Stop Waste 2018).

### **BERKELEY GENERAL PLAN**

The Environmental Management Element of the City's General Plan contains the following policies and actions related to solid waste (City of Berkeley 2001c):

**Policy EM-7 Reduced Wastes.** Continue to reduce solid and hazardous wastes.

**Action A.** Achieve a 64% diversion of waste from landfills.

**Action B.** Manage wastes locally to the greatest extent feasible to minimize the export of wastes and pollution to other communities.

**Action E.** Encourage reuse, recycling, and composting.

**Action F.** Facilitate battery and used oil recycling.

**Action G.** Support programs and incentives to reduce the manufacture and use of materials which are non-recyclable or hazardous to people and the environment.

**Action H.** Develop education and promotion programs to increase recycling by occupants of multi-family buildings.

**Action I.** Through legislation and other means, reduce the use of plastic by eliminating multiple layers in packaging and encourage reusable shipping containers such as collapsible pallets and refillable bottles for bulk liquids.

**Action J.** Encourage reusable bags and packaging such as reusable bottles, whether glass or plastic.

**Action K.** Link collection of plastic to mandated recycled content in plastic packaging.

**Action L.** Advocate at the state level for higher disposal fees for products that are designed for single use and for products that do not incorporate any post-consumer recycled content.

**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.

**Action A.** Encourage the reuse of demolition materials and recycling of construction scraps.

**Action B.** Expand the existing yard-waste recycling program to include restaurant and institutional food waste.

**Policy EM-9 Recycling and Waste Transfer Stations.** Ensure convenient access for Berkeley citizens to transfer stations, recycling, composting, and collection of household hazardous waste products.

**Action A.** Seek to identify a site for and develop a Berkeley hazardous waste drop-off facility, or develop a citywide pickup program.

#### **CITY OF BERKELEY GREEN BUILDING CHECKLIST**

A Green Building Checklist to ensure compliance with the 2013 California Green Building Standard Code, also known as CALGreen, is listed on the City's website for both residential and commercial projects. As of January 1, 2014, new construction, additions, and alterations are subject to CALGreen requirements. The checklist must be submitted with and incorporated into the plan sets, and any items that are marked on the checklists must then be referenced and detailed in the plans.

### 4.12.2 Impact Analysis

#### **a. Methodology and Significance Thresholds**

Assessment of impacts is based on review of site information and conditions, analysis provided in EBMUD's current UWMP, the WSA prepared by EBMUD for the proposed project, and City information regarding utility-related issues, including water supply and facilities, wastewater facilities, and solid waste. According to Appendix G of the *CEQA Guidelines*, a significant impact would occur if implementation of the proposed project would result in one or more of the following circumstances:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
4. Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed;
5. 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;
6. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
7. Not comply with federal, state, and local statutes and regulations related to solid waste.

### b. Project Impacts and Mitigation Measures

|                     |  |
|---------------------|--|
| <b>Threshold 1:</b> | Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?   |
| <b>Threshold 2:</b> | Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                            |
| <b>Threshold 5:</b> | 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? |

**IMPACT UTL-1** NEW DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD INCLUDE NEW SOURCES OF WASTEWATER, WHICH WOULD FLOW THROUGH THE EXISTING PIPE NETWORK AND TO EBMUD'S MAIN WASTEWATER TREATMENT PLANT (MWWTP). THE WASTEWATER TREATMENT PLANT HAS ADEQUATE CAPACITY TO SERVE DEVELOPMENT UNDER THE PROPOSED PROJECT. LOCAL CONVEYANCE INFRASTRUCTURE WOULD BE UPGRADED AS NECESSARY DURING IMPLEMENTATION OF THE PROPOSED PROJECT, IN ALREADY DEVELOPED UTILITY CORRIDORS. IMPACTS RELATED TO WASTEWATER INFRASTRUCTURE WOULD BE LESS THAN SIGNIFICANT.

The proposed project would facilitate new development that would generate increased sanitary sewage flows through the wastewater conveyance system to EBMUD's Main Wastewater Treatment Plant (MWWTP).

### Wastewater Treatment

EBMUD's MWWTP provides wastewater collection and treatment for the project sites, currently treating an average daily flow of approximately 63 mgd. With a secondary treatment capacity of 168 mgd, the MWWTP has a remaining capacity of 105 mgd beyond existing inflow (EBMUD 2021).

It is estimated that development associated with the proposed project would generate up to an additional 352,000 gpd (based on an assumption that wastewater flows are 80 percent of water demand), or 0.35 mgd, which accounts for 0.3 percent of the MWWTP's remaining secondary treatment capacity. The plant's existing wastewater treatment capacity would be

sufficient to accommodate the anticipated residential and commercial development under the proposed rezoning. Therefore, development facilitated by the proposed project would not result in the need to expand the capacity of the MWWTP or exceed the wastewater treatment requirements of the San Francisco RWQCB.

### **Wastewater Conveyance**

New development on the project sites would generate wastewater to be conveyed by privately owned upper laterals, City-owned lower laterals and sewer mains, and EBMUD's interceptor lines. As mentioned above, it is estimated the development facilitated by the proposed rezoning would generate 0.35 mgd of additional flow in this wastewater conveyance system. During wet-weather conditions, additional flow could potentially contribute to overflow conditions on sewer mains under and adjacent to streets near the sites, in which sewage rises into manholes and emerges at ground level. New development would be required to comply with the City's Private Sewer Lateral Ordinance, by eliminating wet-weather infiltration and inflow to private sewer laterals, which would regulate wet-weather contribution from the proposed project. However, the construction of new or expanded sewer mains may be necessary to accommodate additional wastewater flow on the project sites. The precise sizing of new wastewater conveyance pipes would be determined at the time of installation on the project sites and would be subject to the approval of the City to ensure that the system would be adequate. Construction of wastewater conveyance pipes would occur within developed areas, such as street corridors like Adeline Street, Martin Luther King Jr. Way, and Sacramento Street that already contain underground infrastructure for utilities, or on other streets adjacent or near to the project sites. All improvements would be within developed areas and connections would be within existing right-of-way. The impacts of individual new sewer main construction projects would be less than significant due to their temporary nature, adherence to existing requirements, and the already developed nature of wastewater conveyance corridors. General impacts associated with construction of buildout and improvements associated with the proposed rezoning are discussed throughout this EIR.

Additionally, future development associated with the proposed rezoning would be required to adhere to Berkeley General Plan requirements related to wastewater infrastructure. Policy EM-24 in the Berkeley General Plan and Chapter 17.05 of the BMC requires that new development pay its fair share of improvements to the storm sewer system that would be necessary to accommodate increased flows. This policy and BMC requirements would ensure that new developments are not approved until it can be demonstrated that adequate wastewater collection capacity exists, or until a financial commitment to create such capacity has been secured. Therefore, with implementation of General Plan policy EM-24 and BMC Chapter 17.05, new development associated with the proposed rezoning would have adequate wastewater conveyance systems to serve future planned development on the project sites. Accordingly, impacts related to wastewater conveyance would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

|                     |   |
|---------------------|---|
| <b>Threshold 2:</b> | Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? |
| <b>Threshold 4:</b> | Would the project have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed?  |

**Impact UTL-2 DEVELOPMENT FACILITATED BY THE PROPOSED REZONING WOULD INCREASE WATER DEMAND. EXISTING AND PROJECTED WATER SUPPLY WOULD BE ADEQUATE TO SERVE THE PROJECT SITES DEMANDS, WITH DEMAND MANAGEMENT MEASURES REQUIRED BY EBMUD. IMPACTS RELATED TO WATER SUPPLIES WOULD BE LESS THAN SIGNIFICANT.**

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According to the WSA prepared by EBMUD for the proposed rezoning, historical water demand on the project sites is approximately 14,000 gpd, and it is projected that buildout of the proposed rezoning would increase this level of water demand to 440,000 gpd (Appendix I). The projections of water demand in EBMUD's WSA for the project account for changing development patterns and land uses on the project sites, and the water demand for the project is accounted for in EBMUD's water demand projections, as published in EBMUD's 2015 Urban Water Management Plan (UWMP).

Table 4.12-1 provides a summary of the WSA's overall water demand and supply projections, in five-year increments, for a 25-year planning horizon with consideration to varying climatic (drought) scenarios. As shown in the table, EBMUD anticipates having an adequate water supply to meet demand in its service area, except during the third year of a multi-year drought starting around 2025 or later. EBMUD's system storage generally allows EBMUD to continue serving its customers during dry-year events (Appendix I). 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 UMWP 2015 includes DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions (Appendix I). 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. New development on the project sites would be subject to the same drought restrictions that apply to all EBMUD customers.

EBMUD also is developing the Bayside Groundwater Project to provide a source of supplemental supply in dry years. Other potential supplemental water projects include northern California water transfers and the expansion of Contra Costa Water District's Los Vaqueros Reservoir to meet the projected long-term water supplemental need during multi-year drought periods. The Los Vaqueros Reservoir, located in Contra Costa County to the northwest of Altamont Pass, is surrounded by natural open space in the Los Vaqueros watershed (Contra Costa Water District 2018). Currently, the U.S. Bureau of Reclamation

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

and the Contra Costa Water District are studying the feasibility of expanding the reservoir's storage capacity from 160,000 acre-feet to 275,000 acre-feet (U.S. Bureau of Reclamation et. al 2017). Expansion of the reservoir into the surrounding open space area could result in adverse effects on water quality, biological resources, geology and soils, and agricultural resources, as analyzed in the Draft Supplement to the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Los Vaqueros Reservoir Expansion (LVE) Project Phase 2.

**Table 4.12-1 Preliminary EBMUD Baseline Supply and Demand Analysis (in Acre-Feet)**

|  | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 |
|--|------|------|------|------|------|------|
| <b>Normal Year</b>   |      |      |      |      |      |      |
| Mokelumne System   | >190 | >217 | >218 | >222 | >229 | >230 |
| Demand Totals  | 190  | 217  | 218  | 222  | 229  | 230  |
| Difference   | 0    | 0    | 0    | 0    | 0    | 0    |
| <b>Single Dry Year or First Year of Multi-Year Drought</b> |      |      |      |      |      |      |
| Mokelumne System   | 145  | 169  | 170  | 173  | 179  | 179  |
| CVP Supplies <sup>2</sup>                                  | 36   | 35   | 35   | 35   | 35   | 35   |
| Bayside <sup>3</sup>                                       | 0    | 0    | 0    | 0    | 0    | 0    |
| Supply Totals  | 181  | 204  | 205  | 209  | 214  | 215  |
| Planning Level Demand <sup>1</sup>                         | 190  | 217  | 218  | 222  | 229  | 230  |
| Rationing <sup>4</sup>                                     | 5%   | 6%   | 6%   | 6%   | 7%   | 7%   |
| Demand Totals  | 180  | 203  | 204  | 208  | 213  | 214  |
| Need for Water (TAF) <sup>5</sup>                          | 0    | 0    | 0    | 0    | 0    | 0    |
| <b>Second Year of Multi-Year Drought</b>                   |      |      |      |      |      |      |
| Mokelumne System   | 81   | 103  | 103  | 107  | 112  | 113  |
| CVP Supplies <sup>2</sup>                                  | 71   | 71   | 71   | 71   | 71   | 71   |
| Bayside <sup>3</sup>                                       | 0    | 0    | 0    | 0    | 0    | 0    |
| Supply Totals  | 152  | 174  | 174  | 178  | 183  | 184  |
| Planning Level Demand <sup>1</sup>                         | 190  | 217  | 218  | 222  | 229  | 230  |
| Rationing <sup>4</sup>                                     | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  |
| Demand Totals  | 152  | 174  | 175  | 178  | 184  | 185  |
| Need for Water (TAF) <sup>5</sup>                          | 0    | 0    | 0    | 0    | 0    | 0    |
| <b>Third Year of Multi-Year Drought</b>                    |      |      |      |      |      |      |
| Mokelumne System   | 111  | 132  | 132  | 125  | 120  | 104  |
| CVP Supplies <sup>2</sup>                                  | 40   | 40   | 40   | 40   | 40   | 40   |
| Bayside <sup>3</sup>                                       | 1    | 1    | 1    | 1    | 1    | 1    |
| Supply Totals  | 152  | 174  | 173  | 166  | 162  | 145  |
| Planning Level Demand <sup>1</sup>                         | 190  | 217  | 218  | 222  | 229  | 230  |
| Rationing <sup>4</sup>                                     | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  |
| Demand Totals  | 152  | 174  | 174  | 178  | 183  | 184  |
| Need for Water (TAF) <sup>5</sup>                          | 0    | 0    | 2    | 13   | 24   | 48   |

<sup>1</sup> Planning Level Demand accounts for projected savings from water recycling and conservation programs as discussed in the 2015 UWMP, Chapters 6 and 7, respectively. Customer demand values are based on the Mid Cycle Demand Assessment, October 2014.

<sup>2</sup> Projected available CVP supplies are taken according to the Drought Management Program Guidelines discussed in Chapter 3.

|  | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 |
|--|------|------|------|------|------|------|
|--|------|------|------|------|------|------|

<sup>3</sup> For the purposes of this modeling effort, it is assumed that the Bayside Groundwater Project would be brought online in the third year of a drought.

<sup>4</sup> Rationing reduction goals are determined according to projected system storage levels in the Drought Management Program Guidelines discussed in the 2015 UWMP, Chapter 3.

<sup>5</sup> Need for Water includes unmet customer demand as well as shortages on the Lower Mokelumne River.

Source: Appendix I

After implementation of mitigation measures, the residual impacts would not exceed those anticipated in the Final EIS/EIR for a prior expansion of the reservoir. Mitigation would include, among other actions, stormwater control measures; treatment of dewatered groundwater; avoiding, minimizing, and compensating for the loss of sensitive habitat; avoiding and minimizing the loss of wetlands; surveying, avoiding, and compensating for adverse effects on special-status species; and compensating for the loss of important farmland. Future reservoir expansion to increase water supply reliability for providers in the San Francisco Bay Area, including the project sites, would not result in additional environmental impacts than analyzed in this EIS/EIR. In addition to supplemental water projects, EBMUD maximizes resources through continuous improvements in the delivery and transmission of available water supplies and investments in ensuring the safety of its existing water supply facilities to ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the service area.

Despite the WSA’s findings that deficits are projected for multi-year droughts, compliance with the water conservation regulations and policies would help to maintain sufficient supplies. New development would be subject to the California Code of Regulations concerning water-efficient landscapes (Division 2, Title 23, CCR, Chapter 2.7, Sections 490 through 495). Although the project sites are not currently candidates for recycled water, future recycled water pipeline expansion toward Berkeley could potentially serve a portion of the project sites. The WELO, which reinforces landscape irrigation and water conservation best practices currently required by EBMUD’s Section 31 Regulations, also would encourage the use of drought-tolerant landscaping and low-flow irrigation systems.

Implementation of the WELO would encourage water conservation for new development and in landscaped areas. Furthermore, new development would be subject to other green building and water conservation requirements described in the Water Supply Regulatory Setting. The WSA prepared by EBMUD for the proposed project shows that there is sufficient water supply to serve the project sites and overall service area demand, with demand management during multi-year drought conditions. In that event, people on the project sites and other EBMUD customers would be subject to a Demand Management Plan and other water conservation requirements that will address any shortage in supply. Based on the substantial evidence discussed above, there are sufficient water supplies available to serve the proposed project. Impacts related to water supply would be less than significant.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

|                     |   |
|---------------------|---|
| <b>Threshold 6:</b> | Would the project be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs? |
| <b>Threshold 7:</b> | Would the project comply with federal, state, and local statutes and regulations related to solid waste?                                |

**IMPACT UTL-3 IMPLEMENTATION OF THE PROPOSED REZONING WOULD GENERATE AN INCREASE OF APPROXIMATELY 5.3 TONS OF SOLID WASTE PER DAY, OR 10.6 CUBIC YARDS PER DAY. BECAUSE LANDFILLS THAT SERVE THE CITY OF BERKELEY HAVE ADEQUATE CAPACITY TO SERVE DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT, IMPACTS RELATED TO SOLID WASTE FACILITIES WOULD BE LESS THAN SIGNIFICANT.**

Implementation of the proposed rezoning would increase solid waste generation in Berkeley by adding an estimated 2,400 residential units and 125,000 net square feet of commercial uses on the project sites. CalRecycle estimates that multi-family residential uses generate an average of four pounds of solid waste per unit per day, while commercial retail generates up to 0.046 pounds per square foot per day (CalRecycle 2019b).

As shown in Table 4.12-2, prior to implementation of recycling programs or State-mandated diversion requirements, development associated with the rezoning would generate an estimated 15,350 net pounds per day of solid waste, or 7.7 tons per day. 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 of Berkeley has achieved a diversion rate of 76 percent, which substantially exceeds this State requirement. Assuming that this diversion rate continues to apply to new development on the project sites, implementation of the project would generate an additional 2.4 tons per day of solid waste for disposal at landfills.

**Table 4.12-2 Estimated Solid Waste Generation**

| Use                                      | Buildout |                | Generation Rate              | Solid Waste (pounds per day) | Solid Waste (tons per day) | Solid Waste (cubic yards per day) <sup>2</sup> |
|--|----------|----------------|------------------------------|------------------------------|----------------------------|--|
|  | Quantity | Units          |                              |                              |                            |  |
| Multi-family Apartment                   | 2,400    | dwelling units | 4.0 pounds/unit/day          | 9,600                        | 4.8                        | 9.6  |
| Retail commercial <sup>1</sup>           | 125,000  | square feet    | 0.046 pounds/square foot/day | 5,750                        | 2.9                        | 5.8  |
| <b>Total Before Diversion</b>            |          |                |                              | <b>15,350</b>                | <b>7.7</b>                 | <b>15.4</b>                                    |
| <b>Total Assuming 69% Diversion Rate</b> |          |                |                              | <b>4,758.5</b>               | <b>2.4</b>                 | <b>4.8</b>                                     |

<sup>1</sup> This analysis makes the conservative assumption that all commercial development consists of retail commercial space, which generates more solid waste per square foot than typical generation rates for commercial offices.

<sup>2</sup> Based on the conversion factor described under Table 4.13-1, County-Service Landfill Capacity for “landfill density” Municipal Solid Waste, of approximately 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard.

Source: CalRecycle 2019b

As discussed in the Solid Waste Setting, the Altamont Landfill is an active landfill that can accommodate solid waste from Berkeley. This landfill has a combined remaining capacity of approximately 65.4 million cubic yards. With development facilitated by the proposed rezoning, it is estimated that the project sites would generate an additional 4.8 cubic yards per day of solid waste for disposal at landfills. This amount would equate to approximately 1,743 cubic yards per year. This represents 0.003 percent of the current total remaining landfill capacity.

Continued compliance with applicable regulations and Berkeley General Plan policies listed in the Solid Waste Regulatory Setting would ensure that development facilitated by the project complies with federal, state, and local statutes and regulations related to solid waste and would lead to increased recycling and waste diversion. For instance, project applicants would be required to recycle and/or salvage a minimum of 65 percent of the nonhazardous construction and demolition waste pursuant to BMC 19.37.040. Therefore, anticipated rates of solid waste disposal from the proposed rezoning would have a less than significant impact related to solid waste disposal facilities.

### **Mitigation Measures**

Impacts would be less than significant without mitigation. No mitigation measures are required.

### **c. Cumulative Impacts**

#### **Wastewater**

Planned and pending projects as described in Section 3, *Environmental Setting*, in the project area will continue to increase demands on the existing wastewater treatment and conveyance facilities. The MWWTP is operating at approximately 36 percent of the plant's secondary treatment capacity. Therefore, the plant has sufficient capacity for the increased flow anticipated from planned and pending projects in combination with future development associated with the project. New wastewater conveyance infrastructure may be necessary to serve planned and pending projects in the project area, including on the project sites. However, individual improvements to the sewer system would occur in existing utility corridors in already developed areas. Therefore, the cumulative impact related to wastewater infrastructure would be less than significant, and the project would not considerably contribute to a cumulative impact.

#### **Water**

The analysis provided under Impact UTL-2 is cumulative in nature and considers water demand associated with the development included under the proposed rezoning, as well as water demands associated with other developments (existing and projected) within EBMUD's service area. EBMUD confirmed in the WSA prepared for the proposed rezoning that water demand for the project sites is accounted for in EBMUD's projections (Appendix I). The UMWP 2015 also includes DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. As stated in the WSA, development facilitated by the proposed rezoning would be subject to the same drought restrictions that apply to all EBMUD customers. In addition, developments facilitated by the proposed rezoning would be subject to EBMUD's regulations aimed at encouraging efficient water use, such as Sections 29 and 31 of EBMUD's Regulations Governing Water Service. Section 29, "Prohibiting Wasteful Use of Water," promotes efficient water use by EBMUD customers and includes additional restrictions on wasteful uses of potable water. Section 31, "Water Efficiency Requirements," identifies the types of water efficiency requirements (i.e., maximum flow rates for flow control devices) for water service. Therefore, the cumulative impact related to water supply would be less than significant, and the proposed rezoning would not considerably contribute to a cumulative impact.

## **Solid Waste**

Planned and pending development in the area as described in Section 3, *Environmental Setting*, will continue to increase solid waste generation for disposal at landfills that serve the City. State-mandated solid waste diversion rates (for recycling) would continue to minimize the quantity of waste directed to area landfills, and compliance applicable regulations and with General Plan goals, policies, and actions would maintain or improve upon existing solid waste diversion rates. It is assumed the City of Berkeley will continue to divert at least 76 percent of solid waste from landfills due to its recycling and green waste programs. Therefore, cumulative development would not increase the need for construction of additional landfill capacity and a cumulative impact would not occur. As discussed in Impact UTL-3, buildout of the project would generate a limited amount of solid waste, representing a negligible percent of the remaining capacity of existing landfills serving Alameda County. This incremental increase in solid waste associated with the project would not considerably contribute to an impact related to solid waste disposal.

## 4.13 Effects Found not to be Significant

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*CEQA Guidelines* §15128 requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail in the EIR. This section addresses the potential environmental effects of the proposed project that were found not to be significant or to be less than significant with mitigation. The items listed below that were not found to be significant are contained in the environmental checklist form included in Appendix G of the most recent update of the *CEQA Guidelines*.

### 4.13.1 Aesthetics

Senate Bill (SB) 743 was signed into law on September 27, 2013. According to SB 743, which became effective January 1, 2014, “aesthetics...impacts of a residential, mixed-use, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.” Pursuant to Section 21099 of the California Public Resources Code, a “transit priority area” is defined in as an area within 0.5 mile of an existing or planned major transit stop. A “major transit stop” is defined in Section 21064.3 of the California Public Resources Code as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

The proposed rezoning provides a vision and planning framework for future growth and development in on the project sites that includes infill residential projects. The project sites are within a transit priority area and as such meet the criteria of SB 743. The Ashby BART station site and North Berkeley BART station site are rail transit stations and are served by multiple bus lines connecting the stations to the community, and the ancillary parking lots encompassed in the project sites are within 0.5 miles of the nearest BART stations.

Because implementation of the proposed rezoning would result in residential, mixed-use, and employment center projects on infill sites within a transit priority area, aesthetics impacts may not be considered significant impacts on the environment.

Pursuant to CEQA Statute §21099.d, “aesthetic impacts do not include impacts on historical or cultural resources.” Additional analysis of impacts related to historic or cultural resources is warranted in the EIR. This analysis is included in Section 4.2, *Cultural Resources*, of this EIR. In addition, Section 4.7, *Land Use and Planning*, includes a discussion of the proposed rezoning’s consistency with City plans and goals, including applicable ones related to design and aesthetics.

### 4.13.2 Agricultural Resources

#### **a. Setting**

The project sites are in urbanized areas in Berkeley. The City’s General Plan land use map and zoning maps do not identify any agriculture or forestry resources in Berkeley. The Farmland Mapping and Monitoring Program of the California Resources Agency does not identify lands in Berkeley as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation [DOC] 2016). Furthermore, there are no areas of forestland or forest and rangeland identified in the city (City of Berkeley 2001a).

## b. Checklist Questions

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant impact if it would:

1. Convert Prime Farmland, Unique Farmland, 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;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
4. Result in the loss of forest land or conversion of forest land to non-forest use; or
5. 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.

## c. Answers to Checklist Questions and Conclusions

1.-5.) There are no agricultural lands on or adjacent to the project sites. None of the properties on or adjacent to the project sites are under a Williamson Act contract. Also, no properties on or adjacent to the project sites are zoned for timberland or contain forest land or significant stands of trees (City of Berkeley 2001a). Therefore, there would be no impacts with respect to agricultural lands, Williamson Act contracts, timberland, or forest resources.

### 4.13.3 Biological Resources

#### a. Setting

The project sites and vicinity are urbanized and do not include substantial areas of open space or undeveloped, unpaved land. Developed areas correspond with the urban land cover type described in the California Wildlife Habitat Relationships (California Department of Fish and Wildlife [CDFW], 2021a; Mayer and Laudenslayer, 1988). As such, vegetation is limited largely to landscaping and street trees. Plant species in urban areas are highly variable, and vegetation structure includes shade/street trees, lawns, and shrub cover.

Some ruderal vegetation occurs along roadsides and vacant lots. Ruderal vegetation is associated with urban areas where substantial ground disturbance activities occur. Ruderal areas are often found along roadsides, fence-lines, and in areas undergoing urban development. Ruderal plant communities are not described by Holland (1986), Sawyer et al. (2009), or Mayer and Laudenslayer (1988). They are typically dominated by herbaceous plants (i.e., forbs) such as mustards (*Brassica spp.*), wild radish (*Raphanus sativus*), and mallows (*Malva spp.*), and include many non-native annual grasses such as ripgut brome (*Bromus diandrus*), wild oats (*Avena spp.*), and foxtail barley (*Hordeum murinum*).

There are no mapped or designated federally or State protected wetlands within the project sites (U.S. Fish and Wildlife Service [USFWS] 2021). The project sites do not contain aquatic features that would fall under regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), or CDFW.

Likewise, there are no creeks or natural waterways in the project sites, as the surrounding vicinity is urbanized and developed.

For the purpose of this analysis, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or National Marine Fisheries Service (NMFS) under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern,” or “Fully Protected” by CDFW; and plants with a California Rare Plant Rank (CRPR) of 1 and 2, which are defined as follows:

- List 1A = Plants presumed extinct in California
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened, or no current threats known)
- List 2 = Rare, threatened or endangered in California, but more common elsewhere

Queries were conducted of the USFWS Information, Planning and Conservation System (IPaC) (USFWS 2021b), USFWS Critical Habitat Portal (USFWS 2020c), California Natural Diversity Database (CNDDDB) (CDFW 2021a), and California Native Plant Society (CNPS) *Online Inventory of Rare and Endangered Plants of California* (CNPS 2021) to obtain comprehensive information regarding federally and State listed species, sensitive communities, and federally designated Critical Habitat known to or considered to have potential to occur within the Ashby or North Berkeley BART station sites.

### **Sensitive Communities and Critical Habitat**

No natural communities considered sensitive by the CDFW occur in the project sites, but the CNDDDB lists three sensitive natural communities that occur within a 5-mile radius of the BART station sites. Federally designated critical habitat for one species also occurs within a 5-mile radius of the BART station sites. Table 4.13-1 lists these sensitive communities and critical habitat.

**Table 4.13-1 Sensitive Communities and Critical Habitats Documented within a Five-mile Radius of the Ashby and North Berkeley BART Station Sites****Communities Considered Sensitive by the CDFW**

Northern Coastal Salt Marsh

Northern Maritime Chaparral

Valley Needle Grassland

**Critical Habitat**Alameda Whipsnake (*Masticophis lateralis*)

Source: CNDDDB (CDFW 2021a); Critical Habitat Portal (USFWS 2021c)

Northern Coastal Salt Marsh is located approximately four miles northwest of the North Berkeley BART station site at Point Isabel Regional Shoreline State Park along the bayfront in Richmond, just west of I-580 as well as 1.8 miles south east of the Ashby BART station site, at McLaughlin Eastshore State Park near the interchange of I-580 and I-80 just west of Emeryville (CDFW 2021a). Northern Maritime Chaparral is located approximately 4 miles east of the Ashby BART station site at Huckleberry Botanic Regional Preserve off of Skyline Boulevard in the Oakland hills. Valley Needle Grassland is found on Brooks Island off the southern Richmond shoreline, 3.8 miles northwest of the North Berkeley BART station site. Critical habitat for Alameda whipsnake occurs approximately 1.5 miles east of the Ashby BART station site and 2 miles east of the North Berkeley BART station site (USFWS 2020c). No sensitive natural communities or critical habitat occurs within the project footprint.

**Special Status Plant and Animal Species**

The San Francisco Bay Area is home to several species protected by federal and State agencies. Queries were conducted of the USFWS IPaC (2020b), CNDDDB (CDFW 2020b), and CNPS (2020) to obtain comprehensive information regarding federally and State listed species, as well as other special status species and sensitive plant communities considered to have potential to occur or known to occur in the *Oakland West or Richmond, California* USGS 7.5-minute topographic quadrangles and/or surrounding ten quadrangles (*Oakland East, San Leandro, Hunters Point, San Francisco South, San Francisco North, San Quentin, Mare Island, Benicia, Petaluma Point* and *Briones Valley*). Strictly marine, estuarine, and aquatic species were excluded from further analysis given the upland terrestrial nature of the project sites. Plant species with specific habitat requirements not present in the project sites such as vernal pools, alkali or serpentine soils, or higher elevation ranges were also excluded from this analysis. The results of these scientific database queries were compiled into Table J-1 and Table J-2 included in Appendix J. A total of 83 special status plants and 58 special status animals were identified by these queries. Of those, 47 have known occurrences within a 5-mile radius of the North Berkeley BART station site and 49 have known occurrences within a 5-mile radius of the Ashby BART station site. Many of these species have sensitivity ratings below the CEQA threshold for significant impacts from development in urban settings such as the project sites. The existing conditions (developed and disturbed) and the lack of native vegetation communities or suitable ecological conditions on the site preclude the potential for rare plants to occur within the site, and none of the 83 special status plant species are expected to occur. This list of special status animal species was reviewed and refined according to the potential for species to occur on the project sites based on the presence and quality of habitats within the project sites. Of these 58 species, five have a low potential to occur on the sites based on presence of

suitable habitat and known occurrences within five miles. Special status animal species include:

#### *Crotch Bumble Bee*

Crotch bumble bee (*Bombus crotchii*) is a state candidate for listing (Endangered). This species is found mostly in coastal California east to the Sierras. Native bumble bees overwinter in burrows or leaf litter on the ground. This species is a generalist and feeds on plants, including but not limited to the following genera: *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum* (Koch, Strange, and Williams, 2012). There is one known occurrence from 2015 located between the two BART stations.

#### *Western Bumble Bee*

Western bumble bee (*Bombus occidentalis*) is a state candidate for listing (Endangered). The historic range of this species covered much of the western United States, from the Pacific coast to the Colorado Rocky Mountains. This species has a wide variety of plant associations, including but not limited to, species in the genera: *Melilotus*, *Cirsium*, *Trifolium*, *Centaurea*, *Chrysothamnus*, and *Eriogonum* (Koch, Strange, and Williams, 2012). There are four historic occurrences ranging from 1965 to 1992 within five miles of the project sites.

#### *American Peregrine Falcon*

The American peregrine falcon (*Falco peregrinus anatum*) is a CDFW Fully Protected species. The American peregrine falcon typically occurs near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, or mounds, although they can also use human-made structures for nesting or perching. There is a known occurrence adjacent to the Ashby BART station site.

#### *Big-free Tailed Bat*

The big-free tailed bat (*Nyctinomops macrotis*) is a CDFW Species of Special Concern in the family Molossidae. The big-free tailed bat occurs in rugged rocky habitats in arid landscapes and is associated with plant communities such as desert shrub, woodlands and evergreen forest. Big-free tailed bats roost mainly in crevices and rocks, although they have been recorded in urban areas as well. There is one historic occurrence from 1916 overlapping the Ashby BART sites.

#### *Pallid Bat*

The pallid bat (*Antrozous pallidus*) is a CDFW Species of Special Concern in the family Vespertilionidae. In California, the species occurs throughout California in a variety of habitats including low desert, oak woodland and coastal redwood forests, extending up to 3,000 meters elevation in the Sierra Nevada. There are five historic occurrences ranging from 1942 to 1967 overlapping or in the vicinity of the project sites.

### **Wildlife Movement Corridors**

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors

for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Wildlife movement corridors can be both large and small scale. There are no essential connectivity areas (ECAs) mapped by the Biogeographic Information and Observation System (BIOS) on the project sites. The closest mapped ECA is in southern Berkeley and connects several natural landscape blocks in the east San Francisco Bay Area. It extends from the foothills southeast of San Pablo Bay to the southeast, paralleling the San Francisco Bay shoreline and connecting with the Diablo Range east of Fremont. CDFW characterizes the value of essential connectivity areas based on permeability to wildlife movements. As mapped in BIOS, the edges of this connectivity area become increasingly less permeable as they extend toward Berkeley and developed areas of Alameda County. Both project sites are in urbanized areas, isolated from wildlife connectivity areas, and do not function as significant wildlife connectivity or movement areas, even on a local scale.

### **b. Checklist Questions**

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant impact if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
3. 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;
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### **c. Answers to Checklist Questions and Conclusions**

1.-5.) For this analysis, special status plant and animal species include those described under *Special Status Plant and Animal Species*, above. As the project sites lack habitat and native vegetation, special status species are not anticipated to be present. New development facilitated under the proposed project would not differ substantially from the urban development already in the vicinity of the project sites in regard to implications for biological resources. Development facilitated by the proposed project would occur in existing urbanized areas and would not involve construction in environmentally sensitive areas, which are absent from the project sites.

Trees and other vegetation in the project sites may support species of nesting migratory birds protected under California Fish and Game Code (CFGF) or special status species such as the American peregrine falcon (Fully Protected). Therefore, impacts to nesting special status birds and non-special status migratory birds could occur. However, development projects that require a use permit are required to comply with the following City of Berkeley standard condition of approval that addresses these potential impacts:

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) and California Fish and Game Code (CFGF), 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.

With compliance with City of Berkeley standard conditions of approval, impacts to nesting birds would be less than significant, and violations of the CFGF and MBTA would be avoided.

As mentioned above and presented in Table J-1 and Table J-2 in Appendix J, 58 special status animals and 83 special status plants are known to or have potential to occur in the vicinity of the project sites. Of these, 40 (23 animal species and 17 plant species) are given the highest levels of protection by the federal government through listing under FESA and/or by the state government through listing under CESA or Fully Protected. The remaining species shown in Table J-1 and Table J-2 in Appendix J are protected through CEQA as special status species for which population-level effects would be considered significant.

Because the project sites are urbanized and developed, most special status species do not occur in the project sites because of a lack of specific habitat constituents. Some special status species that have higher tolerance for urban development and human activity (e.g., some raptors and some bat species) have low potential to occur. As discussed above, six special status animal species have been recorded in or near the BART station project sites but have low potential to occur.

Impacts to Crotch bumble bee and western bumble bee may occur if a colony is present in undeveloped areas. However, no impacts to previously undisturbed areas would occur, as all work would take place on previously developed sites. Nonetheless, foraging individuals within the project sites could be injured or killed during construction. Additionally, special-status bat species have some potential to occur throughout project sites as described above and may be affected by proposed projects where they occur in buildings or similar structures

or in native habitat adjacent to construction areas. Therefore, impacts to these species are potentially significant and mitigation is required.

### **Mitigation Measures**

The following mitigation measures are required.

#### *Mitigation Measure BIO-1 Worker Environmental Awareness Program*

Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the construction area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction. All construction employees shall sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the City to document compliance.

#### *Mitigation Measure BIO-2 Special-status Bat Species Avoidance and Minimization*

Development that involves removal of mature trees large enough to contain crevices and hollows that could support bat roosting, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to demolition or tree removal. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW prior to issuance of grading permit.

### **Significance After Mitigation**

With implementation of Mitigation Measures BIO-1 and 2, impacts to special species associated with future development in the Ashby and North Berkeley BART station sites under the proposed project would be avoided. This impact would be less than significant.

6) Trees planned for removal as part of future development under the project are required to be removed in accordance with Berkeley General Plan policies and Berkeley Municipal Code ordinances. General Plan Policy EM-29 requires the City to maintain and enhance street and park trees to improve the environment and provide habitat. On-going 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 proposed projects 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.

Development of the proposed project would be required to adhere to General Plan policies and to BMC Chapter 6.52. 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.

The project sites are not located in an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2020). Therefore, the project would not conflict with such a plan and no impact would occur.

#### 4.13.4 Geology and Soils

##### **a. Setting**

##### **Regional and Local Geology**

Berkeley is situated within the Coast Ranges geomorphic province of California (California Geological Survey 2002). 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 (Norris and Web 1990). 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 (Norris and Webb 1990).

Specifically, 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 2001b).

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 2001b).

As mapped by the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), the entirety of both project sites consist of Urban land-Tierra complex, 2 to 5 percent slopes (USDA 2019).

Similar to much of California, the project sites are 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 within the City of Berkeley. These major faults and fault zones include:

- **The San Andreas Fault**, the most likely source of a major earthquake in California, 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 historic 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 ten major faults that make up the San Andreas Fault Zone, runs approximately 3 miles east of the project sites 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 2014).
- **Other active faults** in the vicinity 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.

In addition to the primary hazard of surface rupture, earthquakes often result in secondary hazards that can cause widespread damage. The most likely secondary earthquake hazards in the City are ground shaking, liquefaction, and settlement (City of Berkeley 2001b).

## **Ground Shaking**

Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. The USGS and Associated Bay Area Governments (ABAG) have worked together to map the likely intensity of ground-shaking throughout the Bay Area under various earthquake scenarios. The most intense ground-shaking scenario mapped in the vicinity assumes a 7.0 magnitude earthquake on the Hayward Fault system (northern and southern segments). The predicted ground-shaking level from such an earthquake would be “severe shaking” throughout the City (ABAG 2019).

## **Liquefaction and Seismically Induced Settlement**

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. The City of Berkeley General Plan Safety

Element Figure 13 shows that the project sites are not in an area at risk for liquefaction (City of Berkeley 2001b).

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. There are numerous factors that affect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking.

According to the Disaster Preparedness and Safety Element of the City of Berkeley General Plan (City of Berkeley 2001b), landslide risk is low throughout the majority of Berkeley, including the project sites.

## **Expansive 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 moistures 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. Expansive soils are typically very fine-grained with a high to very high percentage of clay. The clay minerals present typically include montmorillonite, smectite, and/or bentonite. Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. The urban land-Tierra complex soils on the project sites have a linear extensibility of 4.9 percent, which represents a moderate shrink-swell potential (USDA 2017).

## **Erosion**

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 Setting

As shown in Figure 4.13-1, the geology of the project sites is mapped at a scale of 1:50,000 by Graymer (2000) and includes two geologic units mapped at ground surface: Quaternary young (late to middle Holocene) alluvial fan and fluvial deposits (Qhaf) and Quaternary old (Pleistocene) alluvial fan and fluvial deposits (Qpaf).

Quaternary young (late to middle Holocene) alluvial fan and fluvial deposits (Qhaf) deposits are composed of brown or tan, medium dense to dense, gravely sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay (Graymer 2000).

Quaternary old (Pleistocene) alluvial fan and fluvial deposits (Qpaf) consist of brown, dense, gravely, and clayey sand or clayey gravel that fines upward to sandy clay. These deposits display various sorting and are located along most stream channels in the county. They are less permeable than Holocene deposits and locally contain freshwater mollusks and extinct late Pleistocene vertebrate fossils (Graymer 2000).

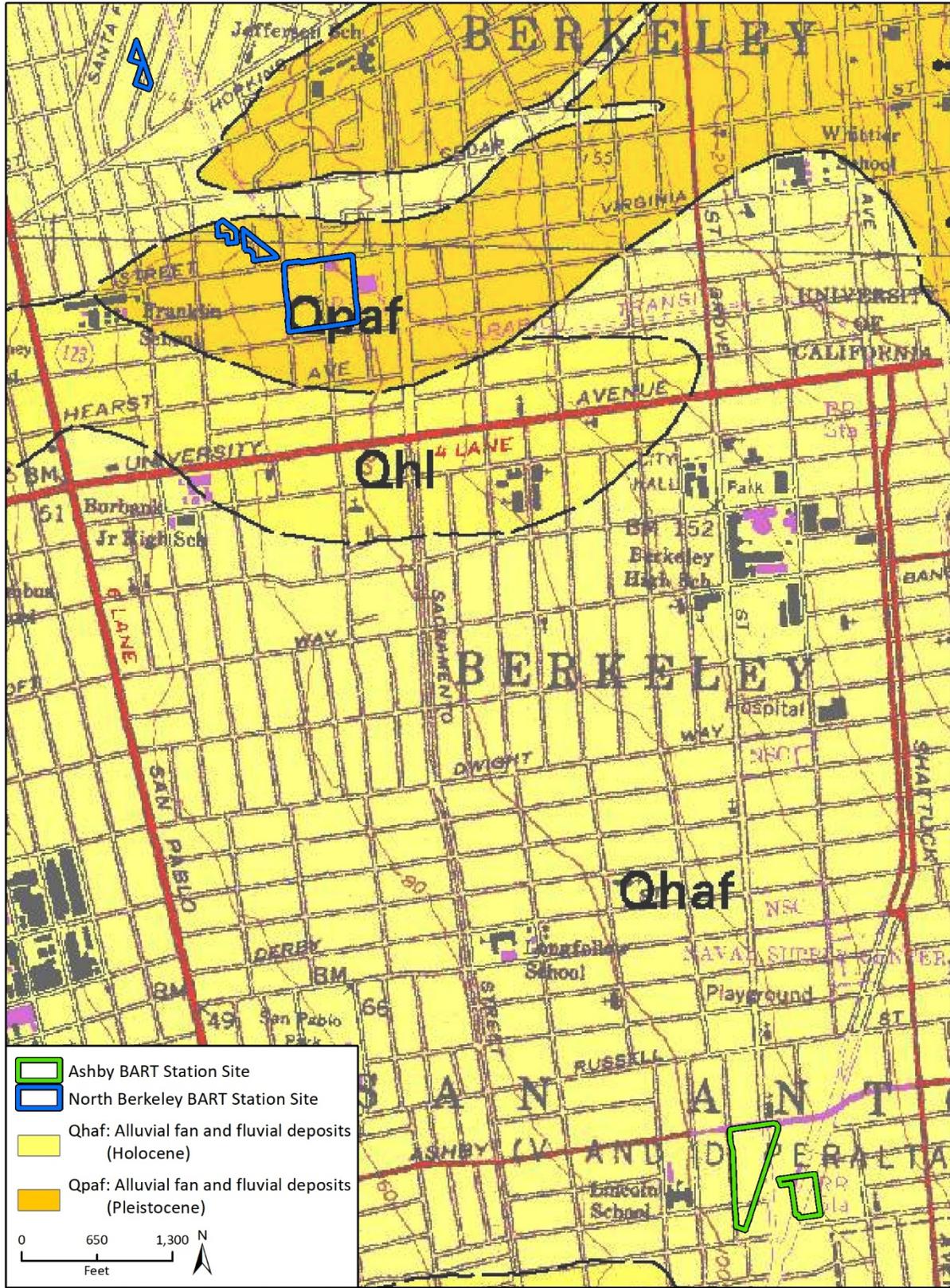
## Paleontological Resources Sensitivity

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the project sites based on a review of published geologic maps and relevant paleontological and geological data in the scientific literature. Rincon assigned a paleontological sensitivity to the geologic units within the project sites. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

Absent specific agency guidelines, most professional paleontologists in California adhere to guidelines set forth by Society of Vertebrate Paleontology (SVP) (2010) in “Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources”. These guidelines establish detailed protocols for the assessment of the paleontological resource potential (i.e., “sensitivity”) of a project area and outline measures to follow in order to mitigate adverse impacts to known or unknown fossil resources during project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) (or members thereof) underlying a project area can be assigned to a high, undetermined, low, or no paleontological sensitivity category, as defined by SVP (2010). This criterion 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. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and geologic processes. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible. As such, common fossils (especially vertebrates) may be scientifically important, and therefore considered highly significant.

Figure 4.13-1 Geologic Units Underlying the Project Sites



The paleontological sensitivity of the project area was evaluated according to the following SVP (2010) categories:

- I. High Potential (sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.
- II. Low Potential (sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.
- III. Undetermined Potential (sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- IV. No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

In general terms, for geologic units with high sensitivity, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low sensitivity, protection or salvage efforts typically are not required. For geologic units with undetermined sensitivity, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontological potential of the rock units present within the study area. For geologic units with no sensitivity, a paleontological monitor is not required.

## **b. Checklist Questions**

In accordance with Appendix G of the *CEQA Guidelines*, the proposed zoning changes would result in a significant impact if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
  - a. 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
  - b. Strong seismic ground shaking
  - c. Seismic-related ground failure, including liquefaction
  - d. Landslides;
2. Result in substantial soil erosion or the loss of topsoil;
3. 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;
4. 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;
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

### **c. Answers to Checklist Questions and Conclusions**

1a-1b) The project sites are located in a seismically active region of California and are subject to potential ground shaking associated with seismic activities. The Hayward fault system has been assessed to have 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 30 years (Alameda County 2013). A seismic event with magnitude 6.7 or greater would be substantial and would have potential to damage structures and result in loss of property and risk to human health and safety. These risks exist throughout the City, regardless of proposed project. The area is currently developed and populated. Implementation of the proposed project would increase population and structural development in the area that would be exposed to these hazards.

Development facilitated by the proposed project would be required to conform to the CBC (as amended at the time of permit approval) as required by law. The City of Berkeley has adopted the CBC by reference pursuant to Title 19, Chapter 28 of the BMC. The City of Berkeley Building Codes includes requirements for foundation and structural design to resist seismic hazards. Future development facilitated by the project would be reviewed by the Building and Safety Division during the normal plan review process to confirm that the necessary geotechnical investigations are completed and that the structural design of the project is consistent with design measures recommended in the Geological report prior to issuance of required building permits. The City would therefore ensure that development would be designed and constructed consistent with the current City of Berkeley Building Codes and with the findings and recommendations of the site-specific geotechnical reports to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction. Proper engineering, including compliance with the City of Berkeley Building Codes, would minimize the risk to life and property associated with potential

seismic activity in the area. Impacts related to fault rupture and seismic shaking would be less than significant with no mitigation required.

1c, 3) The project sites are not in areas at high liquefaction risk. Therefore, potential development under the proposed project would not directly or indirectly cause the risk of loss, injury or death related to liquefaction.

However, the soil type present on the project sites have a moderate potential for shrink-swell. Therefore, development facilitated by the project could result in new development on unstable soils. As required by the Public Resources Code (PRC) Section 2690-2699.6, *Seismic Hazards Mapping Act* and CBC requirements as adopted in the BMC, site-specific geotechnical investigations would be required for development proposed under the rezoning to identify the degree of potential hazards, design parameters for future developments based on the hazard, and describe appropriate design measures to address hazards. These geotechnical studies customarily include recommendations for foundation design, as well as soil improvement techniques, both of which help mitigate these unstable soils.

In addition, projects that require discretionary approval would be reviewed for their compliance with General Plan policies, including *Policy S-13A: Hazards Identification and Policy S-14B: Land Use Regulation* of the City's General Plan Disaster Preparedness and Safety Element.

Compliance with the CBC, PRC Section 2690-2699.6, General Plan policies, and the City's Municipal Code would ensure that potential impacts associated with seismic-related ground failure or unstable soils would be less than significant.

In addition, the BART subway right-of-way is located underneath some areas of the project sites and construction may occur over the BART zone of influence. Proponents for development on the project sites would be required to submit the results of a site-specific geotechnical investigation and the final engineering and design plans to the City of Berkeley Department of Planning and Development – Building and Safety Division prior to issuance of a grading permit. The final plans must demonstrate adherence to the BART General Guidelines for Design and Construction Over or Adjacent to BART's Subway Structures, including not imposing any permanent or temporary loads on the BART subway and requiring shoring in the zone of influence to maintain at-rest soil condition and be monitored for movement (San Francisco BART District 2003).

1d) The project sites are not located within an identified landslide hazard zone. The project would not result in impacts related to landslides.

2) As mapped by the NRCS, the project sites consist of Urban land-Tierra complex two to five percent slopes (USDA 2017). The project sites lie in a generally flat region, approximately 100 feet above mean sea level, and the mapped soils have a "slight" potential for erosion-related hazards, which limits the potential for substantial soil erosion (refer to Section 10, *Hydrology and Water Quality*).

Construction activities that disturb one or more acres of land surface are subject to the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the SWRCB. Compliance with the NPDES permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require the development of a stormwater pollution prevention plan, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites

before and after storms is also required to identify stormwater discharge from the construction activity and to identify and implement erosion controls, where necessary. Compliance with the Construction General Permit is reinforced through the City's Municipal Code in Chapter 21, Section 40, which requires applicants to comply with grading, erosion and sedimentation control plan regulations on file with the Public Works Department.

The existing soil composition of the project sites, along with required compliance with aforementioned regulations, NPDES permit and regulations, ensures that impacts associated with substantial soil erosion or loss of topsoil would be less than significant.

4) On-site soils have a moderate potential for shrink-swell behavior, or expansiveness. Section 1803 of the 2019 CBC, as adopted in BMC Chapter 19.28, requires the preparation of geotechnical investigations for projects proposed to be constructed on expansive soils. Moreover, the report is required to be approved by the City to ensure that recommended action in the report would prevent structural damage. Building on unsuitable soils would have the potential to create future subsidence or collapse issues that could result in the settlement of infrastructure, and/or the disruption of utility lines and other services.

Compliance with existing State and local laws and regulations, would ensure that impacts associated with expansive soil are minimized by requiring the submittal and review of detailed soils and/or geologic reports prior to construction. Such evaluations must contain recommendations for ground preparation and earthwork specific to the site, which then become an integral part of the construction design. Berkeley building codes and other City requirements would ensure potential impacts would be minimized or avoided. Impacts associated with expansive soils would be less than significant.

5) The project sites are served by the East Bay Municipal Utility District (EBMUD), which is responsible for collection, treatment and disposal of wastewater from all residential and commercial sources within its sewer service area. Projects facilitated by the proposed rezoning would not include septic tanks or alternative wastewater disposal systems; therefore, there is no potential for adverse effects due to soil incompatibility. No impact would occur.

6) Late to middle Holocene alluvial and fluvial deposits (Qhaf) mapped at the surface within the Ashby BART station site and the northern portion of the North Berkeley BART station site 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 alluvial and fluvial deposits may grade downward into more fine-grained deposits of early Holocene to late Pleistocene age (e.g., Qpaf) 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, but generally does not occur at depths of less than five feet. Early Holocene to late Pleistocene alluvial sediments have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Alameda County. Localities have produced fossil specimens of mammoth (*Mammuthus columbi*), horse (*Equus*), camel (*Camelops*), and bison (*Bison*), as well as various birds, rodents, and reptiles (Jefferson 1985, 2010; Paleobiology Database 2021; Savage 1951; University of California Museum of Paleontology [UCMP] 2021). Therefore, areas mapped as Late to middle Holocene deposits (Qhaf) alluvial deposits are assigned a **high paleontological sensitivity at depths greater than five feet** (SVP 2020). Given the existing paleontological data, Pleistocene alluvial fan and fluvial deposits (Qpaf) mapped at the surface within portions of the North Berkeley BART station site are considered to have a **high paleontological sensitivity at the**

**surface** as defined by SVP (2010) standards (Jefferson 1985, 2010; Paleobiology Database 2021; Savage 1951; University of California Museum of Paleontology [UCMP] 2021).

Because the project sites are underlain by geologic units assigned a high paleontological sensitivity, paleontological resources may be encountered during ground-disturbing activities associated with project construction (e.g., grading, excavation, or other ground disturbing construction activity). Construction activities may result in the destruction, damage, or loss of undiscovered scientifically important paleontological resources, and would be considered a significant impact under CEQA. Quaternary old (Pleistocene) alluvial fan and fluvial deposits (Qpaf) have a high paleontological sensitivity and ground disturbance at or near the surface has potential to result in significant impacts to paleontological resources. Early Holocene to late Pleistocene alluvial deposits (e.g., Qpaf) that may be present at depths greater than five feet in areas mapped as late to middle Holocene alluvial and fluvial deposits (Qhaf) have a high paleontological sensitivity, and ground disturbance exceeding depths of five feet has potential to result in significant impacts to paleontological resources.

The implementation of Mitigation Measure GEO-1 would reduce impacts to paleontological resources to a less than significant level by including an implementation program requiring paleontological resource studies for projects in high sensitivity geological units (i.e., Qpaf) within the project sites and implementation of further requirements to avoid or reduce impacts to such resources on a project-by-project basis.

#### *GEO-1 Paleontological Resources Studies*

If ground disturbance is proposed to occur in areas mapped as Pleistocene alluvial fan and fluvial deposits (Qpaf)]; or if ground disturbance is expected to exceed five feet in depth in areas mapped as late to middle Holocene deposits (Qhaf), then the provisions provided below shall be implemented to reduce potential impacts to a less than significant level. The City of Berkeley shall require the following specific requirements for individual projects that could disturb geologic units with high paleontological sensitivity:

1. **Qualified Paleontologist.** The project applicant shall retain a Qualified Paleontologist to implement the following measures prior to excavations that have potential to impact paleontological resources. 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).
  - a. The qualified professional paleontologist shall design a Paleontological Resources Mitigation and Monitoring Program (PRMMP) for submission to the City prior to the issuance of grading permits. The Plan will outline the procedures and protocol for conducting paleontological monitoring and mitigation. Monitoring shall be conducted by a qualified paleontological monitor who meets the minimum qualifications per standards set forth by the SVP. The PRMMP shall address the following procedures and protocols:
    - Timing and duration of monitoring
    - Procedures for work stoppage and fossil collection
    - The type and extent of data that should be collected with any recovered fossils

- Identify an appropriate curatorial institution
- Identify the minimum qualifications for qualified paleontologists and paleontological monitors
- Identify the conditions under which modifications to the monitoring schedule can be implemented
- Details to be included in the final monitoring report.

Prior to issuance of a grading permit, copies of the PRMMP shall be submitted for review to the Department of Planning and Development at the City of Berkeley.

2. **Paleontological Worker Environmental Awareness Program (WEAP).** Prior to any 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 fossils be discovered by construction staff. 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. Following the initial WEAP training, all new workers and contractors must be trained prior to conducting ground disturbance work.
3. **Paleontological Monitoring.** Paleontological monitoring shall be conducted during any ground disturbing construction activities (i.e., grading, trenching, foundation work) in previously undisturbed (i.e., intact) Pleistocene alluvial fan and fluvial deposits (Qpaf), as well as ground disturbance exceeding depths of five feet within project areas mapped as Quaternary young (late to middle Holocene) alluvial and fluvial deposits (Qhaf)). Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring will be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, he/she may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological monitoring is not required for ground-disturbing activities that impact previously disturbed sediments (e.g., artificial fill) only.
4. **Fossil Discoveries.** 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:

- a. **Salvage of Fossils.** If fossils are discovered, all work in the immediate vicinity shall be halted to allow the paleontological monitor, and/or lead paleontologist to evaluate the discovery and determine if the fossil may be considered significant. If the fossils are determined to be potentially significant, the qualified paleontologist (or paleontological monitor) shall recover them following standard field procedures for collecting paleontological as outlined in the PRMMP prepared for the project. 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 paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. If fossils are discovered, the Qualified Paleontologist (or Paleontological Monitor) shall recover them as specified in the project's PRMMP.
  - b. **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 UCMP), 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.
5. **Final Paleontological Mitigation Report.** Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. 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.

#### 4.13.5 Mineral Resources

##### a. Setting

The project sites are an urbanized area in Berkeley. There are no known mineral deposits or resources of local importance or value to the region or to residents of the State identified in or near the project sites (City of Berkeley 2001c). There are likewise no mining operations in or near the project areas.

##### b. Checklist Questions

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant impact if it would:

1. 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; or,
2. 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.

### **c. Answers to Checklist Questions and Conclusions**

1, 2) The project sites are not designated as a significant mineral resources zone and mineral resource extraction in this area would be generally incompatible with existing and planned uses (City of Berkeley 2001c). As such, no mineral resource impacts would occur.

#### 4.13.6 Wildfire

##### **a. Setting**

Both the Ashby BART station and North Berkeley BART station sites are located approximately 1.2 miles from the nearest very high fire hazard severity zone (VHFHSZ), which is in the eastern margins of the city in the Berkeley Hills (CAL FIRE 2008).

##### **b. Checklist Questions**

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant impact if it would:

1. 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?
2. 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?
3. 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?
4. 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, postfire slope instability, or drainage changes?

##### **c. Answers to Checklist Questions and Conclusions**

1-4) The project sites are not located in or near a VHFHSZ, as both are approximately 1.2 miles away from the nearest such zone, which is in the eastern margins of the city in the Berkeley Hills. Therefore, the project would not impair an adopted emergency response or evacuation plan related to wildfire; exacerbate wildfire risks; or expose people to post-fire risks related to runoff, flooding, or landslides. No impact would occur.

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## 5 Other CEQA Required Discussions

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4, *Environmental Impact Analysis*. These additional issues include the proposed project's potential to induce growth and create significant and irreversible impacts on the environment.

### 5.1 Growth Inducement

*CEQA Guidelines* §15126(d) requires a discussion of a proposed project's potential to induce growth, whether by fostering economic or population growth, or by removing an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth-inducing potential would therefore be considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

#### 5.1.1 Population Growth and Economic Growth

As discussed in Section 4.9, *Population and Housing*, implementation of the proposed project could result in potential development of 2,400 housing units and 125,000 square feet of commercial space in total, which would result in the addition of approximately 5,424 residents and 465 jobs to the project areas by 2040. Table 5-1 compares the anticipated growth under the proposed project to 2040 ABAG projections based on the assumptions shown in Section 4.9.

**Table 5-1 Growth Projections Through 2040**

|   | Population | Employment |
|---|------------|------------|
| Project-related Growth <sup>1</sup>                               | 5,424      | 465        |
| Growth Related to Other Long-Range Planning Projects <sup>2</sup> | 13,810     | 195        |
| Projected Growth in City of Berkeley <sup>2</sup>                 | 22,315     | 39,463     |
| City of Berkeley Total Projected <sup>3</sup>                     | 140,900    | 121,700    |
| Project Growth Relative to total City Population                  | 3.8%       | <1.0%      |

<sup>1</sup> Based on the average of 2.39 persons per household (see Table 4.9-1) in the Study Area, the addition of 2,400 residential units would generate an increase of approximately 5,424 residents. Based on average data for various retail, restaurant, and office uses from the Commercial Linkage Fee Nexus Analysis for San Jose, CA, the addition of 125,000 square feet of commercial space would generate an estimated 465 new jobs.

<sup>2</sup> Based on projections for the Southside Zoning Ordinance Amendments Project (anticipated growth of approximately 10,344 residents) and the Adeline Corridor Specific Plan Project (anticipated growth of 3,466 residents and 195 employees) (City of Berkeley 2019 and 2020).

<sup>3</sup> See Table 4.9-2 in Section 4.9, *Population and Housing*

As shown in Table 5-1, the amount of population growth anticipated from the adoption and implementation of the proposed project would account for approximately 24 percent of the projected increase in population growth in Berkeley from 2016 to 2040 of 22,315 and represents approximately 3.8 percent of the total Berkeley population projected in 2040 of 140,900. The job growth anticipated from development that could occur from the adoption and implementation of the proposed project would be roughly one percent of the projected

increase in job growth in Berkeley from 2016 to 2040 of 39,463, or less than one percent of the total 2040 jobs projected in Berkeley of 121,700. Moreover, given resident and employee growth anticipated from other recent and ongoing City of Berkeley long-range planning projects, including the Adeline Corridor Specific Plan and the Southside Zoning Ordinance Amendments Project, anticipated growth in Berkeley would be within ABAG projections. Overall, growth would be within regional growth projections for Berkeley and would be added incrementally over the 20-year period of estimated buildout.

In addition, as discussed in Section 4.7, *Land Use and Planning*, the City's General Plan Land Use and Housing Elements and the City's zoning regulations encourage and prioritize higher density housing and employment in the City's commercial corridors and around BART stations. The project sites were designated by the City of Berkeley as a Priority Development Area, areas targeted for transit-oriented development. Therefore, the project sites are in areas where increased residential and commercial development is encouraged by local policies. It is the purpose of the proposed zoning standards to guide growth and development near existing transit centers to reduce urban sprawl and VMT. Therefore, by its nature, the proposed project is intended to reduce the potential for uncontrolled growth and the environmental impacts associated with uncontrolled growth in Berkeley and in the region.

### 5.1.2 Removal of Obstacles to Growth

The project sites are located in a fully urbanized part of Berkeley that is served by existing infrastructure. As discussed in Section 4.12, *Utilities and Service Systems*, existing utility infrastructure in Berkeley would be adequate to serve development under the proposed project. Though some upgrades to local wastewater conveyance pipes may be necessary to serve the project sites, upgrades would occur in already developed utility corridors and would not create additional capacity beyond what is needed to service current and planned development. Overall, no additional utility infrastructure or facilities beyond those necessary to accommodate projects developed in response to the TOD zoning and that would involve creating additional capacity for unplanned growth would be required. In addition, the proposed project is intended to encourage infill development that utilizes existing public transportation infrastructure. No new roads would be required. Because the proposed project would facilitate redevelopment within an urbanized area and would not require the extension of new infrastructure through undeveloped areas, it would not remove an obstacle to growth beyond the project sites.

## 5.2 Irreversible Environmental Effects

The *CEQA Guidelines* require that EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project. The proposed project would involve future infill development on currently developed lands in the City of Berkeley.

In addition, as described in Section 4.4, *Greenhouse Gas Emissions*, project construction and operation would generate temporary and long-term increases in GHG emissions which would exceed the locally-applicable, project-specific threshold of 1.1 MT of CO<sub>2</sub>e per person per year. However, with implementation of Mitigation Measure GHG-1, which would reduce emissions, emissions would not exceed the threshold. Therefore, impacts related to greenhouse gas emissions would be less than significant with mitigation incorporated.

Construction activities would involve the use of non-renewable building materials and energy sources (i.e., fossil fuels). As discussed in Section 4.3, *Energy*, construction would consume energy resources primarily in the form of fuel to operate heavy equipment, light-duty vehicles, machinery, and generators. Estimations for project construction anticipate requiring approximately 250,755 gallons of gasoline and approximately 144,359 gallons of diesel fuel. Temporary power may also be provided for construction trailers and electric construction equipment. On-site construction for additional residential development at both sites would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. In addition to on-site energy use during construction, the off-site production of building materials also may consume non-renewable energy sources.

As discussed in Section 4.3, *Energy*, the operation of new residential developments at both sites also would involve the use of non-renewable energy: transportation fuels for vehicle trips by future residents, and electricity usage for exterior and interior lighting, appliances, and space and water heating. It is estimated that additional consumption would amount to approximately 812,580 gallons of gasoline and 181,747 gallons of diesel fuel for transportation fuels per year (in addition to electricity, which is partially derived from non-renewable energy sources). To provide a conservative estimate of project impacts, it was assumed that 10 percent of new development would include natural gas connections/appliances. To account for the increased electricity usage that would occur in all-electric units, it was assumed that 90 percent of the natural gas demand estimated for the project in the air quality and greenhouse gas emissions modeling would instead be supplied by electricity. Therefore, project operation would require approximately 18,917 MWh of electricity and 29,934 therms of natural gas per year.

State and federal regulations would offset the increase in demand for non-renewable materials to some degree. As discussed in Section 4.3, *Energy*, construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, and vendor and haul trucks would be subject to the CARB Advanced Clean Trucks regulation, both of which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Additionally, development at each site also would comply with all standards set in the latest iteration of Title 24 of the California Building Code, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. California's CALGreen standards (California Code of Regulations, Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) require newly-constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. In addition, it is anticipated that State and federal fuel economy standards would progressively require more efficient combustion engines, reducing fuel use by vehicle trips.

Furthermore, the proposed project would minimize the consumption of non-renewable fuels from motor vehicle use. The project sites involve existing BART stations and are within 0.5 miles of several bus stops for AC Transit. Given the sites' proximity to transit and existing residences and commercial stores and services, the project's future residents, visitors, and employees could travel to and from the project sites via modes other than vehicles, including walking, biking, and transit. As a result, as discussed in Section 4.11, *Transportation*, the developments facilitated by the proposed project would meet the Transit Priority Area VMT screening criteria established by the City of Berkeley and are not expected to result in a significant increase in VMT in the area. Moreover, BMC Chapter

19.37 would require at least 20 percent of parking spaces at new multi-family residential developments to be capable of supporting electric vehicle chargers and raceway at the remaining 80 percent of parking spaces to facilitate future electric vehicle supply equipment, which would support the use of electric vehicles by future residents. These factors would minimize the potential of the project to result in the wasteful, inefficient, or unnecessary consumption of vehicle fuels. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. Impacts would be less than significant.

Growth facilitated by the proposed project would require an irreversible commitment of law enforcement, fire protection, water supply, and wastewater treatment. However, as discussed in Sections 4.10, *Public Services and Recreation*, and 4.12, *Utilities and Service Systems*, impacts to public services and utilities would be reduced to a less than significant level with adherence to policies included in the General Plan and compliance with existing laws and regulations.

The additional vehicle trips associated with growth through 2040 would incrementally increase local traffic, noise levels, and regional air pollutant emissions. However, as discussed in Section 4.1, *Air Quality*, the proposed project would be consistent with BAAQMD's 2017 Clean Air Plan. As discussed in Section 4.8, *Noise*, implementation of proposed mitigation measures N-1 and N-2 would reduce the noise impacts associated with future growth to a less than significant level. However, noise impacts during construction would be less than significant with incorporation of mitigation. As discussed in Section 4.11, *Transportation*, VMT impacts would be less than significant.

## 6 Alternatives

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The *CEQA Guidelines* require that the lead agency identify and evaluate a reasonable range of alternatives intended to reduce the significant environmental impacts of proposed project while still satisfying most of the basic project objectives. The *CEQA Guidelines* also set forth the intent and extent of alternatives analysis to be provided in an EIR.

The following discussion evaluates alternatives to the proposed project and examines the potential environmental impacts associated with each alternative in comparison to the proposed project. Because of the constraints of Assembly Bill 2923 (AB 2923), the range of alternatives is limited. Through comparison of these alternatives to the proposed project, the relative environmental advantages and disadvantages of each are weighed and analyzed. The *CEQA Guidelines* require the range of alternatives addressed in an EIR to be governed by a rule of reason. Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered (*CEQA Guidelines* Section 15126.6(a)). Section 15126.6 of the *CEQA Guidelines* states that the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency or other plans or regulatory limitations, and jurisdictional boundaries. Section 15126.6(b) of the *CEQA Guidelines* states that the discussion of alternatives must focus on alternatives capable of either avoiding or substantially lessening any significant environmental effects of the project, even if the alternative would impede, to some degree, the attainment of the project objectives or would be more costly. The alternatives discussion should not consider alternatives whose implementation is remote or speculative, and the analysis of alternatives need not be presented in the same level of detail as the assessment of the proposed project.

Based on the *CEQA Guidelines*, several factors need to be considered in determining the range of alternatives to be analyzed in the EIR and the level of analytical detail that should be provided for each alternative. These factors include: (1) the nature of the significant impacts of the proposed project, (2) the ability of alternatives to avoid or lessen the significant impacts associated with the proposed project, (3) the ability of the alternatives to meet the objectives of the proposed project, and (4) the feasibility of the alternatives. The analysis in this EIR shows that the proposed project would result in significant and unavoidable impacts with respect to temporary construction noise. All other impacts of the proposed project would be less than significant or could be mitigated to a less than significant level. The alternatives examined herein represent alternatives that are feasible, that would generally meet the objectives of the proposed project, and that could potentially reduce or avoid significant and less than significant impacts associated with implementation of the proposed project.

As required by Section 15126.6 of the *CEQA Guidelines*, this section of the EIR examines a range of reasonable alternatives to the proposed project. The following alternatives are evaluated in this EIR:

- Alternative 1: No Project/Implement AB 2923 Standards
- Alternative 2: BART Rider Parking
- Alternative 3: Increased Height

This section also includes a discussion of the “environmentally superior alternative” among the analyzed alternatives.

**Ashby and North Berkeley BART Stations Transit-Oriented Development Zoning Project**

Table 6-1 provides a summary comparison of the development characteristics of the proposed project and each of the alternatives considered with respect to the key proposed zoning standards and estimated buildout projections. Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.2 through 6.4.

**Table 6-1 Comparison of Project Alternatives**

| <b>Feature</b>  | <b>Proposed Project</b>                       | <b>Alternative 1: No Project/<br/>Implement AB 2923<br/>Standards</b> | <b>Alternative 2:<br/>BART Rider Parking</b>        | <b>Alternative 3:<br/>Increased<br/>Height</b> |
|---|---|---|---|--|
| <b>Proposed Zoning Standards</b>                          |   |   |   |  |
| Floor Area Ratio (FAR),<br>Maximum                        | 4.2   | Same as proposed project  | Same as proposed project                            | 5.5  |
| Maximum Height  | 7 stories                                     | Same as proposed project  | Same as proposed project                            | 12 stories                                     |
| Residential Density,<br>Minimum                           | 75 du per acre                                | Same as proposed project  | Same as proposed project                            | Same as proposed project                       |
| Residential Parking                                       | None required, max of 0.5 spaces per unit     | Same as proposed project  | Same as proposed project                            | Same as proposed project                       |
| Non-residential Parking                                   | None required, max of 1.5 spaces per 1,000 sf | None required, max of 1.6 spaces per 1,000 sf                         | Same as proposed project                            | Same as proposed project                       |
| <b>Buildout Projections<sup>1</sup></b>                   |   |   |   |  |
| <b>For Both Station Sites</b>                             |   |   |   |  |
| Residential Units   | Up to 2,400 units                             | Up to 2,500 units   | Up to 2,000 units                                   | Up to 3,600 units                              |
| Non-Residential Space                                     | 125,000 sf                                    | 125,000 sf  | 125,000 sf  | 125,000 sf                                     |
| <b>Ashby</b>  |   |   |   |  |
| Project Area <sup>2</sup>                                 | 6.1 acres                                     | Same as proposed project  | 5.5 (Does not include area for BART parking garage) | Same as proposed project                       |
| Building Gross Square Footage (sf)                        | 1,000,000                                     | 1,050,000   | 900,000   | 1,500,000                                      |
| Total Residential Units                                   | 1,200   | 1,250   | 1,000   | 1,800  |
| Height  | 7 stories                                     | Same as proposed project  | Same as proposed project                            | 12 stories                                     |
| FAR   | 3.8   | 3.9   | 3.8   | 5.5  |
| Density (du/acre)   | 200   | 205   | 180   | 300  |
| Parking for Development<br>(# spaces; ratio: spaces/unit) | 350<br>0.3                                    | 625<br>0.5  | 300<br>0.3  | 550<br>0.3                                     |
| BART Rider Parking <sup>3</sup>                           | 0 spaces                                      | Same as proposed project  | 230 spaces  | Same as proposed project                       |

| Feature                                      | Proposed Project | Alternative 1: No Project/ Implement AB 2923 Standards | Alternative 2: BART Rider Parking                         | Alternative 3: Increased Height |
|--|------------------|--|---|---------------------------------|
| <b>North Berkeley<sup>4</sup></b>            |                  |  |   |                                 |
| Project Area <sup>1</sup>                    | 6.4 acres        | Same as proposed project                               | 5.5 acres (Does not include area for BART parking garage) | Same as proposed project        |
| Building Gross Square Footage                | 950,000          | 1,000,000  | 750,0000  | 1,400,000                       |
| Total Residential Units                      | 1,200            | 1,250  | 1,000   | 1,800                           |
| Height                                       | 7 stories        | 7 stories  | 7 stories   | 12 stories                      |
| FAR  | 3.4              | 3.6  | 3.1   | 4.9                             |
| Density (units/acre)                         | 188              | 195  | 185   | 281                             |
| Parking for Development (# spaces)           | 375              | 375  | 175   | 375                             |
| Parking for Development (ratio: spaces/unit) | 0.3              | 0.3  | 0.2   | 0.3                             |
| BART Rider Parking <sup>3</sup>              | 0 spaces on-site | Same as proposed project                               | 320 spaces on-site  | Same as proposed project        |

<sup>1</sup> All numbers have been rounded for ease of comparison. Due to rounding, some of the totals in the table above may not correspond exactly to each other when divided.

<sup>2</sup>Project Area does not include area used for BART facilities/infrastructure.

<sup>3</sup> The proposed project and Alternatives 1 and 3 assume no replacement of the existing BART rider surface parking spaces eliminated as a result of new development on the main station area sites. However, it is assumed that 79 parking spaces in the auxiliary parking lots at the North Berkeley BART station site would remain.

<sup>4</sup> For the purposes of the EIR, the reasonable maximum development projection includes the Zone of Influence at North Berkeley as buildable area (which is approximately one acre) and does not include the auxiliary parking lots.

Abbreviations: sf = square feet, du = dwelling units

As indicated above, project alternatives should feasibly be able to attain “most of the basic objectives of the project” (Section 15126.6(a) of the *CEQA Guidelines*), even though implementation of the project alternatives might, to some degree, impede the attainment of those objectives or be more costly (Section 15126.6(b) of the *CEQA Guidelines*). The following are the project objectives as described in Section 2, *Project Description* of this EIR.

- Comply with AB 2923
- Promote healthy, fossil-fuel free, energy- and water-efficient transit-oriented development that includes location efficiency and sustainable low carbon transportation modes

## 6.1 Alternatives Considered But Rejected

Other alternatives, including allowing shorter buildings on the station sites or using 75 units per acre as a maximum instead of minimum standard, were proposed by members of the public during the EIR scoping period.

In response to this input, the City has considered a Lower Height Alternative that would allow the development of buildings no taller than four stories on the station sites, instead of the proposed height limit of seven stories. This alternative would keep all other proposed development standards listed in Section 2, *Project Description*, constant. Because the station sites are subject to AB 2923, which requires that local jurisdictions rezone applicable areas to allow buildings at least seven stories in height, a height limit of four stories would be incompatible with this State law. It would also fail to meet the primary project objective of complying with AB 2923. Therefore, the City has considered but rejected the Lower Height Alternative.

The City also considered a 75 Unit Per Acre Maximum Standard Alternative that would keep all other proposed development standards listed in Section 2, *Project Description*, constant. The station sites are subject to AB 2923, which requires that local jurisdictions rezone applicable areas to conform to BART's Transit Oriented Development (TOD) standards. AB 2923 establishes that BART's TOD standards are minimum standards for height, floor area ratio (FAR) and density.<sup>1</sup> BART's Technical Guide to Zoning for AB 2923 Conformance states that "Every AB 2923-eligible parcel must be zoned to allow both the residential density and the FAR, as specified in the baseline zoning standards." A development that achieves the minimum height of seven stories and minimum FAR under BART's TOD development standards would generally exceed a density of 75 units/acre. Recent development trends in the City's mixed-use, transit rich areas range from 100 to 200 dwelling units/acre and often exceed this range. The application of BART's TOD development standards combined with 75 du/acre applied as a maximum rather than minimum density would yield very large units (in the range of 1,600 to 2,000 square feet) and may affect the financial feasibility of achieving high levels of affordable housing. Furthermore, BART's TOD development standards set the same minimum density for all station types in the BART system, despite significant differences in height and FAR, which indicates that it was not meant as a limiting factor. Ultimately BART must determine conformance of the City proposed zoning of the Ashby and North Berkeley BART sites with AB2923. If BART determines that a maximum density standard of 75 dwelling units/acre would make achieving the other required TOD development standards infeasible, then this alternative could fail to meet the project objectives of complying with AB 2923. Therefore, the City has considered but rejected the 75 Unit Per Acre Maximum Standard Alternative.

## 6.2 Alternative 1: No Project/Implement AB 2923 Standards

### 6.2.1 Description

The No Project Alternative (Alternative 1) assumes that the City takes no action to rezone the station sites. By default, both station sites would be effectively rezoned with the

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<sup>1</sup> Pub.Util.Code, § 29010.6(a)(2)

development standards included in AB 2923. This alternative assumes the following development standards in AB 2923 would apply to the station sites:

- Minimum Density of 75 units per acre
- Height of 7 stories (or higher)
- Floor Area Ratio (FAR) of 4.2 (or higher)

For the purposes of analysis in the EIR, Alternative 1 assumes that the AB 2923 development standards for height and FAR are maximums. In addition, Alternative 3 provides one alternate scenario of development standards with greater height and FAR standards. Alternative 1 assumes that the density standards of 75 units per acre is a minimum standard (same as the proposed project). Alternative 1 would involve the same density, height, and FAR standards as the proposed project, but would not include the same standards with respect to setbacks and stepbacks; therefore, this project would allow for 2,500 units between both sites (1,250 units at each site). In contrast to the proposed project, the No Project Alternative would follow AB 2923, which does not include standards for ground floor mixed use development or street-level pedestrian activity, nor the additional guidance in the City and BART Joint Vision and Priorities. For the purposes of analysis, the No Project Alternative is assumed to have a similar non-residential buildout to the proposed project (combined total of 125,000 square feet on both sites).

The following parking standards under AB 2923 also would apply to the station sites:

- No minimum vehicle parking space requirement;
- A maximum of 0.5 vehicle parking spaces per residential unit and 1.6 vehicle parking spaces per 1,000 square feet of office space;
- A minimum of one secure bicycle parking space per unit; and
- Shared or unbundled vehicle parking must be permitted.

Similar to the proposed project, it is assumed that the 79 parking spaces in auxiliary lots at the North Berkeley BART station site would remain in place.

This alternative would meet the project objective to comply with AB 2923. It would also meet the project objective to promote green development as well as location efficiency and sustainable transportation modes.

## 6.2.2 Impact Analysis

Similar to the proposed project, the No Project Alternative would allow for the development of multi-story buildings with residential and commercial uses on the station sites, but it would allow for an estimated additional 50 units on each station site. The footprint of the project sites would remain the same, and generally the amount of site preparation and grading for construction would remain the same. Therefore, impacts caused by the construction and operation of new development would be similar in nature to those of the proposed project but incrementally increased. Impacts related to energy, hydrology and water quality, land use, population and housing, public services and recreation, transportation, and utilities would be incrementally increased but would remain less than significant. Air quality impacts would still be less than significant with mitigation incorporated to apply the Bay Area Air Quality Management District's (BAAQMD) basic measures to minimize fugitive dust emissions during construction. Ground disturbance during construction also could release contaminants from listed hazardous material sites, requiring mitigation to assess properties prior to construction and manage or remediate contaminated soils. Impacts related to

hazardous materials would remain less than significant with mitigation incorporated. Similar to the proposed project, on-site mechanical equipment and truck activity could generate noise exceeding City standards, requiring mitigation to reduce noise to less-than-significant levels.

As discussed in Section 4.4, *Greenhouse Gas Emissions*, the proposed project would generate an estimated 1.2 MT of CO<sub>2</sub>e per resident per year, with implementation of mitigation requiring preparation of a GHG Reduction Plan, which would not exceed the project-specific, locally-applicable 2030 threshold of 1.2 MT of CO<sub>2</sub>e per resident per year. Per-capita emissions associated with new residential and commercial developments under Alternative 1 would be roughly similar to those of the proposed project (emissions would be increased, but the service population would also be increased), and mitigation would continue to apply to require implementation of a GHG reduction program. Therefore, it is anticipated impacts would be roughly similar to the proposed project, less than significant with mitigation incorporated.

The North Berkeley BART station was found not to be eligible for listing on federal, state, or local registers of historical resources. However, the Ashby BART Station is recommended eligible for designation as a City of Berkeley Landmark under Criterion 2 in BMC 3.24.110 due to its associations with a history of social activism and community building originating in Berkeley's Black community, which centered on the undergrounding of the Ashby BART Station and use of the station parking lot as the location of the Berkeley Flea Market. Nonetheless, for the same reasons as described in Section 4.2, *Cultural Resources*, with mitigation measure CUL-1 requiring installation of an interactive display depicting the history of the site, impacts would be less than significant.

Similar to the proposed project, this alternative would allow for construction activity that generates high noise levels in excess of City standards for construction noise. Mitigation would continue to apply to minimize noise from the installation of pile foundations; however, estimated construction noise levels would still exceed City standards after mitigation. Therefore, this impact would remain significant and unavoidable.

## 6.3 Alternative 2: BART Rider Parking

### 6.3.1 Description

There are currently 646 vehicle parking spaces at the North Berkeley BART main station site and 79 BART rider parking spots that are located on auxiliary lots northwest of the station. According to BART's 2015 Station Profile Study, 25 percent of home-based station users drive alone or carpool to the North Berkeley BART station on an average weekday.

There are currently 532 vehicle parking spaces at the Ashby BART station available to BART riders. According to BART's 2015 Station Profile Study, 18 percent of home-based station users drive alone or carpool to the Ashby BART station on an average weekday.

BART's Station Access Policy (adopted in 2016) characterizes the Ashby and North Berkeley BART stations as "Urban with Parking" stations. BART's current Transit Oriented Development (TOD) Policy (adopted in 2016 and amended in 2020) encourages development of TOD at station sites with "no or limited parking replacement at 'Urban with Parking' stations" (BART 2020). The proposed project assumes there would be no replacement BART rider parking at either station site since it focuses on potential development that would be guided by the proposed zoning and General Plan amendments and City and BART Joint Vision and Priorities document. The existing BART rider parking

spaces in the auxiliary lots northwest of the North Berkeley BART station would remain with the proposed project and all the alternatives because they are not considered developable for other uses. The ultimate decision on BART rider replacement parking is under BART purview and the number of replacement parking spaces would be determined by BART's ongoing access planning efforts.<sup>2</sup>

However, an alternative that does assume some dedicated BART rider parking, Alternative 2, is included in this analysis. For the purposes of analysis, a range of BART rider parking provided has been selected by the City based upon its understanding of BART's existing TOD and Station Access policies and the current mode share of station users. The parking totals assumed in the alternative do not reflect actual project proposals being considered by BART nor do they reflect any adopted or proposed BART targets, goals, policies or programs.

Alternative 2 assumes that there will be 15 to 30 percent of current BART rider parking would be replaced at the Ashby BART site and 25 to 40 percent of current BART rider parking would be replaced at the North Berkeley BART site. For purposes of analysis, the higher number of the estimated range was used, which would result in 160 vehicle parking spaces at Ashby BART station and 300 vehicle parking spaces at North Berkeley BART station under this alternative, all located in above-ground parking garages.

In addition to examining the physical environmental effects of including dedicated BART rider parking, the alternative also calculates and analyzes the loss of development potential, if any, due to the commitment of surface area at the station sites to above-ground BART rider parking.

## **Buildout**

Accommodating new structured BART rider parking would reduce the site acreage available for residential and other uses, relative to the proposed project. While non-residential ground-floor uses could still be included as part of each parking structure, providing BART rider parking reduces area available for these other uses. Accordingly, whereas the proposed project would allow for buildout of up to 2,400 residential units on both station sites, this alternative would allow for buildout of up to 2,000 residential units across both sites. As explained above, Alternative 2 assumes a buildout of 125,000 square feet of non-residential area total for both sites, similar to the proposed project because the proposed zoning requires parking garages that are "underground or located behind conditioned building space at any adjacent street, sidewalk or other publicly accessible accessway or open space" (Section 23.202.150F.13).

## **Attainment of Project Objectives**

This alternative would meet the project objective to comply with AB 2923 by allowing new development consistent with the law's development standards at the station sites. It would also meet the project objective to promote location efficiency and sustainable transportation modes, but to a lesser extent than would the proposed project. Whereas the proposed project would retain 79 parking spaces for BART riders (at the auxiliary lots for the North Berkeley Station site), this alternative would result in a maximum of 160 vehicle parking spaces for BART riders in an above-ground parking garage on the Ashby BART station site and a maximum of 300 vehicle parking spaces in an above-ground parking garage on the

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<sup>2</sup> BART is currently conducting the Berkeley-El Cerrito Corridor Access Plan that will determine a BART rider replacement parking range. The future developers will fund station-specific access plans that will determine parking replacement numbers. More information about the corridor planning efforts can be found here: [www.bart.gov/beccap](http://www.bart.gov/beccap)

North Berkeley BART station site for BART riders, in addition to 79 spaces in the auxiliary lots. However, provision of on-site vehicular parking under Alternative 2 would not meet the project objectives related to residential density and use of sustainable modes to the same degree as the proposed project because increased supply of vehicle parking would reduce the amount of residential space that could be provided and encourage vehicle use by making it more convenient to drive.

### 6.3.2 Impact Analysis

#### **a. Air Quality**

Like the proposed project, this alternative would support the goals of the BAAQMD's 2017 Clean Air Plan by increasing density in proximity to existing transit, extensive pedestrian and bicycle infrastructure, and commercial/retail destinations and by not including minimum parking standards for new development. Therefore, this alternative would reduce emissions associated with new development within the project sites compared to development farther from transit services. Moreover, consistent with the proposed project, development under this alternative also would be required to be consistent with BAAQMD rules and regulations, including reduction measures for particulate matter. Buildout under this alternative would also not preclude planned transit or bike pathways and would not otherwise disrupt regional planning efforts to reduce VMT and meet air quality standards. Therefore, this impact would be similar to the proposed project and would be less than significant.

Because more parking could be constructed under this alternative, overall construction emissions may be increased compared to the proposed project for the additional construction activities for building parking garages (involving greater use of concrete compared to residential construction). Nonetheless, future development under this alternative would be required to adhere to the City's standard condition of approval to reduce construction emissions and comply with BAAQMD's construction BMPs in accordance with Mitigation Measure AQ-1. Impacts associated with construction would be slightly increased compared to those under the proposed project but would remain less than significant with mitigation incorporated.

Because Alternative 2 would allow construction of more parking than the proposed project, it would facilitate increased single-occupancy vehicle trips to and from the project sites compared to the proposed project. Therefore, Alternative 2 would result in a greater increase of criteria air pollutants. However, similar to the proposed project, Alternative 2 would increase density in proximity to existing transit, pedestrian and bicycle infrastructure, and commercial/retail destinations, thereby resulting in low per-capita VMT compared to development further from such services and destinations. Therefore, similar to the project, the operation of development under this alternative would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. This impact would be greater than the proposed project but would remain less than significant.

Construction activities facilitated by Alternative 2 would result in temporary exhaust emissions of diesel particulate matter, which is a toxic air contaminant (TAC). Similar to the proposed project, development on the project sites would be required to comply with the City's standard conditions of approval to control diesel particulate matter during construction, and to prepare and implement a Construction Emissions Minimization Plan. In addition, this alternative would not facilitate the construction of new operational sources of TAC emissions. Therefore, the impact of TAC emissions during the construction and

operation of future development on the sites would be less than significant, the same as the proposed project.

## **b. Cultural Resources**

Similar to the proposed project, this alternative would allow new development at the station sites. The North Berkeley BART station was found not to be eligible for listing on federal, state, or local registers of historical resources. However, as determined in the Historical Resources Evaluation (HRE, Appendix C), the Ashby BART Station is recommended eligible for designation as a City of Berkeley Landmark under Criterion 2 in BMC 3.24.110 due to its associations with a history of social activism and community building originating in Berkeley's Black community, which centered on the undergrounding of the Ashby BART Station and use of the station parking lot as the location of the Berkeley Flea Market. As such, the Ashby BART Station is a historical resource pursuant to Section 15064.5(a)(3) of the CEQA Guidelines. Nonetheless, for the same reasons as described in Section 4.2, *Cultural Resources*, with mitigation measure CUL-1 requiring installation of an interactive display acknowledging the history of the site, impacts would be less than significant. Further, for the same reasons as described in Section 4.2, development on the Ashby BART station site would not indirectly affect nearby historic districts or resources. Impacts related to adjacent resources would be the same as under the proposed project and would be less than significant.

Development under this alternative could disturb unrecorded archaeological resources, human remains, and tribal cultural resources, similar to the proposed project. However, with adherence to existing regulations regarding the discovery of human remains and compliance with City of Berkeley standard conditions of approval, these impacts would remain less than significant, the same as under the proposed project.

## **c. Energy**

Similar to the proposed project, energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Construction contractors would be required to comply with applicable federal and state regulations to minimize inefficient, wasteful, or unnecessary fuel consumption, and to divert a minimum of 65 percent of construction and demolition debris. Similar to the proposed project, development under this alternative would be required to comply with all standards set in the latest iteration of California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation.

Because Alternative 2 would allow for construction of more parking than the proposed project, it would facilitate continued use of single-occupancy vehicle trips to a greater extent than the project. However, similar to the proposed project, this alternative would increase housing density in close proximity to existing transit and commercial uses, which would facilitate the use of transit and alternative transportation modes such as walking and biking. This would minimize the potential for wasteful, inefficient, or unnecessary consumption of vehicle fuels. This impact would be greater than the proposed project but would remain less than significant.

Similar to the proposed project, this alternative would be consistent with applicable policies of the City's General Plan related to energy efficiency and renewable energy. New residential development would be subject to CALGreen and BMC Chapters 12.80 and 19.36 requirements to reduce energy impacts and apply green building practices. In addition, the

location of increased housing density in a transit-oriented area would reduce use of fossil fuels. Therefore, this alternative would have no impact related to conflicting with or obstructing a plan for renewable energy or energy efficiency, the same as the proposed project.

#### **d. Greenhouse Gas Emissions**

Per-capita emissions associated with new residential and commercial developments under Alternative 2 would be similar to those of the proposed project because of several factors. Future development on the sites would still receive electricity from providers subject to the statewide Renewable Portfolio Standard (RPS) program, which requires increases in procurement from renewable energy sources to 60 percent by 2030 and 100 percent by 2045. This would minimize carbon emissions associated with electricity use. This alternative also would increase density in a transit-oriented, low-VMT area. In addition, development under this alternative would still be subject to CALGreen and the City's associated amendments and other regulations requiring the use of high-efficiency water fixtures and irrigation systems.

However, because Alternative 2 would allow construction of more parking than the proposed project, it would facilitate continued use of single-occupancy vehicle trips to a greater extent than the project. Therefore, mobile GHG emissions associated with the parking structures would be greater than emissions under the proposed project. Similar to the proposed project, Mitigation Measure GHG-1 would reduce GHG emissions under this alternative. Nonetheless, impacts related to GHG emissions would be greater than those of the proposed project due to overall increase in vehicle trips. Additional analysis would be required to determine the severity of GHG emissions, but it is not anticipated that the additional trips would result in substantially worse emissions.

Similar to the proposed project, this alternative would facilitate increased density in a transit-oriented, low-VMT area, consistent with the vision of Plan Bay Area 2040 and the City's Climate Action Plan. Therefore, as with the proposed project, this alternative would still have no impact related to conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

#### **e. Hazards and Hazardous Materials**

Like the proposed project, the BART Rider Parking Alternative would allow for the development of residential and commercial land uses. The transport, storage, use, or disposal of hazardous materials during construction and operation would be subject to federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, which would assure that risks associated with hazardous materials are minimized. Moreover, while the potential residential and commercial uses may involve use and storage of some materials considered hazardous, these materials would be primarily limited to solvents, paints, chemicals used for cleaning and building maintenance, which are typical household chemicals and solvents already in wide use throughout the City. Required adherence to existing regulations and the nature of the proposed land uses would ensure that impacts related to hazardous materials would remain less than significant, the same as under the proposed project.

As discussed in Section 4.5, *Hazards and Hazardous Materials*, one listed hazardous material site is located on or potentially adjacent to the North Berkeley BART station site. In addition, there are unknown former commercial and industrial uses within the North Berkeley BART station site and Ashby BART station site that may have included the use

and storage of hazardous materials, including a gasoline service station. Therefore, construction facilitated by this alternative could encounter hazardous materials in subsurface soils during grading. Construction workers or nearby residents could be exposed to contaminated soil resulting from development of a contaminated property. Mitigation measures HAZ-1 through HAZ-3 would still be required to identify, manage onsite, and/or remove hazardous material impacted soils prior to construction. Like the proposed project, this impact would be less than significant with mitigation incorporated.

Because the station sites are not located in areas subject to airport land use plans or wildland fire hazards, this alternative would not result in potential hazards related to aviation or wildland fire hazards. Similar to the proposed project, no impact would occur. Development under this alternative also would add traffic to nearby evacuation routes. However, development on the project sites would be required to conform to the latest fire code requirements, including provisions for emergency access. Therefore, the impact related to impairing or interfering with an emergency response or evacuation plan would remain less than significant, the same as under the proposed project.

#### **f. Hydrology and Water Quality**

This alternative would facilitate a similar scale of ground disturbance during future development, compared to the proposed project. As discussed in Section 4.6, *Hydrology and Water Quality*, ground-disturbing activities and the use of heavy machinery could release materials, including sediments and fuels, which could adversely affect water quality. In addition, operation of potential future development could result in discharges to storm drains that could be contaminated and affect downstream waters. However, future development within the station sites under this alternative would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. For projects that disturb at least one acre of land, preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would be required. This would include the use of Best Management Practices (BMPs) to control erosion and sediment. In addition, BMC Chapter 21.40 requires project applicants to comply with grading, erosion, and sediment control regulations on file in the Public Works Department and BMC Chapter 17.20 requires BMPs to be implemented to minimize non-stormwater discharges from the site during construction. During operation, future development also would be required to implement Low Impact Development (LID) Measures and on-site infiltration, as required under the C.3 provisions of the Municipal Regional Stormwater Permit (MRP). Implementation of LID measures would reduce water pollution from stormwater runoff as compared to existing conditions. Therefore, water quality impacts would remain less than significant, the same as under the proposed project.

Similar to the proposed project, future development under this alternative would not draw water from groundwater supplies and would not increase the area of impervious surfaces on the station sites because development facilitated by the alternative would be required to comply with Provision C.3 of the MRP which promotes infiltration. Implementation of LID measures would increase absorption of stormwater runoff and the potential for groundwater recharge. Therefore, the impact on groundwater supplies and recharge would remain less than significant.

Because this alternative would not result in an increase in impervious surface, it would not cause a substantial increase in the rate or amount of surface runoff. MRP-regulated projects within the project sites also would be required to treat 80 percent or more of the volume of annual runoff for volume-based treatment measures or 0.2-inch per hour for flow-based treatment measures. Furthermore, projects that create or replace 2,500 square feet or more,

but less than 10,000 square feet, of impervious surface must implement site design measures to reduce stormwater runoff. All regulated projects within the City are also required to prepare a Stormwater Management Plan (SWMP) that includes the post-construction BMPs that control pollutant levels. Therefore, development facilitated by this alternative would not substantially alter the existing drainage pattern of the site or area or alter the course of any stream or river, would not result in erosion or siltation, and would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site or exceed capacity of a stormwater system. This impact would remain less than significant, the same as under the proposed project.

As discussed in Section 4.6, *Hydrology and Water Quality*, the station sites are not located in a FEMA-designated flood hazard area, in a dam or tsunami inundation area, or near a large water body. As a result, implementation of future development under this alternative would not introduce new flood-related hazards. This impact would remain less than significant, the same as under the proposed project.

### **g. Land Use and Planning**

The BART Rider Parking Alternative would allow for future development of residential and commercial space and parking garages on the station sites. It does not include elements that would physically divide the established communities around the project sites. For example, no new major roads or other large or linear facilities would be constructed that would physically divide an established community. Therefore, like the proposed project, no significant land use impacts related to the physical division of an established community would occur.

This alternative would provide more parking dedicated to BART riders than planned under the proposed project. As described in Section 2, *Project Description*, development allowed under AB 2923 includes maximum parking standards for residential and office uses, but not for BART rider parking. Similar to the proposed project, Alternative 2 would not include parking minimum requirements for new residential and office development. Therefore, while Alternative 2 would allow retention of more BART rider parking than the proposed project, it would not conflict with the parking standards in AB 2923.

Additional parking associated with use of the BART stations would generate more vehicle trips, which would be less consistent with General Plan Policy T-10 (Trip Reduction) to reduce automobile traffic and congestion. It would also be less consistent with General Plan policies LU-9 (Non-Residential Traffic) and T-20 (Neighborhood Protection and Traffic Calming) to minimize traffic impacts on neighborhoods from institutional and other land uses. However, as discussed under *Greenhouse Gas Emissions and Transportation* for Alternative 2, the additional vehicle trips would not result in new significant environmental impacts related to GHG emissions or vehicle miles traveled.

Similar to the proposed project, this alternative would create a Residential BART Mixed-Use District (R-BMU), establish zoning standards, and make associated General Plan amendments, in compliance with AB 2923. The proposed development standards for minimum new lot size, maximum building height, residential density, parking supply, and open space provision would also apply to this alternative. Therefore, this alternative would be consistent with applicable policies related to transit-oriented development, energy efficiency, pedestrian-oriented design, and sustainable design in the City's General Plan and Adeline Corridor Specific Plan (ACSP). Impacts related to land use and planning would be the slightly greater under this alternative but would remain less than significant.

## h. Noise

Similar to the proposed project, this alternative would facilitate the construction of mixed-use buildings up to seven stories tall. The scale of mixed-use buildings would be incrementally reduced because this alternative would add 400 fewer residential units compared to the proposed project. However, it would also include new parking garages at the station sites, which are not proposed under the project. Overall, this alternative would involve a similar scale of construction as the proposed project and similar types of construction equipment, though likely would involve more concrete pouring for parking garages which could slightly increase construction noise. Therefore, noise and vibration levels from construction activity would be similar to those generated by the proposed project. As discussed in Section 4.8, *Noise*, conditions of approval would restrict the hours of construction activity and minimize noise from equipment to the extent feasible. Mitigation Measure N-1 also would apply to minimize noise and vibration from the installation of pile foundations. Nonetheless, construction noise levels could still exceed the City's standards at sensitive receptors. Therefore, the impact from a temporary increase in construction noise would remain significant and unavoidable. The impact from vibration would remain less than significant with implementation of Mitigation Measure N-1.

By allowing for fewer residential units, this alternative would require less heating, ventilation, and cooling (HVAC) equipment at new buildings. Based on a maximum of 2,000 residential units for both station sites under this alternative, HVAC noise from the Ashby BART station site would reach an estimated 55 dBA  $L_{eq}$  at sensitive receptors located 150 feet from the site and 52 dBA  $L_{eq}$  at a distance 200 feet. HVAC units at the North Berkeley BART station site would generate estimated noise levels of 49 dBA  $L_{eq}$  at a distance of 400 feet (Appendix G). These noise levels from HVAC equipment would be similar to but marginally lower than from those generated by development facilitated by the proposed project. They would also exceed the City's nighttime exterior noise standard of 45 dBA in the R-1 and R-2 zones. Mitigation Measure N-2 would apply to shield noise from HVAC equipment, so that noise levels do not exceed 45 dBA.

Similar to the proposed project, this alternative would facilitate the development of multi-story buildings served by delivery and garbage trucks. Noise from garbage trucks emptying metal dumpsters could make noise exceeding City's exterior noise standards allow up to 85 dBA for any period of time in a daytime hour in commercial zones and up to 75 dBA for this time period in the R-1 and R-2 zones. Mitigation Measure N-3 would require designing loading areas to minimize exposure to this noise source, by locating dumpsters as far as possible from sensitive receptors, shielding loading areas, or other means.

As discussed in Section 4.8, *Noise*, development under the proposed project would add vehicle trips to roadways near the station sites, but estimated traffic noise levels would not increase by more than 1 dBA  $L_{eq}$ . The provision of BART rider parking on the station sites would increase the number of vehicles traveling to and from the BART stations as compared to the proposed project. This would incrementally increase traffic noise along roadways near the station sites. However, similar to the proposed project, it is expected that the increase in traffic noise would not exceed FTA criteria because traffic noise levels for the project are well below criteria and an incremental increase would not result in an exceedance. The effect on traffic noise also would be minimized by locating new development at BART station sites, which would encourage transit use by residents in developments at the project sites. Therefore, on-site operational noise impacts would be remain less than significant with mitigation incorporated, the same as the proposed project.

### **i. Population and Housing**

The BART Rider Parking Alternative would facilitate the development of up to 2,000 residential units on both station sites. Based on an average rate of 2.26 persons per household, it would generate an increase of approximately 4,520 residents, or 904 fewer than under the proposed project. As discussed in Section 4.9, *Population and Housing*, population and job growth generated by the proposed project would be within regional growth projections for Berkeley. This alternative would not result in greater population and job growth. New development on the station sites also would not involve displacement of existing residents or housing units that would necessitate the construction of replacement housing elsewhere. Therefore, impacts related to population and housing would remain less than significant, the same as the proposed project.

### **j. Public Services and Recreation**

By facilitating the development of 400 fewer residences than proposed on the station sites, this alternative would not increase demand for Berkeley fire protection, emergency medical services, and police services to the same extent as the proposed project. Growth under this alternative could still contribute to the need for new fire or police stations. As discussed in Section 4.10, *Public Services and Recreation*, such stations, if built, would undergo separate, complete CEQA analysis. They would also likely be located on infill sites, where construction would cause additional significant environmental impacts beyond those identified in this EIR. Additionally, future development under this alternative would be required to comply with regulations for fire safety in the Berkeley Fire Code, the California Health and Safety Code, and the California Fire Plan. Therefore, impacts related to fire protection and police services would remain less than significant, the same as the proposed project.

Based on the students per household generation rates used in the public services analysis for the proposed project (see Section 4.10, *Public Services and Recreation*), full buildout of the station sites under this alternative would generate up to an estimated 430 new students, or 30 fewer than under the proposed project. This would result in incrementally less demand for school services. As with the proposed project, the payment of State-mandated school impact fees would reduce impacts from future residential development to a less-than-significant level.

As noted in Section 4.10, the City currently provides a ratio of 2.1 acres of parkland per 1,000 residents. By increasing the citywide population by an estimated 4,520 new residents, this alternative would result in a ratio of approximately 2.0 acres per 1,000 residents. Therefore, the City's goal of providing 2 acres per 1,000 residents would still be met under this alternative. In addition, when considering parkland adjacent to the City, the ratio of parkland per resident would be substantially higher, approximately ten acres per 1,000 residents. Furthermore, the station sites are in areas served by parks and recreational opportunities and planned improvements and expansions of such opportunities. Therefore, this alternative would not result in substantial overuse of existing parks which may cause physical deterioration of these facilities. Impacts related to park and recreational facilities would remain less than significant, the same as the proposed project.

### **k. Transportation**

Future development under Alternative 2 would provide BART rider replacement parking for some of the surface parking that would be eliminated at the Ashby and North Berkeley BART Station sites.

Similar to the proposed project, future development under Alternative 2 would be required to comply with existing regulations, including General Plan policies related to roadway, pedestrian, and bicycle facilities, and access to modes of transportation other than single-occupancy vehicles. In addition, development would be reviewed in accordance with the City's Public Works Department Transportation Program standards and guidelines, and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications regarding access and safety. Moreover, development under Alternative 2 would be required to meet the Zoning Ordinance requirements for vehicle and bicycle parking and to implement BART's requirement to develop a TDM program in an effort to reduce project-generated vehicle trips and encourage travel by other modes. For these reasons, as with the proposed project, Alternative 2 would have a less than significant impact related to applicable plans and policies, the same as the proposed project.

As discussed in Section 4.11, *Transportation*, a project is presumed to have a less than significant impact related to vehicle miles traveled (VMT) if it is located within a Transit Priority Area and would not have any of the following characteristics:

- FAR of less than 0.75 for office uses;
- Include more than 200,000 square feet of office or commercial space;
- Include more parking supply than the project's parking estimated demand;
- Be inconsistent with the City's General Plan, an applicable Specific Plan, or an applicable Sustainable Communities Strategy (as determined by the City, with input from MTC);
- Replace affordable residential units with market-rate residential units; and
- Have project-specific or location-specific information that indicates that the project will generate significant levels of VMT.

As with the proposed project, in accordance with AB 2923, development under Alternative 2 would be required to have a FAR of 4.2 or higher, and this alternative would be located in transit priority areas within a ½-mile walkshed around major transit stops. As with the proposed project, the supply of vehicle parking spaces included in Alternative 2 would not exceed the proposed project's estimated rate of demand, as explained in Chapter 4.11, *Transportation*. Therefore, as with the proposed project, this alternative would meet the City's other screening criteria for VMT and the impact related to VMT would remain less than significant. Additionally, as with the proposed project, to reduce the potential for impacts related to vehicle travel and parking, and encourage use of sustainable modes, future development would implement TDM strategies. While the specific TDM measures have not been selected and the effects of the TDM plan cannot be quantified, the absence of a ready supply of parking spaces, combined with available alternatives to vehicle travel, such as riding transit, biking, and walking, would induce people to shift travel modes.

New development at the station sites under this alternative would include physical modifications to the circulation system, to accommodate vehicle access to new parking garages and pedestrian and bicycle access. Parking structures would connect to the surrounding street network by driveways and curb cuts. As with the proposed project, future development under this alternative would undergo City review to ensure that pedestrian and bicycle access, vehicular access, and streetscape modifications follow appropriate and applicable design standards and guidelines. Similarly, changes to the street network would be designed to meet City and California Manual of Uniform Traffic Control Devices (MUTCD), Caltrans, and Federal Highway Administration (FHWA) recommendations and

standards, as appropriate. For these reasons, the alternative would not substantially increase hazards due to design features or incompatible use. This impact would remain less than significant.

As with the proposed project, future development under this alternative would not involve changes to the roadway network or include any design features that would interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access. In accordance with new R-BMU zoning standards for the station sites, vehicular entries facing the street would be no more than 20 feet wide and would be designed to accommodate emergency vehicles. Additional vehicle trips associated with use of the new parking structures would not substantially impede emergency vehicle travel. Therefore, impacts on emergency access would remain less than significant.

## **I. Utilities and Service Systems**

This alternative would facilitate new development that generates increased sanitary sewage flows through the wastewater conveyance system to the East Bay Municipal Utility District's (EBMUD) Main Wastewater Treatment Plant (MWWTP). As discussed in Section 4.12, *Utilities and Service Systems*, the MWWTP has a remaining capacity of 105 million gallons per day (mgd) beyond existing inflow. It is estimated that development under the proposed project would generate up to an additional 0.35 mgd, which accounts for 0.3 percent of the MWWTP's remaining secondary treatment capacity. This alternative would generate incrementally less wastewater because it would allow for buildout of 150 to 250 fewer residential units on each of the station sites. Therefore, the plant's existing wastewater treatment capacity would be sufficient to accommodate the anticipated residential and commercial development under this alternative.

Similar to the proposed project, during wet-weather conditions, wastewater flow generated by this alternative could potentially contribute to overflow conditions on sewer mains under and adjacent to streets near the station sites. The construction of new or expanded sewer mains may be necessary to accommodate additional wastewater flow. Policy EM-24 in the Berkeley General Plan and Chapter 17.05 of the BMC requires that new development pay its fair share of improvements to storm sewer system that would be necessary to accommodate increased flows. The impacts of individual new sewer main construction projects would be less than significant due to their temporary nature and the already developed nature of wastewater conveyance corridors. Therefore, impacts related to wastewater would be reduced but would remain less than significant.

According to the WSA prepared by EBMUD for the proposed rezoning, it is projected that buildout of the proposed rezoning would generate a water demand of 440,000 gallons per day (gpd) (Appendix I). This alternative would generate incrementally less demand because it would allow for buildout of 400 fewer residential units on the station sites. Because water demand would not exceed that of the proposed project, it is accounted for in EBMUD's water demand projections. EBMUD anticipates having an adequate water supply to meet demand in its service area, except during the third year of a multi-year drought starting around 2025 or later. In that event, people on the project sites 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, impacts related to water supply would be reduced and would remain less than significant.

As shown in Table 6-2, buildout of this alternative would generate an additional 2.1 tons per day of solid waste for disposal at landfills, or four percent less than the proposed project.

The Altamont Landfill and the Vasco Road Sanitary Landfill, which solid waste from Berkeley, have a combined remaining capacity of approximately 65.4 million cubic yards. Solid waste from the station sites would equate to approximately 840 cubic yards per year. This represents 0.001 percent of the current total remaining landfill capacity. Therefore, impacts related to solid waste disposal would be reduced but would remain less than significant.

**Table 6-2 Alternative 2: Estimated Solid Waste Generation**

| Use                                      | Buildout |                | Generation Rate              | Solid Waste (pounds per day) | Solid Waste (tons per day) | Solid Waste (cubic yards per day) <sup>2</sup> |
|--|----------|----------------|------------------------------|------------------------------|----------------------------|--|
|  | Quantity | Units          |                              |                              |                            |  |
| Multi-family Apartment                   | 2,000    | dwelling units | 4.0 pounds/unit/day          | 8,000                        | 4.0                        | 8.0  |
| Retail commercial <sup>1</sup>           | 125,000  | square feet    | 0.046 pounds/square foot/day | 5,750                        | 2.9                        | 5.8  |
| <b>Total Before Diversion</b>            |          |                |                              | <b>13,750</b>                | <b>6.9</b>                 | <b>13.8</b>                                    |
| <b>Total Assuming 69% Diversion Rate</b> |          |                |                              | <b>4,263</b>                 | <b>2.1</b>                 | <b>4.3</b>                                     |

<sup>1</sup> This analysis makes the conservative assumption that all commercial development consists of retail commercial space, which generates more solid waste per square foot than typical generation rates for commercial offices.

<sup>2</sup> Based on the conversion factor described under Table 4.13-1, County-Service Landfill Capacity for “landfill density” Municipal Solid Waste, of approximately 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard.

Source: CalRecycle 2019b

## 6.4 Alternative 3: Increased Height

### 6.4.1 Description

The Increased Height Alternative would allow for the development of 12-story buildings on the station sites, whereas the proposed project would allow for buildings up to seven stories tall. Increasing the maximum building height by 5 stories would allow for an increase in FAR, assumed to be up to 5.5. Buildout under this alternative could include up to 3,600 residential units combined for both sites, or 1,200 more than under the proposed project. It is assumed that the change in allowable building height would not affect the size of commercial use, which would still be an estimated 125,000 square feet. All other proposed development standards as shown in Table 2-1 in Section 2, *Project Description*, including vehicle and bicycle parking requirements, minimum open space, and minimum public space, would remain the same.

This alternative would meet the project objective to comply with AB 2923, by allowing new development consistent with the law’s development standards at the station sites. By further increasing residential density in a Transit Priority Area, it would also meet the project objective to promote green development as well as location efficiency and sustainable transportation modes, to a greater extent than would the proposed project.

### 6.4.2 Impact Analysis

#### a. Air Quality

Similar to the proposed project, Alternative 3 would support the goal of the 2017 Clean Air Plan (CAP) to reduce vehicle trips by increasing density in proximity to existing transit, extensive pedestrian and bicycle infrastructure, and commercial/retail destinations and not

including minimum parking standards. Development under this alternative would also be required to be consistent with BAAQMD rules and regulations, including reduction measures for particulate matter. Buildout under this alternative would not preclude planned transit or bike pathways and would not otherwise disrupt regional planning efforts to reduce VMT and meet air quality standards. Therefore, this alternative would have a less than significant impact related to consistency with air quality plans, the same as the proposed project.

Because more housing units would be constructed under this alternative compared to the proposed project, overall construction emissions would be increased. Nonetheless, future development under this alternative would be required to adhere to the City's standard condition of approval to reduce construction emissions and comply with BAAQMD's construction BMPs in accordance with Mitigation Measure AQ-1. Impacts associated with construction would be slightly increased compared to those under the proposed project but would remain less than significant with mitigation incorporated.

To a greater extent than the proposed project, Alternative 3 would increase density in proximity to existing transit, pedestrian and bicycle infrastructure, and commercial/retail destinations, thereby resulting in low per-capita VMT. Therefore, the operation of development under this alternative would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. This impact would be less than significant, the same as the proposed project.

Construction activities facilitated by this alternative would result in temporary exhaust emissions of diesel particulate matter, which is a TAC. Similar to the proposed project, future development on the project sites would be required to comply with the City's standard conditions of approval to control diesel particulate matter during construction, and to prepare and implement a Construction Emissions Minimization Plan. Similar to the proposed project, this alternative would not facilitate the construction of new operational sources of TAC emissions. Therefore, the impact of TAC emissions during the construction and operation of future development would be less than significant, the same as the proposed project.

## **b. Cultural Resources**

Similar to the proposed project, this alternative would allow new development at the station sites. The North Berkeley BART station was found not to be eligible for listing on federal, state, or local registers of historical resources. However, as determined in the Historical Resources Evaluation (HRE, Appendix C), the Ashby BART Station is recommended eligible for designation as a City of Berkeley Landmark under Criterion 2 in BMC 3.24.110 due to its associations with an history of social activism and community building originating in Berkeley's Black community, which centered on the undergrounding of the Ashby BART Station and use of the station parking lot as the location of the Berkeley Flea Market. As such, the Ashby BART Station is a historical resource pursuant to Section 15064.5(a)(3) of the CEQA Guidelines. Nonetheless, for the same reasons as described in Section 4.2, *Cultural Resources*, with mitigation, measure CUL-1 requiring installation of an interactive display acknowledging the history of the site impacts would be less than significant. Further, for the same reasons as described in Section 4.2, development on the Ashby BART station site would not indirectly affect nearby historic districts or resources. Impacts related to adjacent resources would be the same as under the proposed project and would be less than significant.

Development under this alternative could disturb unrecorded archaeological resources, human remains, and tribal cultural resources, similar to the proposed project. However, with

adherence to existing regulations regarding the discovery of human remains and compliance with City of Berkeley standard conditions of approval, these impacts would remain less than significant, the same as under the proposed project.

### **c. Energy**

Alternative 3 would facilitate more residential development that consumes energy than would the proposed project in the Southside. However, similar to the proposed project, energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Construction contractors would be required to comply with applicable federal and state regulations to minimize inefficient, wasteful, or unnecessary fuel consumption, and to divert a minimum of 65 percent of construction and demolition debris. Similar to the proposed project, future development facilitated by this alternative would be required to comply with all standards set in the latest iteration of CBC Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. Furthermore, this alternative also would increase housing density in proximity to existing transit and commercial uses, which would facilitate the use of transit and alternative transportation modes such as walking and biking. This would minimize the potential for wasteful, inefficient, or unnecessary consumption of vehicle fuels. Therefore, this alternative would have a less than significant impact related to wasteful, inefficient, or unnecessary energy use, the same as the proposed project.

Similar to the proposed project, this alternative would be consistent with applicable policies of the City's General Plan related to energy efficiency and renewable energy. New residential development would be subject to CALGreen and BMC Chapters 12.80 and 19.36 requirements to reduce air quality impacts and apply green building practices. In addition, the location of increased housing density in a transit-oriented area would reduce use of fossil fuels. Therefore, this alternative would have no impact related to conflicting with or obstructing a plan for renewable energy or energy efficiency, the same as the proposed project.

### **d. Greenhouse Gas Emissions**

Because the Alternative 3 would allow for more residential growth than would the proposed project, it would generate higher overall GHG emissions from the construction and operation of developments within the project sites. However, per-capita emissions would be similar to those of the proposed project (emissions would be greater, but the service population would also be greater). Future development would still receive electricity from providers subject to the statewide Renewable Portfolio Standard (RPS) program, which requires increases in procurement from renewable energy sources to 60 percent by 2030 and 100 percent by 2045. This would minimize carbon emissions associated with electricity use. This alternative also would increase density in a transit-oriented, low-VMT area. In addition, future development on the project sites under this alternative would still be subject to CALGreen and associated local amendments in the BMC related to reduction of GHG emissions. Similar to the proposed project, with implementation of Mitigation Measure GHG-1, emissions would not exceed the locally-applicable threshold of 1.2 metric tons of CO<sub>2</sub>e per resident. This impact would be less than significant with mitigation incorporated, the same as the proposed project.

To a greater extent than the proposed project, Alternative 3 would facilitate increased density in a transit-oriented, low-VMT area, consistent with the vision of Plan Bay Area 2040 and the City's Climate Action Plan. Therefore, this alternative would meet GHG reduction

goals to a greater extent than the proposed project. As with the proposed project, this alternative would have no impact related to conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

#### **e. Hazards and Hazardous Materials**

Similar to the proposed project, Alternative 3 would allow for the development of residential and commercial land uses that could involve the use, storage, disposal, or transportation of hazardous materials, and upset or accident conditions on the station sites could involve the release of hazardous materials into the environment. Several schools are located within 0.25 mile of the station sites. However, the transport, storage, use, or disposal of hazardous materials during construction and operation would be subject to federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, which would assure that risks associated with hazardous materials are minimized. Moreover, while the potential residential and commercial uses may involve use and storage of some materials considered hazardous, these materials would be primarily limited to solvents, paints, chemicals used for cleaning and building maintenance, which are typical household chemicals and solvents already in wide use throughout the City. Required adherence to existing regulations and the nature of the proposed land uses would ensure that impacts would remain less than significant.

As discussed in Section 4.5, *Hazards and Hazardous Materials*, one listed hazardous material site is located on or potentially adjacent to the North Berkeley BART station site. In addition, there are unknown former commercial and industrial uses within the North Berkeley BART station site and Ashby BART station site that may have included the use and storage of hazardous materials, including a gasoline service station. Therefore, construction facilitated by this alternative could encounter hazardous materials in subsurface soils during grading. Construction workers or nearby residents could be exposed to contaminated soil resulting from development of a contaminated property. Mitigation measures HAZ-1 through HAZ-3 would still be required to identify, manage onsite, and/or remove hazardous material impacted soils prior to construction. Similar to the proposed project, this impact would be less than significant with mitigation incorporated.

Because the station sites are not located in areas subject to airport land use plans or wildland fire hazards, this alternative would not result in potential hazards related to aviation or wildland fire hazards. Similar to the proposed project, no impact would occur. Development under this alternative also would add traffic to nearby evacuation routes. However, development on the project sites would be required to conform to the latest fire code requirements, including provisions for emergency access. Therefore, the impact related to impairing or interfering with an emergency response or evacuation plan would remain less than significant.

#### **f. Hydrology and Water Quality**

This alternative would facilitate a similar scale of ground disturbance during future development, compared to the proposed project. As discussed in Section 4.6, *Hydrology and Water Quality*, ground-disturbing activities and the use of heavy machinery could release materials, including sediments and fuels, which could adversely affect water quality. In addition, operation of potential future development could result in discharges to storm drains that could be contaminated and affect downstream waters. However, future development within the station sites would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. For projects that disturb at least one acre of land, preparation and implementation of a

SWPPP would be required. This would include the use of BMPs to control erosion and sediment. In addition, BMC Chapter 21.40 requires project applicants to comply with grading, erosion, and sediment control regulations on file in the Public Works Department and BMC Chapter 17.20 requires BMPs to be implemented to minimize non-stormwater discharges from the site during construction. During operation, future development also would be required to implement LID Measures and on-site infiltration, as required under the C.3 provisions of the MRP. Implementation of LID measures would reduce water pollution from stormwater runoff as compared to existing conditions. Therefore, water quality impacts would remain less than significant, the same as the proposed project.

Similar to the proposed project, future development under this alternative would not draw water from groundwater supplies and would not increase the amount of impervious surfaces on the station sites. Additionally, development facilitated by the alternative would be required to comply with Provision C.3 of the MRP which promotes infiltration. Implementation of LID measures would increase absorption of stormwater runoff and the potential for groundwater recharge. Therefore, the impact on groundwater supplies and recharge would remain less than significant.

Because this alternative would not result in an increase in impervious surfaces, it would not cause a substantial increase in the rate or amount of surface runoff. MRP-regulated projects within the project sites also would be required to treat 80 percent or more of the volume of annual runoff for volume-based treatment measures or 0.2-inch per hour for flow-based treatment measures. Furthermore, projects that create or replace 2,500 square feet or more, but less than 10,000 square feet, of impervious surface must implement site design measures to reduce stormwater runoff. All regulated projects within the City are also required to prepare a SWMP that includes the post-construction BMPs that control pollutant levels. Therefore, development facilitated by this alternative would not substantially alter the existing drainage pattern of the site or area or alter the course of any stream or river, would not result in erosion or siltation, and would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site or exceed capacity of a stormwater system. This impact would remain less than significant, the same as the proposed project.

As discussed in Section 4.6, *Hydrology and Water Quality*, the station sites are not located in a FEMA-designated flood hazard area, in a dam or tsunami inundation area, or near a large water body. As a result, implementation of future development under this alternative would not introduce new flood-related hazards. This impact would remain less than significant, the same as the proposed project.

### **g. Land Use and Planning**

The Increased Height Alternative would allow for increased future development of residential and commercial space on the station sites, which could result from increasing the zoning development standards uniformly or increased maximum height in the zoning for portions of the site in order to achieve additional height variations, or “sculpting” of buildings in the projects while still being able to achieve all the AB 2923 required standards. It does not include elements that would physically divide the established communities around the project sites. For example, no new major roads or other large or linear facilities would be constructed that would physically divide an established community. Both the Ashby BART station site and the North Berkeley BART station site are currently surface parking lots that may be traversed by the public. Future development facilitated by the alternative would preserve pedestrian access to the stations and through the sites. Therefore, no significant land use impacts related to the physical division of an established community would occur.

Similar to the proposed project, this alternative would create a R-BMU district, apply zoning standards, and make associated General Plan amendments, in compliance with AB 2923. Except for allowing greater building height in a Transit Priority Area, this alternative would include the same development standards as proposed for minimum new lot size, FAR, parking supply, and open space provision. As with the proposed project, this alternative would place housing near transit and would meet policies related to transit-oriented development, vehicle trips and traffic, energy efficiency, pedestrian-oriented design, and sustainable design in the City's General Plan and Adeline Corrido Specific Plan to a greater extent than the proposed project. Like the proposed project, impacts would be less than significant.

#### **h. Noise**

This alternative would allow for the construction of buildings up to 12 stories tall, whereas the proposed project would allow for a maximum building height of seven stories. Taller buildings would take more time to build, resulting in a longer duration of construction noise from development on the station sites. However, similar to the proposed project, this alternative would facilitate construction of multi-story mixed-use buildings. Because this alternative would involve taller buildings, different types of construction equipment and methods may be needed. Therefore, noise and vibration levels from construction activity may be increased compared to those generated by the proposed project. As discussed in Section 4.8, *Noise*, conditions of approval would restrict the hours of construction activity and minimize noise from equipment to the extent feasible. Mitigation Measure N-1 also would apply to minimize noise and vibration from the installation of pile foundations. Nonetheless, construction noise levels could still exceed the City's standards at sensitive receptors. Therefore, the impact from a temporary increase in construction noise would remain significant and unavoidable. The impact from vibration would remain less than significant with implementation of Mitigation Measure N-1.

By allowing for taller buildings with more residential units, this alternative would require more HVAC equipment. With a buildout of up to 3,600 residential units under this alternative, HVAC noise from the Ashby BART station site would reach an estimated 56 dBA  $L_{eq}$  at sensitive receptors located 150 feet from the site and 54 dBA  $L_{eq}$  at a distance 200 feet. HVAC units at the North Berkeley BART station site would generate estimated noise levels of 51 dBA  $L_{eq}$  at a distance of 400 feet (Appendix G). These noise levels from HVAC equipment would be 1-2 dBA higher than from those generated by development facilitated by the proposed project, which is below the 3 dBA threshold at which the average healthy ear can barely detect a change in noise level (Crocker 2007). HVAC noise would also exceed the City's nighttime exterior noise standard of 45 dBA in the R-1 and R-2 zones. Mitigation Measure N-2 would apply to shield noise from HVAC equipment, so that noise levels do not exceed 45 dBA.

Similar to the proposed project, this alternative would facilitate the development of multi-story buildings served by delivery and garbage trucks. Noise from garbage trucks emptying metal dumpsters could make noise exceeding City's exterior noise standards allow up to 85 dBA for any period of time in a daytime hour in commercial zones and up to 75 dBA for this time period in the R-1 and R-2 zones. Mitigation Measure N-3 would require designing loading areas to minimize exposure to this noise source, by locating dumpsters as far as possible from sensitive receptors, shielding loading areas, or other means.

As discussed in Section 4.8, *Noise*, development under the proposed project would add vehicle trips to roadways near the station sites, but estimated traffic noise levels would not increase by more than 1 dBA  $L_{eq}$ . Although this alternative would allow for additional

residential units, which would increase ride-share trips by new residents, as for the proposed project, no replacement BART rider parking would be provided on the station sites. The lack of replacement parking would limit growth in vehicle trips. Therefore, this alternative would not result in substantially more traffic noise. The effect on traffic noise also would be minimized by locating new development at BART station sites, which would encourage transit use by residents. Therefore, on-site operational noise impacts would remain less than significant with mitigation incorporated.

### **i. Population and Housing**

This alternative would facilitate the development of up to 3,600 residential units on both station sites. Based on an average rate of 2.26 persons per household, it would generate an increase of approximately 8,136 residents, or 2,712 more than under the proposed project. This would represent about 44 percent of the projected 18,355-person increase in the citywide population between the years 2020 and 2040. It would also represent 5.8 percent of the total projected citywide population of 140,935 in 2040. Although the alternative would account for a substantial portion of the projected increase in Berkeley's population, it would still be within regional growth projections for Berkeley. New development on the station sites also would not involve displacement of existing residents or housing units that would necessitate the construction of replacement housing elsewhere. Therefore, impacts related to population and housing would remain less than significant, the same as the proposed project.

### **j. Public Services and Recreation**

By facilitating the development of 1,200 more residences on the station sites compared to the proposed project, this alternative would further increase demand for Berkeley fire protection, emergency medical services, and police services. Growth under this alternative could still contribute to the need for new fire or police stations. As discussed in Section 4.10, *Public Services and Recreation*, such stations, if built, would undergo separate, complete CEQA analysis. They would also likely be located on infill sites, where construction would cause additional significant environmental impacts beyond those identified in this EIR. Additionally, future development under this alternative would be required to comply with regulations for fire safety in the Berkeley Fire Code, the California Health and Safety Code, and the California Fire Plan. Therefore, impacts related to fire protection and police services would remain less than significant.

Based on the students per household generation rates used in the public services analysis for the proposed project (see Section 4.10, *Public Services and Recreation*), full buildout of the station sites under this alternative would generate up to an estimated 688 new students, or 228 more than under the proposed project. This would result in more demand for school services. However, the payment of State-mandated school impact fees would reduce impacts from future residential development to a less-than-significant level, the same as the proposed project.

As noted in Section 4.10, the City currently provides a ratio of 2.1 acres of parkland per 1,000 residents. By increasing the citywide population by an estimated 8,136 new residents, the project would result in a ratio of approximately 1.9 acres per 1,000 residents, which is below the City's goal of 2 acres per 1,000 residents. However, when considering parkland adjacent to the City, the ratio of parkland per resident would be substantially higher, approximately ten acres per 1,000 residents. Furthermore, the station sites are in areas served by parks and recreational opportunities, are near planned improvements and expansions of such opportunities, and the proposed future development would involve the

provision of public and private open space consistent with City standards. Therefore, this alternative would not result in substantial overuse of existing parks which may cause physical deterioration of these facilities. Impacts related to park and recreational facilities would increase but would remain less than significant.

### **k. Transportation**

Alternative 3 would facilitate increased residential development within the project sites compared to the proposed project. Similar to the proposed project, future development under Alternative 3 would be required to comply with existing regulations, including General Plan policies related to roadway, pedestrian, and bicycle facilities, and access to modes of transportation other than single-occupancy vehicles. Such development would be reviewed in accordance with the City's Public Works Department Transportation Program standards and guidelines, and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications regarding access and safety. Future development under Alternative 3 would meet the Zoning Ordinance requirements for vehicle and bicycle parking and implement TDM measures in an effort to reduce project-generated vehicle trips and encourage travel by other modes. For these reasons, as with the proposed project, Alternative 3 would have a less than significant impact related to applicable plans and policies.

As with the proposed project, in accordance with AB 2923, development under Alternative 3 would be required to have a FAR of 4.2 or higher, and this alternative would be located in transit priority areas within a ½-mile walkshed around major transit stops. As with the proposed project, the supply of vehicle parking spaces included in Alternative 3 would not exceed the proposed project's estimated rate of demand, as explained in Chapter 4.11, *Transportation*. Therefore, as with the proposed project, Alternative 3 would meet the City's other screening criteria for VMT and the impact related to VMT would remain less than significant.

Additionally, as with the proposed project, to reduce the potential for impacts related to vehicle travel and parking shortfalls and encourage use of sustainable modes, future development would implement TDM strategies. While the specific TDM measures have not been selected and the effects of the TDM plan cannot be quantified, the absence of a ready supply of parking spaces, combined with available alternatives to vehicle travel, such as riding transit, biking, and walking, would induce people to shift travel modes.

Similar to the proposed project, new development at the station sites under this alternative would include physical modifications to the circulation system to accommodate pedestrian and bicycle access in accordance with the proposed R-BMU requirements and Joint Vision and Priorities document. Future development under this alternative would undergo City review to ensure that pedestrian and bicycle access and streetscape modifications follow appropriate and applicable design standards and guidelines. Similarly, changes to the street network would be designed to meet City and California MUTCD, Caltrans, and FHWA recommendations and standards, as appropriate. For these reasons, the alternative would not substantially increase hazards due to design features or incompatible use. This impact would remain less than significant.

As with the proposed project, future development under this alternative would not involve changes to the roadway network or include any design features that would interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access. Therefore, impacts on emergency access would remain less than significant.

## I. Utilities and Service Systems

This alternative would facilitate new development that generates increased sanitary sewage flows through the wastewater conveyance system to the EBMUD MWWTP. As discussed in Section 4.12, *Utilities and Service Systems*, the MWWTP has a remaining capacity of 105 million gallons per day (mgd) beyond existing inflow. It is estimated that development under the proposed project would generate up to an additional 0.35 mgd, which accounts for 0.3 percent of the MWWTP's remaining secondary treatment capacity. This alternative would generate more wastewater because it would allow for buildout of 50 percent residential units on the station sites. Although this alternative would increase wastewater flow to the plant, the plant's existing wastewater treatment capacity would still be sufficient to accommodate flow under this alternative.

Similar to the proposed project, during wet-weather conditions, wastewater flow generated by this alternative could potentially contribute to overflow conditions on sewer mains under and adjacent to streets near the station sites. The construction of new or expanded sewer mains may be necessary to accommodate additional wastewater flow. Policy EM-24 in the Berkeley General Plan and Chapter 17.05 of the BMC requires that new development pay its fair share of improvements to storm sewer system that would be necessary to accommodate increased flows. The impacts of individual new sewer main construction projects would be less than significant due to their temporary nature and the already developed nature of wastewater conveyance corridors. Therefore, impacts related to wastewater would be increased but would remain less than significant.

According to the WSA prepared by EBMUD for the proposed rezoning, it is projected that buildout of the proposed rezoning would generate a water demand of 440,000 gallons per day (gpd) (Appendix I). Given the generation factors provided by EBMUD, this alternative would generate approximately 500,000 gpd because it would allow for buildout of up to 50 percent more residential units. Therefore, this alternative could result in increased impacts related to water supply. Nonetheless, EBMUD anticipates having an adequate water supply to meet demand in its service area accounting for regional population growth, except during the third year of a multi-year drought starting around 2025 or later. In that event, people on the project sites 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, impacts related to water supply would increase but would remain less than significant.

As shown in Table 6-3, buildout of this alternative would generate an additional 3.1 tons per day of solid waste for disposal at landfills, or 29 percent more than the proposed project. The Altamont Landfill and the Vasco Road Sanitary Landfill, which solid waste from Berkeley, have a combined remaining capacity of approximately 65.4 million cubic yards. Solid waste from the station sites would equate to approximately 840 cubic yards per year. This represents 0.002 percent of the current total remaining landfill capacity. Therefore, impacts related to solid waste disposal would increase but would remain less than significant.

**Table 6-3 Alternative 3: Estimated Solid Waste Generation**

| Use                                      | Buildout |                | Generation Rate              | Solid Waste (pounds per day) | Solid Waste (tons per day) | Solid Waste (cubic yards per day) <sup>2</sup> |
|--|----------|----------------|------------------------------|------------------------------|----------------------------|--|
|  | Quantity | Units          |                              |                              |                            |  |
| Multi-family Apartment                   | 3,600    | dwelling units | 4.0 pounds/unit/day          | 14,400                       | 7.2                        | 14.4   |
| Retail commercial <sup>1</sup>           | 125,000  | square feet    | 0.046 pounds/square foot/day | 5,750                        | 2.9                        | 5.8  |
| <b>Total Before Diversion</b>            |          |                |                              | <b>20,150</b>                | <b>10.1</b>                | <b>20.2</b>                                    |
| <b>Total Assuming 69% Diversion Rate</b> |          |                |                              | <b>6,246.5</b>               | <b>3.1</b>                 | <b>6.3</b>                                     |

<sup>1</sup>This analysis makes the conservative assumption that all commercial development consists of retail commercial space, which generates more solid waste per square foot than typical generation rates for commercial offices.

<sup>2</sup>Based on the conversion factor described under Table 4.13-1, County-Service Landfill Capacity for “landfill density” Municipal Solid Waste, of approximately 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard.

Source: CalRecycle 2019b

## 6.5 Environmentally Superior Alternative

CEQA requires the identification of the environmentally superior alternative among the options studied, which is the alternative among those studied that has the fewest significant environmental impacts.

Table 6-4 indicates whether each alternative’s environmental impact is greater, lesser, or similar to the proposed project. As shown therein, the No Project Alternative would not reduce impacts and would therefore not be environmentally superior to the proposed project.

Of the development alternatives, neither Alternative 2 nor Alternative 3 would eliminate the unavoidably significant impact related to construction noise. Further, neither alternative would eliminate the need for mitigation measures identified in this EIR; mitigation related to air quality, cultural resources, GHG emissions, hazardous materials, and noise would still be required.

Alternative 2 would involve an estimated 400 fewer residential units compared to the proposed project and therefore impacts related to public services, recreation, and utilities and service systems would be slightly reduced, whereas those impacts would be increased for Alternative 3 which involves 1,200 additional units compared to the proposed project. Alternative 2 would also involve slightly greater impacts related to GHG emissions and land use and planning, as this alternative would involve more vehicle travel to and from the sites which would increase GHG emissions and this alternative would not be consistent with applicable policies related to transit-oriented development, energy efficiency, pedestrian-oriented design, and sustainable design in the City’s General Plan and ACSP to the same extent as the project. Alternative 3 would provide additional transit-oriented development and would meet these goals to a greater extent than the proposed project.

Overall, Alternative 2 would result in two slightly greater impacts than the proposed project (GHG Emissions and Land Use and Planning) and two slightly reduced impacts compared to the proposed project because it involves fewer units (Public Services and Recreation and Utilities and Service Systems). Alternative 3 would involve two slightly reduced impacts compared to the proposed project related to GHG Emissions and Land Use and Planning.

When taking into account the project objectives, the provision of on-site vehicular parking for BART riders under Alternative 2 would not meet project objectives related to residential density and use of sustainable modes as well as the proposed project. This is because increased supply of vehicle parking would reduce the amount of residential space that could be provided and encourage vehicle use by making it more convenient to drive.

Alternative 3 would have slightly reduced impacts to air quality and GHG emissions due to the resulting increase in density in proximity to transit which is an effective way to encourage alternative transportation and reduce vehicle use. Therefore, Alternative 3 is the environmentally superior alternative.

**Table 6-4 Comparison of Alternatives**

| Issue                           | Proposed Project Impact Classification* | Alternative 1: No Project/ Implement AB 2923 Standards | Alternative 2: BART Rider Parking  | Alternative 3: Increased Height    |
|---------------------------------|---|--|------------------------------------|------------------------------------|
| Air Quality                     | Significant but Mitigable               | =<br>(Significant but Mitigable)                       | =<br>(Significant but Mitigable)   | =<br>(Significant but Mitigable)   |
| Cultural Resources              | Significant but Mitigable               | =<br>(Significant but Mitigable)                       | =<br>(Significant but Mitigable)   | =<br>(Significant but Mitigable)   |
| Energy                          | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |
| Greenhouse Gas Emissions        | Significant but Mitigable               | =<br>(Significant but Mitigable)                       | -/=<br>(Significant but Mitigable) | +/=<br>(Significant but Mitigable) |
| Hazards and Hazardous Materials | Significant but Mitigable               | =<br>(Significant but Mitigable)                       | =<br>(Significant but Mitigable)   | =<br>(Significant but Mitigable)   |
| Hydrology and Water Quality     | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |
| Land Use and Planning           | Less than Significant                   | =<br>(Less than Significant)                           | -/=<br>(Less than Significant)     | +/=<br>(Less than Significant)     |
| Noise                           | Significant and Unavoidable             | =<br>(Significant but Unavoidable)                     | =<br>(Significant and Unavoidable) | =<br>(Significant and Unavoidable) |
| Population and Housing          | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |
| Public Services and Recreation  | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |
| Transportation                  | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |
| Utilities and Service Systems   | Less than Significant                   | =<br>(Less than Significant)                           | =<br>(Less than Significant)       | =<br>(Less than Significant)       |

\* Impact classifications are shown for the greatest impact in the issue area (i.e., if both less than significant impacts and significant and unavoidable impacts were identified in the issue area, the table indicates the overall impact in that issue area as significant and unavoidable)

- Impact would be worse compared to the proposed project

+ Impact would be improved compared to the proposed project

= Impact would be the same as the proposed project

## 7 References

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### 7.1 Bibliography

#### Section 1, Introduction

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